EFFECT OF FEDERAL GOVERNMENT TAX AND NON-TAX REVENUE ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT: *The objective of this study was to analyse the influence of tax and non-tax revenue generated by the federal government on the economic growth of Nigeria. The study utilised an ex post facto approach and specifically examined the Nigerian economy as a whole, resulting in a population and sample size of one. Data was collected from secondary sources, including the yearly reports and statistics releases of the CBN and the office of the Federal Inland Revenue Service (FIRS). The study spanned a decade, specifically from 2001 to 2020. The hypotheses were tested using simple linear regression for data analysis. The regression study revealed a substantial influence of federal government tax income on economic growth. The F-statistic yielded a value of 466.0399, the P-Value was determined to be 0.000, and the R-squared value was calculated as 0.962813. These results indicate that about 96.28% of the variability in real GDP can be accounted for by tax revenue. Similarly, the analysis demonstrated a substantial impact of non-tax revenue from the federal government on the growth of the economy. The F-statistic yielded a value of 201.5388, the P-Value was found to be 0.000, and the R-squared value was determined to be 0.918010. These results indicate that about 91.80% of the variance in real GDP can be accounted for by non-tax revenue. Moreover, the economic growth was significantly influenced by the overall revenue of the federal government. The F-statistic yielded a value of 469.5482, indicating a strong statistical significance. The P-value was 0.000, further confirming the significance of the results. The R-squared value was 0.963081, indicating that approximately 96.31% of the fluctuation in real GDP can be accounted for by total tax revenue. These findings emphasise the essential importance of both tax and non-tax revenue, namely from the federal government, in stimulating economic growth. In order to increase revenue generation, it is crucial for the government to give priority to enhancing tax administration and compliance. This can be accomplished by implementing efficient tax regulations, streamlining tax procedures, and establishing strong monitoring and enforcement measures. Furthermore, it is advisable to diversify non-tax revenue streams beyond oil.*

KEYWORDS: Taxation, Tax, Tax Revenue, Non-tax Revenue, economic growth, Gross Domestic Product (GDP).

INTRODUCTION

An analysis is needed to determine the impact of tax and non-tax revenue from the federal government on economic growth in Nigeria. Taxation is important for the government to deliver vital services to residents, and the non-compliance of citizens with their tax responsibilities results in a substantial income shortfall. Consequently, the government's incapacity to furnish fundamental infrastructure and enhance the quality of life for its populace arises. The Nigeria Bureau of Statistics (NBS) reported that the number of individuals employed in Nigeria stood at approximately 60.463 million as of September 2022.

The impact of tax and non-tax revenue generated by the federal government on the economic growth of Nigeria is a crucial research topic that examines the correlation between government income and the overall economic progress of the nation. Nigeria, as a developing country heavily dependent on oil exports, has acknowledged the necessity of diversifying its sources of revenue in order to decrease susceptibility to oil price swings and foster sustainable economic growth (Adeusi, Uniamikogbo et al., 2020).

Tax revenue is a potent instrument for implementing economic reforms and a significant contributor to the economies of all nations. It is always changing rather than staying the same, and it should accurately represent the current conditions that exist in the economy. The tax system serves as a means for the government to generate supplementary revenue, in addition to other sources of income, in order to fulfil its urgent commitments (Adefolake & Omodero, 2022). An efficient taxation system presents itself as one of the most potent methods for harnessing a country's domestic resources. In Nigeria, tax revenue can be categorised into two distinct groups: oil tax revenue and non-oil tax revenue. Oil tax revenues are generated by levying taxes on the income and profits of oil companies that are active in Nigeria. Two instances of economic rentals from oil extraction are the Petroleum Profit Tax (PPT) and royalty (Adeusi & Uniamikogbo et al., 2020). Non-oil tax revenues refer to the income generated from taxes that are not tied to oil activities. These taxes include corporate income tax (CIT), personal income tax (PIT), value added tax (VAT), and others (Yahaya & Yusuf, 2019).

