THE IMPACT OF TAX REVENUE ON ECONOMIC GROWTH IN NIGERIA

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Abstract
Tax revenue has been a major source of income for the economic growth of developed countries. Governments depend on tax revenue to fund public services, infrastructure, and socioeconomic development. Nigeria's governments over relied on oil revenue and underutilized taxation to generate revenue for economic growth, stability, and development. This study investigates the impact of tax revenue and its components (i.e., Nigeria Customs excise duties tax (NCED), value added tax (VAT), petroleum profit tax (PPT), & company income tax (CIT)) on the economic growth of Nigeria from 1993 to 2023. The explained variable is economic growth proxies by the gross domestic product (GDP) of Nigeria, and the explanatory variables are the tax revenue components. The National Bureau of Statistics (NBS), Federal Inland Revenue Services (FIRS), and Central Bank of Nigeria (CBN) are the sources from which the secondary data was obtained. Based on ex-post facto research design, the long-run and short-run relationships between GDP and tax components were analyzed using the Vector Error Correction Model (VECM). Findings indicate a significant long-run equilibrium relationship between tax revenue and economic growth, as evidenced by the CoinEq1 coefficient of -0.876104 (t-statistic = -2.52391), confirming that deviations from equilibrium are corrected over time. CIT had the most significant impact on GDP, with a CoinEq1 coefficient of -0.072804 (t-statistic = -2.83147, $p < 0.05$). However, PPT, VAT, and NCED revenue showed no statistically significant short-run effects, with CoinEq1 coefficients of -0.098060 (t-statistic = -1.29903), -0.005928 (t-statistic = -0.23934), and -0.028496 (t-statistic = -0.37345), respectively. These findings suggest inefficiencies in tax administration and policy implementation. The study confirms that tax revenue significantly impacts Nigeria's economic growth, with CIT playing a crucial role. However, the limited short-run impact of other tax components underscores the need for policy reforms to enhance tax efficiency, broaden the tax base, and improve revenue utilization.

Keywords: Company income tax, economic value added tax, petroleum profit tax, VECM.

JEL Classification: H20, H21, H25, E62, 047, 055.

1.0 Introduction

Governments need efficient, effective, and transparent taxes in order to generate finances for financing public goods such as infrastructure, education, healthcare, and social security provisions (Musgrave and Musgrave, 2019; Brown and Bird, 2021). For matured economies such as the United States, the United Kingdom, and France, efficient taxes in terms of effective administration can create a stable and sustainable economic growth environment in terms of predictable finances for public spending purposes (OECD, 2022). Thus, taxes form a core function within economic development aspects in terms of mobilizing domestic resources, redistributive effects of wealth, and ensuring macro-economic stabilisation effects (Tanzi and Zee, 2020).

However, Nigeria's performance in terms of tax revenue is low because of overdependence on oil resources, thus ensuring a small tax base, lack of administrative strength, and a low level of compliance rates (Ariyo, 2017; Appah and Ebimobowei, 2020). Currently, Nigeria is among the economies with the lowest rates of taxes in terms of taxes against the GDP ratio and is significantly lower than the average Sub-Saharan economy levels (IMF, 2023). Taxation would be ideal if it promotes economic growth by financing necessary public services aimed at enhancing national productivity and investment (Ebrill et al., 2021). The key problem addressed in this research is the need to critically evaluate the impact of tax revenue on economic growth in a developing economy such as Nigeria. While it is ideal for a developing economy like Nigeria for taxes to enhance growth, high taxes, bad management, and a high level of tax evasion can pose some challenges, including inhibiting economic growth and a rise in the informal economy (Slemrod & Gillitzer, 2021).

This research intends to bridge the existing gap with evidence derived from the dynamic interplay of taxes and economic growth in Nigeria. Various empirical evidence available on the linkages of taxes with economic growth shows inconsistencies and contradictions. While some empirical evidence shows a positive contribution of taxes, especially Company Income Tax and Value Added Tax, towards the growth of GDP through the financing of public investment and investment in productive sectors, some argue that the effects of strong taxes, lack of compliance, and administrative costs can negatively impact economic growth.

Thus, the objectives of this research seek to bridge these inconsistencies and contradictions with empirical evidence. As argued by Anyanwu (2019), Nwadialor (2021), and Ojong et al., 2022, some scholars argue that high taxes, lack of compliance, and administrative costs can be a deterrent for economic growth in Nigeria. While on the other hand, Adereti et al., 2020; Okoye et al., 2022; and Ekeocha & Moses, 2023 argue that taxes, especially Company Income Tax and Value Added Tax, make a significant contribution towards the growth of GDP due to public investment and productive sectors. Nigeria's economic situation, which is currently grappling with informality, rampant tax evasion and obtainance from the oil sector, emphasizes the importance of a reconsideration of the impact of taxes on economic growth. There is a need to appreciate the impact of the components of taxes on economic growth in the short run and long run.