Non-tax revenue is government income that comes from sources other than taxes. These sources can include earnings from the exploitation of natural resources, licensing fees, fines, dividends, and grants. The influence of non-tax revenue on economic growth in Nigeria can be discerned through the following mechanisms: Nigeria is a country that produces oil, and a substantial part of its non-tax revenue comes from exporting oil. Non-tax revenue can be assigned to infrastructure initiatives, such as transportation, power, and telecommunications. Enhanced infrastructure has the potential to allure investment, boost productivity, and enable economic activity, hence promoting economic growth (Adeusi & Uniamikogbo et al., 2020). Non-tax revenue can be allocated to social programmes, including education, healthcare, poverty reduction, and social safety nets. These investments have the potential to improve the development of human capital, decrease inequality, and establish a favourable climate for economic growth. The influence of tax and non-tax revenue on economic growth depends on various aspects, such as the effectiveness of revenue collection, transparency in public expenditure, efficient governance, and the general business environment (Adeusi & Uniamikogbo et al., 2020). Furthermore, effective administration and distribution of income are essential for optimising the beneficial influence on economic expansion.

Nigeria, as a developing nation, has always been significantly dependent on the income gained by the exportation of crude oil. Nevertheless, acknowledging the weaknesses linked to over reliance on a solitary source of income, the Nigerian government has implemented measures to broaden its sources of revenue. The shift in focus is intended to decrease the country's vulnerability to changes in global oil prices and foster sustained economic expansion. Agba et al. (2019) stated that diversification efforts involve several sectors like agriculture, manufacturing, services, and solid minerals. These initiatives aim to utilise Nigeria's abundant resources and human capital potential, promoting the development of jobs, enhancing productivity, and cultivating economic resilience. Nigeria may achieve economic stability and establish a basis for long-term sustainable development by diversifying its revenue sources beyond oil. Hence, it is imperative to examine the influence of both tax and non-tax revenue on the economic growth of Nigeria. The results of this study will aid in the creation and execution of policies, emphasising the significance of having a stable and varied source of income in attaining economic progress and advancement.

Statement of the Problem

The impact of tax and non-tax revenue on economic growth in Nigeria has been a matter of concern. Taxation is vital for the government to fund important services and infrastructure that improve the quality of life for citizens. Nevertheless, Nigeria has obstacles in terms of taxpayer adherence and the inadequate tax-to-GDP ratio. Based on data from the Nigeria Bureau of Statistics (NBS), Nigeria has an estimated employed population of 69.5 million, yet only 19 million individuals are predicted to be paying taxes. This indicates that a considerable proportion of employed individuals in Nigeria are not actively contributing to the tax revenue, resulting in a low ratio of taxes to the country's Gross Domestic Product (GDP). South Africa, in comparison, has a tax-to-GDP ratio of more than 25%, which emphasises the worry over Nigeria's low ratio. Nigeria's limited tax compliance and weak tax administration hinder the government's capacity to efficiently allocate resources for the provision of essential services for the well-being of its inhabitants. Countries that have developed and implemented effective tax systems and have a high level of compliance are able to allocate resources efficiently. For example, countries such as the United States, France, and Denmark exhibit high tax-to-GDP ratios, which suggest a high level of compliance among taxpayers and efficient tax administration. Previous studies have examined the connection between non-oil tax revenue and economic growth in Nigeria using linear regression methods. However, there is a lack of understanding regarding the influence of both tax revenue (specifically Petroleum Profit Tax) and non-oil tax revenue (including Companies Income Tax, Personal Income Tax, and Value Added Tax) on economic growth using a different approach, such as Auto Regressive analysis.

This study seeks to close this disparity and analyse the degree to which both tax and non-tax revenue impact economic growth in Nigeria. Empirical research is carried out to ascertain the influence of taxation on economic growth in Nigeria, given the necessity to examine the correlation between petroleum profit tax, corporate income tax, customs and excise levies, and economic growth. The study aims to investigate the impact of federal government tax and non-tax revenue on economic growth in Nigeria.

Aim and Objectives of the Study

The aim of this study is to examine the Effect of Federal Government Tax and Non-Tax Revenue on Economic Growth in Nigeria while specific objectives are to:

- Investigate the effect of federal government tax revenue on economic growth in Nigeria.
- Evaluate the effect of federal government non tax revenue on economic growth in Nigeria.
- Examine the effect of federal government total tax revenue on economic growth in Nigeria.

Hypotheses:

1. Federal Government tax revenue has no significant effect on economic growth in Nigeria.
2. Federal Government non-tax revenue has no significant effect on economic growth in Nigeria.
3. Federal Government total revenue has no significant effect on economic growth in Nigeria.

LITERATURE REVIEW

Conceptual Review

Brief Description of Tax Revenue

Tax income is a basic component of government finances, playing a crucial part in the financial viability and functioning of nations (Agunbiade & Idebi, 2020). By imposing taxes on individuals, businesses, and various economic activities, governments produce cash that is utilized to meet the demands and obligations of society. Income tax is one of the key kinds of tax revenue. It is levied on the earnings of individuals, including wages, salary, and investment income. Through progressive tax rates, persons with higher incomes generally contribute a bigger proportion of their earnings to the government's coffers, while those with lower incomes incur a relatively smaller tax burden (Smith & Johnson, 2018). This progressive character of income tax serves to promote income redistribution and minimize income inequality within society.

Property tax is another key component of tax revenue. It is assessed on the value of real estate properties, including land, buildings, and dwellings. Property tax contributes to local government revenues and is commonly used to pay public services such as schools, parks, and infrastructure projects (Adams et al., 2019). The tax amount is normally dependent on the assessed value of the property and fluctuates according to local tax rates.

Consumption taxes, such as value-added tax (VAT) or sales tax, are collected on the purchase of products and services. These taxes are entrenched in the price of goods and services and are eventually absorbed by customers. VAT is a widespread form of consumption tax employed by many nations, including Nigeria, and it contributes significantly to tax income (Okafor & Mbah, 2021). The tax rate may vary depending on the nature of products or services, with some commodities earning higher tax rates or exemptions.

Corporate tax is placed on the earnings produced by enterprises and corporations. It is an important source of tax revenue, particularly for countries with a substantial corporate sector. Corporate tax rates vary between jurisdictions, and governments generally attempt to find a

compromise between attracting investment and producing tax revenue (Olugbenga et al., 2017). Some governments give tax incentives to recruit enterprises and support economic growth.

Customs duties and tariffs are levies levied on products imported or exported across international borders. These tariffs serve both as a source of revenue for the government and a method to regulate trade and safeguard domestic businesses. Import charges are placed on imported commodities, whereas export tariffs may be charged on selected products leaving the country (Ikejiaku & Adewuyi, 2018). Tariffs can vary depending on the type of goods and their country of origin or destination.

Tax income provides governments with the financial resources needed to perform their responsibilities and adopt policies that benefit the community. The allocation and utilization of tax revenue require rigorous planning and consideration to ensure equal distribution, efficient use of resources, and sustained economic development (Ezeani & Chinedu, 2021). Governments regularly assess and alter tax policy to strike a balance between producing income, supporting economic growth, and addressing social and developmental objectives.

Brief Description of Non-Tax Revenue

Non-tax revenue refers to revenue generated by the government from other sources, including as fees for services, fines and penalties, as well as income from state-owned firms and asset sales (Adeusi & Uniamikogbo et al., 2020). Non-tax revenue can also contribute considerably to the government's revenue base; it is often less sustainable than tax revenue, since it is more sensitive to economic volatility and market conditions. Moreover, the efficacy of non-tax revenue generation is also largely dependent on institutional frameworks and policy measures put in place by the government.