Based on the income taxes of companies, petroleum profit taxes, value added taxes, and Nigeria Customs and Excise taxes, this research will establish what taxes drive economic performance and what taxes can negatively impact economic performance. It makes a contribution by revealing empirical facts about the level of effectiveness of Nigeria’s taxes in promoting economic growth. From a methodology standpoint, it uses sound econometric analysis

techniques, such as tests for the presence of a Unit Root, Cointegration tests, and a Vector Error Correction Method, designed for analyzing dynamic linkages among different sources of taxes and economic growth in terms of GDP. It aims to help policymakers, the relevant tax authority, and economic researchers interested in developing an effective fiscal strategy for improving fund mobilization in a manner supportive of economic growth and development. It will strengthen the strategy for ensuring Nigeria's taxes serve as a strong tool and agent for sustainable economic growth and development within the economy.

2.0 Literature Review

The root of the word 'tax' can be traced back to the Latin 'taxo,' which means 'to assess value' (Chibu and Njoku, 2015). Taxation is a compulsory contribution imposed by the government on income, profit, and consumption in order to create finances for providing public services. Nowadays, taxes have become a main source of public finances within a capitalist economy (Adams, 2012). Moreover, taxes have a redistributive role, reducing income inequality between the rich and the poorer classes (Chibu and Njoku, 2015).

Tax contributions in Nigeria have traditionally represented a small proportion of total government revenue because of the dominance of oil income earnings in the economy (Ayuba, 2014). However, emerging evidence suggests a diversified taxation base is beneficial in infrastructure growth, influencing consumption patterns, and ensuring macroeconomic performance (Eyisi et al., 2017; Korkmaz et al., 2019). Domestic revenue mobilization is consistent with international best practices aimed at ensuring the economy is less dependent on oil revenue, which is often volatile in international markets (Agunbiade et al., 2020; Yusuf, 2023).

Types of Taxes in Nigeria

Nigeria's taxes can be classified into both direct and indirect taxes. While direct taxes target income and profits, indirect taxes target goods and services. The main types of direct taxes include petroleum profit taxes and income taxes; the main types of indirect taxes include custom duties and value added taxes (Abomaye-Nimenibo et al., 2018). There is empirical evidence showing these components of taxes impact economic growth in varying dimensions based on the impact these taxes have on government revenue, investment, and consumption behaviors (Hussain et al., 2024; Amughoro, 2021).

Value Added

A value added tax, VAT, is a consumption-type tax charged on a stage by stage basis throughout the economy up until the consumption stage. The impact of VAT on economic growth is dependent on VAT compliance, VAT administration, and the size of the informal economy. Better VAT administration is seen to be linked with stronger VAT performance and improved fiscal strength (Mukolu and Ogodor, 2021). Current evidence coming out of Nigeria shows that the VAT reforms carried out from 2021 to 2023 have greatly improved non-oil tax revenue mobilization and economic stability in Nigeria in the short term (Afolabi and Ojo, 2023).

Company Income

Company income tax is charged on the income of corporate bodies and is one of the most stable sources of non-oil taxes. The Company Income Tax Act of 1979, with subsequent amendments, is used in the assessment and levy of company income taxes in Nigeria. This Act can be traced back to the Income Tax Management Act of 1961, used in defining the process of charging for income taxes in Nigeria. It is meant for financing public services, infrastructure, and socio-economic projects (John and Dickson, 2020; Amughoro, 2022). There have been improvements in compliance and electronic tax administration in 2021 and 2024, which

impacted positively on revenue performance and minimized risks within the period (Okoye etal. 2024). Oil The petroleum profit tax is levied on persons carrying out oil exploration, extraction, and marketing of crude oil and natural gas. This tax originated from the Petroleum Profit Tax Act of 1959, with a significant contribution to the Nigeria federal government revenue stream. This activity is prone and responsive to the worldwide prices and levels of oil production. There is empirical evidence showing the effects of oil prices fluctuations on petroleum profit taxes, including the GDP of Nigeria (Mukolu and Ogodor, 2021). Current findings dating 2022-2024 have indicated challenges such as a constraint in oil production levels, oil piracy, and energy transitions within the worldwide energy markets influencing petroleum profit taxes (Adedeji and Hassan, 2023). Nigeria Customs and Excise Dut Customs and excise duties' revenue is channeled from imports tariffs, exports duties, excises, and other levies. Nigeria Customs Service is very vital in the roles it plays in relation to controlling trade, generating revenue, and ensuring border protection. There is a significant impact of efficient administration of the custom services on competitiveness, smuggling of goods, and economic growth due to smooth facilitation of trade activities. Custom services' modernization and automation have been associated with increased custom revenue and reduced costs of transactions (Adeusi et al., 2020). Recent research shows a significant improvement in custom revenue and efficiency in trade due to automation introduced from 2021 to 2024 (Salihu and Ibrahim, 2024).