Nigeria, as a notable exporter of oil and gas, relies heavily on the revenue earned by the discovery, development, and sale of these resources (Smith, 2019). Royalties and license fees from mining activities involving minerals like tin, limestone, coal, and gold also contribute significantly to the non-tax revenue (Johnson et al., 2018). In addition, dividends from state-owned firms, such as Nigerian Telecommunications Limited (NITEL) and Nigerian Railway Corporation (NRC), significantly boost the government's non-tax revenue stream (Adams, 2020). The study also emphasizes the collection of taxes and charges for government services, including licenses, permits, and public utilities like water supply and transportation (Okafor, 2017).

Lastly, the study acknowledges the role of the Central Bank of Nigeria (CBN) in creating profits through monetary policy activities, including interest income on government securities and foreign exchange transactions. These earnings, which accrue to the government, comprise a large component of the non-tax revenue (Adeleye & Olugbenga, 2018). Importance of revenue for economic growth in Nigeria.

Revenue collection is vital for economic growth in Nigeria. With a continually rising population, it is necessary that the government collects appropriate funds to invest in numerous sectors such as education, healthcare, infrastructure, and security (Adeusi & Uniamikogbo et al., 2020).

The influence of tax and non-tax revenue on economic growth in Nigeria can be analyzed from several viewpoints, including the impact on government spending, private investment, and GDP growth (Aliyu & Mustapha, 2020; Agunbiade & Idebi, 2020). Regarding the impact of non-tax revenue on economic growth in Nigeria, it is vital to highlight that the country's economy is strongly reliant on the oil sector, which is its principal source of non-tax revenue. This revenue stream offers a huge challenge to the government as fluctuations in oil prices regularly upset the budget and badly influence the economy. The government also earns non-tax revenue through sources including property sales and leasing, dividends from state-owned firms, and various taxes and charges. However, these sources are typically underutilized due to corruption and mismanagement. In comparison, tax revenue has the potential to be a more consistent and sustainable source of revenue for Nigeria. By extending its tax base, enhancing its tax administration, and enacting policies that encourage compliance, the government may collect more money to fund its development goal and minimize its reliance on non-tax revenue sources (Adeusi & Uniamikogbo et al., 2020).

Furthermore, the Nigerian government should focus on measures to enhance non-tax revenue since it has become increasingly crucial in sustaining economic growth in the country. One of the measures that can be pursued is the monetization of state assets such as land, mineral resources, and corporations. This will expand the government's revenue base and provide a source of investment in diverse sectors of the economy. In addition, the government should diversify the economy by fostering the growth of non-oil sectors, such as agriculture, industry, and tourism. This will stimulate foreign investment and reduce the country's dependence on oil revenue, which is now exposed to global market shocks. Furthermore, the government should also investigate public-private partnerships (PPPs) as a means of financing and implementing infrastructure projects while leveraging private sector experience.

Gross Domestic Product (GDP) Growth

Gross Domestic Product (GDP) is an economic term that measures the total value of products and services produced inside a country's borders in a certain period, usually a year (Uzochukwu, 2019). It is typically cited as a major indicator of a country's economic health and a gauge of its standard of living. GDP is computed by adding up the value of all final goods and services generated in the economy and deducting intermediary costs. In other words, it assesses the output of an economy by reconciling the value generated by all industries, firms, and persons operating inside it. It has four primary components: private consumption, government spending, investment, and net exports. GDP is a key instrument for policymakers to measure and evaluate economic progress (Otekunrin et al., 2023).

GDP is a significant measure of economic activity and development. It is an indication of the economic health and performance of a nation. An increase in GDP growth rate shows expansion and growth in the economy. In Nigeria, the GDP growth rate has been variable over the years due to several causes, such as the drop in crude oil prices, political instability, and security challenges. The country has had periods of rapid GDP growth, which have been supported by favorable economic policies, increased foreign direct investment, and improved infrastructure (Otekunrin et al., 2023; Olomola & Adeyemi, 2018). On the other hand, the country has had moments of negative growth due to economic downturns, which have had considerable harmful consequences on enterprises, the labor market, and the standard of living (Uzochukwu, 2019). Therefore, it is vital to maintain a constant and positive GDP growth rate by implementing policies that favor economic expansion.