This research examines the link between taxes and economic growth in Nigeria, where petroleum profit taxes (PPT), corporate income taxes (CIT) value added taxes (VAT) and Nigeria Customs and Excise Duties (NCED) impact the growth of the economy measured in terms of the gross domestic product (GDP). It is argued that taxes fund investment and social services offered by governments, including infrastructure, education and healthcare, leading to economic activity growth. Optimistic taxes can fuel economic growth despite low taxes-to-GDP ratios, and channeling PPT and CIT taxes would boostinnovation and productivity (Hussain et al., 2024; Amughoro, 2022; Mukolu & Ogodor, 2021). The model combines both the short-run and long-run roles of taxes, explaining the important role taxes can play in a stable economy, considering the negative effects of over-taxed economies concerning disposable incomes and growth rates despite increased investment due to taxes paid by businesses and the government (Yadawananda & Achal, 2020; Hussain et al., 2024). Recent changes in Nigeria's economic policies reflect the need for a balancing act concerning positive effects from taxes on economic growth (Yadawananda & Achal, 2020; Hussain et al., 2024).

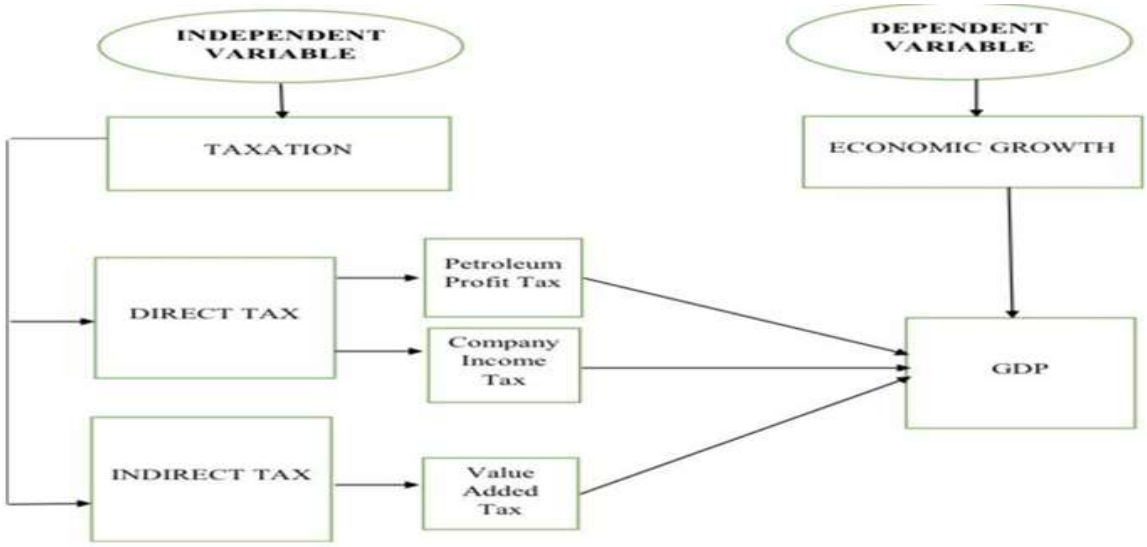


Figure 1 Conceptual Model

Theoretical Framework

Benefit Received Theory

This theory focuses on the cost of benefits derived from public services for which taxes are considered a repayment. Citizens must contribute according to the use of public goods they obtain (Ayeni et al., 2017). This cost concept advocates for taxes such as petroleum profit taxes, custom duties, and value added taxes, in which cases people indirectly pay for services and infrastructure facilities. This concept has gained relevance in Nigeria in charging road tolls, utilities, and public services (Lindsay, 2019; Eze and Ogunyemi, 2022).

Ability to Pay Theory

The ability to pay theory postulates and justifies taxation according to income and ability to pay. This underpins both corporate income taxes and graduated income taxes for individuals, advocating equity and fairness (Peter and Adesina, 2015). Evidence within Nigeria in recent times shows a positive evolution in revenue mobilization with a minimal effect on low-income earners due to the differentiated taxes imposed from 2021 to 2024 (Yusuf, 2023; Adeyemi, 2024).

Laffer curve Theory

A Laffer curve is used to describe the effects of taxes on governance. The curve argues that high taxes can lead to a situation where people reduce investment due to the high costs incurred. This concept is relevant in the area of petroleum profit taxes and corporation income taxes, in which high taxes can lead to people evading taxes or curtailing investment initiatives due to increased costs. This is a matter that has currently dominated theconversation about taxes in Nigeria (Ogunleye, 2022).