The Impact of Tax Revenue on GDP Growth

Tax income has a tremendous impact on the GDP of a country. By contributing to the overall revenue of the government, taxes provide the essential funding for investment in infrastructure, education, and healthcare (Onakoya & Afintinni, 2016). This, in turn, enables for the formation of new firms and jobs, ultimately contributing to better economic growth rates. However, the impact of tax income on GDP growth can be influenced by several factors, such as the country's economic structure, government policies, and taxing rate. In Nigeria, tax income has been determined to have a favorable effect on the country's economic growth (Onakoya & Afintinni, 2016). This is due to the government's attempts to adopt tax reforms, boost tax compliance, and broaden the tax base. Overall, tax revenue plays a critical role in supporting economic growth in a country, and consequently, governments should prioritize tax reform projects to guarantee that they have a solid tax system that encourages economic growth.

The Impact of Non-tax Revenue on GDP Growth

The significance of non-tax revenue on GDP growth in Nigeria is immense. Non-tax revenue is the income that the government generates from sources other than taxes, such as dividends, rentals, and fees (Onakoya & Afintinni, 2016). Non-tax revenue plays a substantial role in Nigeria's GDP, making up 49.1% of total revenue from 1992 to 2018 (Otekunrin et al., 2023). The Nigerian Government has enacted measures to broaden its sources of income, resulting in a surge in non-tax revenue and thus contributing to an upturn in GDP growth. The Nigerian Government generates non-tax money through several means, including the sale of oil, mining activities, and subsidies. The revenue derived from these sources has been allocated towards the development of infrastructure, education, healthcare, and security, therefore fostering economic progress. In order to maintain continuous economic growth and development in Nigeria, authorities must persist in implementing policies that enhance non-tax revenue.

An Analysis of the Efficacy of Various Revenue Streams in Stimulating GDP Growth

The efficacy and efficiency of income streams in fostering GDP expansion is vital for any emerging country. Effective management and targeted allocation of tax revenue have been identified as crucial factors in stimulating economic growth (Ojo & Adegbite, 2017). Conversely, revenue generated from natural resources like oil and gas, which is not derived from taxes, can result in substantial increases in GDP growth. However, this type of revenue is frequently associated with instability and a lack of variety in economic activities (Otekunrin et al., 2023). Thus, adopting a well-rounded strategy that utilizes both tax and non-tax revenue streams can effectively stimulate long-term economic expansion. Policymakers must prioritize the establishment of effective management, accountability, and openness in revenue policy execution. Neglecting these aspects might have detrimental effects on the economy (Uzochukwu, 2019).

Efficient, equitable, and transparent tax policies can be implemented as a means to enhance economic growth in Nigeria. This can be accomplished by streamlining and making the tax system easily understandable and available to all individuals, alleviating the financial strain on individuals with low incomes, and encouraging adherence to tax regulations among taxpayers. Furthermore, the country's economic growth can be bolstered by non-tax revenue sources such as royalties, rents, and fees. Nevertheless, there is a requirement for an improved system of revenue collection and management to guarantee the efficient utilization of revenue generated from non-tax sources. Efficient utilization of tax and non-tax revenue necessitates the use of

appropriate planning, execution, and monitoring procedures. Furthermore, it is imperative to enhance coordination and collaboration among federal, state, and local administrations to guarantee the optimal utilization of resources for the purpose of national development.

THEORETICAL REVIEW

The economists have put forward many theories or principles of taxation at different times to guide the state as to how justice or equity in taxation and other revenue can be achieved. The main theory is benefit theory.

Benefits Theory

A number of writers have explored the Benefit Theory of Taxation, which originates in classical economic notions. In his seminal work "The Wealth of Nations" (1776), the great economist Adam Smith made passing reference to the Benefit Theory and its adherents. The notion states that people and companies should pay taxes in direct proportion to the value they place on the state's public goods and services (Tinsley & Tinsley, 1986). The basic premise is that a higher tax burden should be borne by those who benefit more from the state's infrastructure, services, and overall operation. According to this school of thought, companies and individuals with larger earnings or who get more advantages from government services should pay a higher share of taxes (Bhartia, 2009).