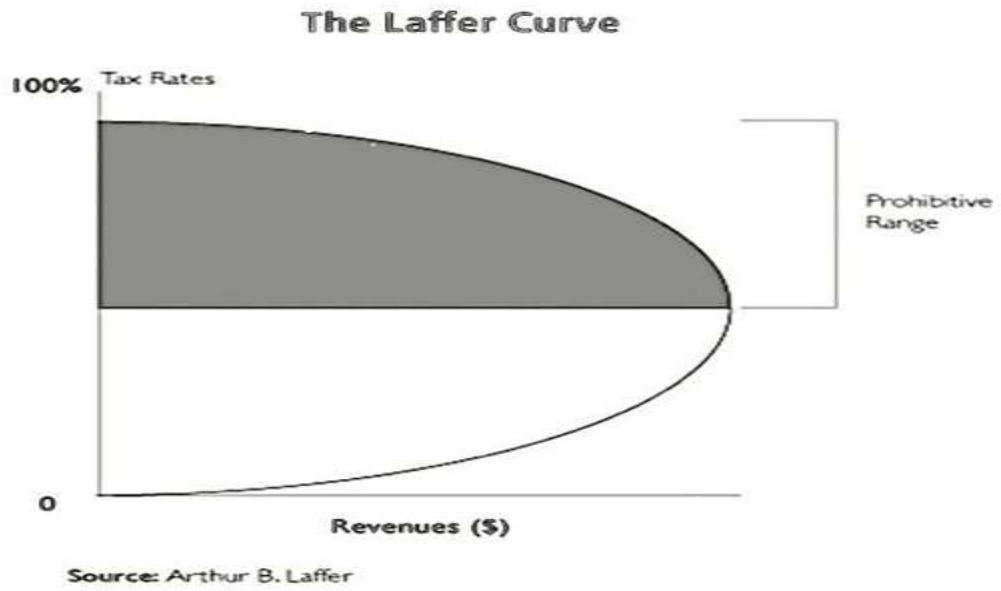


Figure 2 Laffer curve

Empirical Review

There have been mixed empirical findings concerning taxes and economic growth in Nigeria because of variations in the type of taxes, institutional capabilities, and macroeconomic settings. Recent empirical works have started showing the specific impacts of company income

taxes, petroleum profit taxes, value added taxes, and customs and excise duties on GDP because of fiscal reforms by the government to reduce dependence on oil revenue sources.

It is universally accepted that corporate income tax is one of the most significant sources of government revenue. It has been demonstrated empirically that the efficient management and utilization of CIT can generate economic growth and development. Osamor, et al. (2023) established a significant and positive correlation between CIT and real GDP in Nigeria, indicating the contribution of CIT to financing infrastructure development and investment expenditures of the government. Again, John and Dickson (2020) established a proportional contribution of CIT to total government expenditure, which is significant in promoting economic growth. Indeed, ineffective design and execution of tax policies have diminished the potential of CIT in promoting economic growth in a developing economy, according to Fadipe, et al.

Identified as a key factor in Nigeria's economy due to its dependence on oil, the role of PPT is volatile but essential nonetheless. Mukolu and Ogodor (2021) emphasized the effect of unstable international oil prices on the inflows of PPT, rendering its impact insignificant in the short term and insignificant contribution to GDP growth. The impact of PPT on GDP growth is exceptionally significant in terms of total revenue contribution, according to Adeyemi (2023). Muhammad and Ibrahim (2024) highlighted the need for stable international oil prices for sustainable growth impact contribution of PPT.

VAT is a consumption-type of tax and has always shown the potential for promoting economic growth. Mukolu and Ogodor (2021) and Ojo (2022) pointed out a positive link between VAT and GDP, especially if it is widely complied with and is simply administered. The significant role played by VAT in government revenue and economic activity has been affirmed by Alhassan and Imoagene (2024), although Ajekwe and Luka (2023) stated otherwise in Nigeria, with a large informal economy and lack of effective VAT administration.

Current evidence suggests a growing importance of custom duties to non-oil revenue sources. Adeusi et al. (2020) proved that the improvement in custom processing, such as custom digitization, indirectly contributes towards economic growth, especially by improving revenue and trade performance implicitly and directly. According to Olawale (2022), and later backed up by Bello (2024), increased custom performance significantly increases governmental revenue and boost other economic aspects related to trade. Furthermore, reference to CED contribution towards GDP increase, including other sources, is stated by Chijuka and Izekor (2024) related to performance improvement.

According to Nwosu, Ejinkonye, Obasi, and Iregha (2023), the possibility of sustainable public investment financing by all sources of taxes is diminished by the existence of wasteful collections, under-taxed value, and lack of compliance by taxpayers. However, empirical evidence shows that CIT, VAT, and CED growth effects are always stronger than those of PPT because the later is often.

Hypotheses Development

Based on empirical literature and theoretical foundations, the following hypotheses are developed to assess the relationship between tax revenue components and GDP.

Relationship between Total Tax Revenue and Economic Growth

Tax revenue is a significant source of government funding that influences economic activities by financing public infrastructure, social programs, and economic policies. Existing literature

suggests a positive relationship between tax revenue and GDP growth when tax funds are efficiently utilized. Therefore, the study hypothesizes:

H_{01}: Tax revenue has no significant impact on economic growth in Nigeria

Impact of CIT on Economic Growth
Corporate taxation contributes substantially to government revenue and can influence business investments and economic output. A well-structured CIT system can drive economic growth by providing essential public goods and services. This leads to the following hypothesis:

H_{02}: Company income tax revenue has no significant impact on Nigeria's economic growth.

Effect of PPT on Economic Growth
Nigeria's economy is largely relying on oil revenue, and PPT is one of the main sources used to generate income for government Variations in global oil prices and government policies on oil taxation directly affect GDP. The hypothesis is formulated as follows:

H_{03}: Petroleum profit tax revenue has no significant impact on Nigeria's economic growth

Influence of VAT on Economic Growth
VAT serves as a consumption tax that contributes to revenue generation and economic stability. Efficient VAT collection can enhance government spending and stimulate growth. Thus, the hypothesis is stated:
H_{04}: Value-added tax revenue has no significant impact on Nigeria's economic growth

Role of NCED in Economic Growth
The NCED is derived from import duties and international trade transactions, influencing economic growth through trade facilitation. Hence, the hypothesis is formulated as:
H_{05}: Nigeria Customs excise duties (NCED) have no significant impact on Nigeria's economic growth

The hypotheses align with the study's quantitative research design, which employs an ex-post facto approach.