The Benefit Theory is not without its detractors, despite its many advocates. One of the main complaints is that it is hard to put a precise number on the advantages that people and companies get from government-provided goods and services (Ghoshal & Moran, 1996). There may be disagreements and disparities in tax assessments due to the subjectivity involved in determining the precise amount of benefit to an individual or company. Companies and individuals with more resources should pitch in more, according to the Benefit Theory. On the other hand, detractors contend that a regressive tax structure, in which the well-off receive more advantages, might worsen economic disparities. Externalities, or consequences that affect society at large, are under-accounted for in the Benefit Theory (Slovic, 2004). The justice system and national security are two examples of public goods that serve society as a whole rather than just one person. It is difficult to fairly distribute tax costs and ascertain proportional benefits due to these considerations.

The Benefit Theory can shed light on the connection between taxes and the advantages gained from public goods and services, which is useful information for analyzing the impact of both tax and non-tax revenue on economic growth in Nigeria. According to Otekunrin et al. (2023), the Benefit Theory can help lawmakers create fair tax regimes. Public goods and services are essential to economic growth, and the Benefit Theory stresses the significance of investing both tax and non-tax income in these areas. Productivity, investment, and economic growth can all be boosted by directing funds to areas like healthcare, education, and infrastructure development. It is possible to diversify Nigeria's economy through the use of tax and non-tax revenues.

The government may promote inclusive economic growth by investing in non-oil sectors, encouraging SMEs, and promoting social programs that alleviate inequality. This allows us to evaluate how well the Nigerian tax system matches this model, in which there is a connection between taxation and monetary gain (Ojo & Adegbite, 2017). If this is relevant, it will help with more precise tax revenue forecasting and the identification of particular tax revenue

sources in light of the determined economic development profile. Among other things, it will help estimate a sustainable revenue profile, which is essential for good fiscal policy management (Ojo & Adegbite, 2017). Although it offers a framework for thinking about how taxes affect benefits, the Benefit Theory is not the only factor to consider when crafting tax laws. Besides revenue demands, administrative feasibility, and economic efficiency are other elements that impact decisions on tax policy.

Empirical Review

The primary goal of this study is to objectively evaluate the effect of tax revenue on GDP growth in Nigeria from 1981 to 2017. It makes use of time series data retrieved from the NBS online, FIRS yearly publications, and CBN statistical bulletins. Estimating the linkages, dynamics, and long-run impacts of independent factors on the dependent variable was done using OLS and ARDL techniques. This allowed the study to meet its aims. Petroleum profit, value-added tax, and government domestic debt are statistically significant and strongly correlated with GDP, according to ARDL long-run estimation, and the ARDL bound test confirmed that the variables are cointegrated. Furthermore, customs and excise duties, as well as corporation income tax, emerged as substantial yet growth-depressing factors. The research concluded that tax revenue did not contribute much to GDP throughout the study period (Aliyu, & Mustapha, 2020); hence, the government should step up its efforts to collect more tax money.

Adefolake and Omodero (2022) used time series data from 2000 to 2021 to examine the impact of tax revenue on economic growth in Nigeria. Examining how the Value Added Tax, Hydrocarbon Tax, and Corporation Income Tax have affected GDP growth in Nigeria is the primary objective of the research. The data used in the study is from secondary sources, such as the Federal Inland Revenue Statement and the CBN statistical bulletin. This study employs an ex-post facto research design. We use the Augmented Dickey Fuller method to examine the acquired data and check for unit root. At first difference, the study's variables—GDP, PPT, CIT, and VAT—are determined to be stationary. As a result, we also run a Johansen co-integration test, which shows a relationship in the long term. In order to determine how PPT, CIT, and VAT affect GDP, the study employs the Vector Error Correction Model. The results show that PPT and VAT significantly and positively affect GDP. Further evidence that CIT significantly reduces GDP is provided by this analysis. In light of these results, the investigation recommends that tax authorities in Nigeria hold seminars and training to educate businesses and citizens about the value of tax money and its impact on the economy.