3.0 Methodology
The design adopted in this study is an ex post facto design, which is relevant since the study is based on historical facts and is incapable of being altered by the researcher. This design has been used in previous empirical research, for instance, Owolabi et al., 2023, and is relevant in investigating the impact of tax revenue on economic growth in Nigeria from 1993 to 2023. The economic growth in this study is gauged by the use of Gross Domestic Product, and the sources of tax revenue include petroleum profit tax, corporate income tax, Value Added Tax, and Nigeria Customs and Excise Duties. For the secondary data, the sources include the Central Bank of Nigeria, the National Bureau of Statistics' Statistics Bulletins, and reports from the Federal Inland Revenue Services. It is common knowledge that these institutional bodies provide macroeconomic statistics with a great deal of accuracy, thus ensuring the validity of this study. Prior to the execution of the econometric estimate process, a natural log transformation is carried out on each of the variables used. This is done with a view to ensuring a reasonable level of linearity in the specifications among the different variables, most of which are economic projections with enormous variations in economic measurement scales.

The Augmented Dickey Fuller Test was used for investigating the characteristics of stationarity of the series and establishing the order of integration of the series. As the order of integration of series being equal, the Vector Error Correction Model has been used primarily for conducting the analysis. This model is ideal for specifying both short-term and long-term relationships among the non-stationary series which are cointegrated with each other. It is also capable of providing information on the rate of adjustment, with the use of the error correction term which expresses rapidity with which the series adjust in the long run equilibrium against the departures in the short term. Various diagnostic tests were carried out for establishing the robustness of the empirical model estimated. The Breusch-Godfrey Test is used for establishing the presence of serial correlation among the series, whereas tests for Normality and Heteroskedasticity establish if the series satisfy the ideal standard of econometric principles. The Test of Cumulative Sum established the structural constancy of the model during the period of observation for which the analysis has been carried out.

Model Specification

GDP = F (CIT, PPT, VAT, NCED)

$LGDP_t = \alpha + \beta_1 LCIT_t + \beta_2 LPPT_t + \beta_3 LVAT_t + \beta_4 LNCED_t + £_t$

Whereas:

$LGDP_t$ = GDP at time t logarithm

$LCIT_t$ = CIT at time t logarithm

$LPPT_t$ = PPT at time t logarithm.

$LVAT_t$ = VAT at time t logarithm.

$LNCED_t$ = NCED at time t logarithm.

$£_t$: Error term

A Priori Expectation

The coefficients of the explanatory variables are expected to be positively related to explained variable in line with extant studies and economic theories. It means that:

β_1 ($LCIT_t$) > 0: Higher CIT is expected to positively impact economic growth as corporate taxation contributes to government revenue, which can be used for infrastructure and development.

β_2 ($LPPT_t$) > 0: Increased Petroleum Profit Tax (PPT) should contribute positively to GDP growth, given that Nigeria's economy is heavily explained on oil revenue.

β_3 ($LVAT_t$) > 0: A positive effect is expected from VAT as it provides a steady source of government revenue without discouraging investment.

β_4 ($LNCED_t$) > 0: NCED is expected to have a positive impact, as import-related VAT revenue can support economic activities through government spending.

Thus, all tax revenue components are anticipated to have a positive and significant effect on GDP, aligning with the hypothesis that tax revenue contributes to economic growth. The findings aim to provide empirical insights into the dynamic effects of tax revenue on Nigeria's economic growth.

4.0 Results and Discussion of Findings

Table 1 shows the descriptive statistics of the variabilities used in the study. LGDP is the dependent variable, and LCIT, LPPT, LVAT, and LNCED are independent variabilities, which describe the other main components of taxes in Nigeria. The means indicate that the highest average is represented by the LGDP with a value of 4.49, due to Nigeria's economic magnitude

throughout 1993 to 2023. The smallest average is represented by LNCED with a value of 2.18, due to Nigeria's average performance in Customs and Excise throughout 1993 to 2023, which fluctuates based on the volume of trade and the efficiency of border control. The median statistics for the variabilities show mostly equality with the means, except for the 'GDP' with a median value of 4.67, because Nigeria's previous periods showed smaller 'GDP' performance due to economic recessions in 2016 and 2020.

The standard deviation measure shows the level of variability. The highest variability is seen in LGDP with a value of 0.86, indicating the fluctuating growth pattern of Nigeria due to oil price fluctuations, exchange rates, and reforms. LNCED has the lowest standard deviation of 0.40, indicating a stable source of revenue from customs rather than taxes, which rely on the performance of corporations and the profitability of the oil sector. Results of skewness measurements show a strongly negatively skewed value of -4.86 for LGDP, indicating numerous cases where the value of GDP is low in the initial years. There is a similar indication of negative skewness for both LVAT and LPPT with values of approximately 0.23, which can be related to moderate performance of VAT and petroleum profit taxes during a particular period of downturn. LCIT has a mildly negatively skewed value of -0.31, showing a symmetrical performance of corporations outside the oil sector due to continuous activity in those sectors.

The values of kurtosis provide other information on the characteristics of the distributions. The high value of kurtosis for LGDP is 26.06, which is an indicator of the existence of extreme data points, probably depicting phases of strong economic growth and depression. The values of 3.81 for LVAT and 3.46 for LNCED depict leptokurtic characteristics, indicating tail heaviness showing phases of strong variability in terms of efficiency of these taxes and external trade shocks. LPPT and LCIT have a value of kurtosis of less than 3, depicting the existence of extreme data points rarely; this is because these series were stable outside phases of strong oil shocks. From the Jarque-Bera statistics, it is noted that LCIT, LPPT, and LNCED fail to adhere to the normality hypothesis, depicting stable and predictable patterns concerning corporate taxes, petroleum profit taxes, and custom duties' collections. However, both LGDP and LVAT fail to follow the normality hypothesis, portraying strong economic shocks and structural reforms leading to sudden changes in the GDP and VAT collections. The unstable VAT series may be a determinant due to widespread informality.

Table 1:
Statistical Summary

Statistic	LGDP	LCIT	LPPT	LVAT	LNCED
Mean	4.49	2.44	2.89	2.18	2.18
Median	4.67	2.62	3.17	2.6	2.24
Maximum	4.88	3.52	3.62	3.47	2.99
Minimum	0	1.09	1.63	0	1.23
Standard deviation	0.86	0.71	0.63	0.79	0.4
Skewness	-4.86	-0.31	0.95	-0.02	-0.46
Kurtosis	26.06	1.78	2.45	3.81	3.46
Jarque Bera	808.6	2.44	5.08	6.2	1.39
Probability	0	0.3	0.08	0.05	0.5
Observations	31	31	31	31	31

Source: STATA, 2025.

Note. LGDP is the natural logarithm of gross domestic product. LCIT is company income tax. LPPT is petroleum profit tax. LVAT is value added tax. LNCED is Nigeria Customs and Excise Duties.

Correlation Evaluation

The correlation matrix shows the significant linkages among the key components of taxes, which include Company income taxes (CIT), Petroleum Profit Tax (PPT), and Value Added Tax (VAT), and non-tax government expenditure (NCED) and economic growth (GDP). The correlation coefficients among the different taxes and economic growth show that all taxes have a positive correlation with 'LGDP', which means that economic growth is related to an increase in taxes. However, the intensity of these associations is different for different taxes.From the sources of taxes, LCIT has the greatest positive correlation with economic growth (LGDP) with a value of 0.418, indicating a stronger alignment between corporate taxes and economic growth in Nigeria than other sources of taxes. LPPT and LVAT have moderate values with GDP of 0.387 and 0.366, respectively, showing a moderate contribution of petroleum industry taxes and consumption taxes towards economic performance.

A remarkable feature of the matrix is the strong correlation among the tax variables. LCIT, LPPT, and LVAT show correlation coefficients above 0.68, indicating a movement of these taxes together within the Nigeria fiscal setting. The strong correlation among these taxes indicates that these taxes can increase simultaneously due to macroeconomic forces among other factors. For instance, economic growth and better administration within a country can simultaneously increase CIT, PPT, and VAT receipts.The highest correlation coefficients within the data series include LNCED (government or non-oil capital expenditure), especially with LCIT (0.700), LPPT (0.689), and LVAT (0.675). This indicates a strong link between government spending and significant sources of tax revenue, which can be an indication of the use of government expenditure as a tool for promoting productive sectors, which eventually increase the ability to gather taxes. However, the correlation coefficient between LNCED and LGDP is weakly positive (0.285), showing a slight link between expenditure and economic growth, despite the support offered by the former to the latter.

In conclusion, the correlation matrix shows that Nigeria's economic growth is positively related to different sources of tax revenue, with Company Income Tax being most closely related thereto. The high degree of interconnectedness among the sources of taxes and their strong correlation with government spending suggests a potential fiscal arrangement where growth in different sources of revenue takes place simultaneously.The above observations form a preliminary empirical contribution concerning the co-movement of fiscal series with economic performance and lay the groundwork for conducting a sophisticated econometric analysis, including VECM tests, cointegration analysis, and causality tests.

Table 2: ***Correlation Evaluation***

Variables	LNCED	LVAT	LPPT	LCIT	LGDP
LNCED	1	0.675	0.689	0.7	0.285
LVAT	0.675	1	0.685	0.684	0.366
LPPT	0.689	0.685	1	0.692	0.387
LCIT	0.7	0.684	0.692	1	0.418
LGDP	0.285	0.366	0.387	0.418	1

Source: STATA, 2025.

Unit Root Test Using the Augmented Dickey Fuller Test

The Augmented Dickey Fuller test was employed to examine the time series properties of the variables and determine their order of integration. The purpose of the test is to identify whether each variable contains a unit root, which would indicate nonstationary. A variable is considered stationary when the absolute value of the ADF statistic exceeds the critical value at the 5 percent significance level. The results show that none of the variables were stationary at level. However, after applying first differencing with trend and intercept, all variables became stationary, as their ADF statistics exceeded the 5 percent critical values. This confirms that the series are integrated of order one, which supports the suitability of applying the Vector Error Correction Model.

Table 3:
ADF. Unit Root Test Results

Variable	ADF@1ST difference	5% critical value	Order of integration	Remark
LGDP	-5.943988	-3.580622	I[1]	Stationary
LCIT	-14.87908	-3.574244	I[1]	Stationary
LPPT	-5.556646	-3.580622	I[1]	Stationary
LVAT	-7.034074	-3.574244	I[1]	Stationary
LNCED	-7.403819	-3.574244	I[1]	Stationary

Source: STATA, 2025.

Analysis of the VECM Table and Hypothesis Testing

The long-run relationship between tax revenue and economic growth in Nigeria is represented by the CoinEq1 EC term. The estimated result for the LGDP parameter is −0.876104 with a t-statistic of −2.523910, which is significant at the 5% level. The negative sign and the fact that it is significant imply that the Nigerian economy tends towards a long-run equilibrium whenever a disequilibrium situation arises, with about 87.6% of the disequilibrium being corrected in one period, which shows a robust adjustment process. From this evidence, the null hypothesis H_{01} is therefore rejected because it stated that tax revenue is insignificant in influencing economic growth in Nigeria. This is an indication that tax revenue is a significant factor influencing economic growth in Nigeria because of its importance in economic growth, being a key motivator in economic development.

Table 4: ***VECM- Long-Run Relationship***

Dependent Variable	Explanatory Variable	Coefficient	Standard Error	t-Statistic	P-Value	Significance
LGDP	CointEq1 (Error Correction Term)	−0.876104	0.347	−2.52391	0.012	Significant at 5%

Source: STATA, 2025.

Short-Run Dynamics

The estimation results of the short-run VECM show that LCIT has a negative and statistically significant coefficient, confirming that it exerts a meaningful short-run effect on GDP. Therefore, H_{02}, which states that LCIT has no significant effect on economic growth, is rejected. The importance of LCIT in the short-run and long-run economic growth has been established. On the other hand, the coefficient of LPPT is not statistically significant, and therefore H_{03} is accepted because LPPT has no significant short-run effect, though it may affect growth in the long run. Similarly, there was no significant short-term effect of LVAT on GDP, hence the acceptance of H_{04}; this was the same for LNCED, hence the acceptance of H_{05}. These portend that tax revenue is so central to Nigeria's economic growth and that company income

tax is the most crucial component that exerts the most influence on both the short and long run, while PPT, VAT, and customs duties have just limited short-term effects. This goes to establish that effective tax administration and policy reforms are necessary to help increase revenue and provide the impetus for sustainable economic growth.

Table 5:
VECM-Short-Run Relationship

Tax Component	Coefficient	Standard Error	t-Statistic	Significance	Short-Run Impact
LCIT (Company Income Tax)	−0.072804	0.02571	−2.83147	Significant at 5%	Significant
LPPT (Petroleum Profit Tax)	−0.098060	0.07549	−1.29903	Not Significant	Not Significant
LVAT (Value Added Tax)	−0.005928	0.02477	−0.23934	Not Significant	Not Significant
LNCED (Nigeria Customs and Excise Duties)	−0.028496	0.0763	−0.37345	Not Significant	Not Significant

Source: STATA, 2025.

Discussion on VECM Table Results

Based on VECM, the study shows that taxes have a significant impact on economic growth in Nigeria in the long run, with Company Income Tax being the most significant factor within the CIT components of taxes. This significant effect means that corporate earnings, represented by CIT, significantly contribute to the economy of Nigeria. This observation is supported by current empirical evidence. For instance, a positive and significant correlation is observed between a composite CIT and VAT indicator and real GDP in Nigeria, covering 2015–2023, based on a study by Chijuka and Izekor (2024), which highlights the stabilizing effect of non-oil taxes in promoting economic growth in Nigeria. From an economic standpoint, these observations support the Ability-to-Pay Theory of taxation, which argues for a standard of taxes levied according to taxpayers' ability. This will increase fiscal equity within economies. Rather, these observations support the Benefit-Received Principle, which argues for taxes levied because the beneficiaries of infrastructure and other social goods and services received indirectly by businesses within the economy.

However, other components of taxes, namely the Petroleum Profit Tax (PPT), VAT, and Nigeria Customs and Excise Duties (NCED), do not present a significant effect in the short run, although they have a bearing in the longer run. The slightly lower effect of the former may be related to uncertainties in international oil prices, exemptions, and difficulties in enforcing these taxes, according to Akinola and Akinrinola (2023). The lower effect in the short run may be attributed to a lack of efficiency, a large contribution from the informal sector, with potential despite the bureaucratic constraints, since VAT increased its contribution by six trillion seven hundred and twenty billion naira in 2024, indicating an increased level of importance in fiscal matters, according to Premium Times (2025). The effect may be attributed to similar factors mentioned in a discussion by Oluwole (2023).

Short-Run Relationship

Regarding the contemporaneous effects, only the corporate income tax (CIT) is found to have a significant positive impact on the gross domestic product (GDP), establishing its importance in the short run. This is because the predictable accrual of income generated from the corporate sector is relatively immune to uncertainties associated with oil income and consumption taxes. A lack of significance in the impact for petroleum profit tax (PPT), value-added tax (VAT), and non-oil income generated from custom duties (NCED) may primarily be due to inherent limitations and difficulties in these areas. Moreover, being an income generated from oil prices

and an inability to meet worldwide demands due to producers' limitations can continue to impact the economic activity indirectly in the short run for the PPT concept. VAT can further generate significant income in the long run, but its contemporaneous impact is impacted by lack of compliance and inefficiency in execution.

Recent observations support these outcomes. There is a predominant rise in non-oil taxes within the Nigerian taxation base, with CIT and VAT forming the backbone of total taxes generated (Intelpoint, 2025). The significant increase in VAT collections shows potential gains for sustained growth, given better administration and compliance rates, which would enhance its contribution towards economic growth (Premium Times, 2025). CIT is the most stable and significant source of taxes, consistent with previous evidence highlighting the prospect of corporate taxes for providing a predictable source of governmental investment and infrastructure projects for growth and development purposes (Chijuka & Izekor, 2024; Akinola & Akinrinola, 2023). From an economic standpoint, a number of ramifications can be derived from these findings.

First, CIT must be better sustained within its role as an economic growth anchor through improved compliance with corporate taxes, expanding the base, and implementing efficient electronic remittance frameworks. Second, the VAT must be fully optimized via a series of policies shifted towards mitigating its rates of evasion, simplifying the process of compliance, and engaging the informal sector in order to fully develop its potential within economic growth. Third, a better governance of the PPT must be established through increased levels of transparency, exemption reduction, and strong control of the oil industry in order to fully develop its potential within economic growth. Fourth, an upgrade of the NCED is required in order to increase the efficiency of customs with a diminished loss of funds and promotion of economic activity related to trade. Lastly, economic growth must be promoted by fully allocating funds generated by each part of taxes contributed into productive areas such as infrastructure, human capital, and innovative sectors in order for these sources to maximize economic growth within Nigeria's economy.

5.0 Conclusion

The aim of the research is to evaluate the impact of tax revenue on economic growth in Nigeria, considering both the long-run and short-run impacts with GDP being the indicator of economic performance. The research focuses on four major components of taxes, which include Company Income Tax, Value Added Tax, Petroleum Profit Tax, and Nigeria Customs and Excise Duties. Empirical evidence shows that taxes, collectively, form a significant factor in the economic growth of Nigeria over a specific period of time. From the components discussed, the CIT is identified as the most significant factor with a strong ability to impact GDP both in the short run and in the long run. It is apparent that the PPT, VAT, and NCED lack significant impact in the short run, possibly due to administrative complexities and uncertainties associated with oil prices and international trade transactions. This study is consistent with theoretical aspects including the Ability-to-Pay Theory, Benefit-Received Principle, Expediency Principle, Laffer curve, and Socio-Political Theory, which recognize the core role of efficient and just taxation in enhancing economic growth.

Based on these observations, it can be noted that improvement in Nigeria’s taxation system will be greatly beneficial for economic diversification and growth. This can be ensured with the help of advancements in the online management of taxes, extension of the tax base in order to include the informal sectors, reduction of administrative loses, and ensuring a follow-through of the derived financing from PPT, VAT, and NCED taxes into key growth areas such as infrastructure, health, and education. Additionally, improvement in the process of

compliance will be beneficial in ensuring the maximal effect of economic growth due to taxes on the GDP. Furthermore, the study highlights areas for potential future research. Other researchers can use sectoral GDP series and estimate industry-level effects, or use models of tax elasticity to determine the sensitivity of growth to variations in different instruments of taxes. In conclusion, the research serves as an affirmation of the importance of fund accrual from taxes for economic growth in Nigeria, with CIT being the most efficient instrument among the rest. Nigeria needs efficient administration and a well-formulated policy with the right allocation of funds for economic growth to be sustainable.

Implications and Policy Recommendations

The findings indicate a need for an eclectic approach in enhancing the Nigerian tax system. First, the framework for complying with taxes needs improvement to eliminate leakages and improper filings. Second, reforms ought to avoid exemptions and ensure consistent financing of productive growth projects from both PPT and VAT taxes. Third, improvement in institutional strengths with regard to custom and trade regulations is paramount and essential for tapping the full potential contribution expected from the revenues generated from the NCED projects. To enact these, the efficiency of the Nigerian tax system and prospects for accelerating economic growth will be covered in an efficient manner. The VECM analysis has validated the significant importance of taxes in Nigeria's economic growth, with Computer Software Technologies being the most dominant factor; both Payment of Produce Taxation, Value AddedTaxationare insignificant but hold immense potential; the Nigeria Customs Enhancement project is a distant but potential within a long-term strategy.

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