Using time series data from 1970 to 2019, this study examines how capital and recurrent government expenditure in Nigeria affected economic growth. Autoregressive Distributed Lag (ARDL) is the model used in this paper. Taking structural breakdowns into consideration in the unit root test and the co-integration analysis, the study guarantees strong results. The study's main conclusions are that, compared to recurrent expenditure, capital expenditure significantly and positively affects economic growth in the short and long term, while recurrent expenditure has no such effect. The research concludes that the government should invest more of its money on capital projects, particularly those that will improve people's lives in tangible ways. By carefully reallocating funds to productive endeavors that would boost human development in the nation, the government can also improve the spending patterns of recurring expenditure (Aluthge, Jibir & Abdu, 2021).

METHODOLOGY

The study has adopted the ex post facto design. This is because the data have been officially gazette and will be sourced from secondary sources. Nigeria's economy as an entity has been studied. Therefore, the population and sample size is one. The sources of data for the research shall be secondary sources. Data were sourced from the annual reports/statistical releases of the Central Bank of Nigeria and the office of Federal Inland Revenue service (FIRS). Data for the study covers a ten year period: 2001–2020. As tools for data analysis, the hypotheses of the study will be tested using the simple linear regression techniques to determine the effect of federal government tax revenue on Gross National Product (GDP) and multiple regressions for the pool data.

Model Specification

Multiple Linear Regression

This model will be used to test the pool effect of the variables on GDP.

Thus, Model: Economic Growth = β_0 + β_1 (Tax Revenue) + β_2 (Non-Tax Revenue) + β_3 (Total Tax Revenue) + ε

In this model, "Economic Growth" represents the dependent variable, and we include the independent variables "Tax Revenue," "Non-Tax Revenue," and "Total Tax Revenue." β_0 represents the intercept; β_1, β_2, and β_3 represent the coefficients of the respective revenue variables; and ε represents the error term. The multiple linear regression will be adapted in Ordinary Linear Regression to test Hypotheses 1–4; thus, here are the models for the three hypotheses:

Hypothesis 1: Federal Government tax revenue has no significant effect on economic growth in Nigeria.

Model: Economic Growth = β_0 + β_1 (Tax Revenue) + ε

In this model, "Economic Growth" represents the dependent variable, "Tax Revenue" represents the independent variable (federal government tax revenue), β_0 represents the intercept, β_1 represents the coefficient of tax revenue, and ε represents the error term.

Hypothesis 2: Federal Government non-tax revenue has no significant effect on economic growth in Nigeria.

Model: Economic Growth = β_0 + β_1 (Non-Tax Revenue) + ε

In this model, "Economic Growth" represents the dependent variable, "Non-Tax Revenue" represents the independent variable (federal government non-tax revenue), β_0 represents the intercept, β_1 represents the coefficient of non-tax revenue, and ε represents the error term.

Hypothesis 3: Federal Government totals revenue has no significant effect on economic growth in Nigeria.

Model: Economic Growth = β_0 + β_1 (Total Tax Revenue) + ε

In this model, "Economic Growth" represents the dependent variable, "Total Tax Revenue" represents the independent variable (federal government total tax revenue, which includes both tax and non-tax revenue), β_0 represents the intercept, β_1 represents the coefficient of total tax revenue, and ε represents the error term.

RESULTS AND DISCUSSION

Table 1: Descriptive Statistics

	REAL_GDP	TOTAL Revenue	TAX_REVENUE	NON_TAX_REVENUE
Mean	59018807	2456788.	1550494.	906293.4
Median	49465405	1835577.	1048171.	739345.0
Maximum	1.46E+08	7821325.	4376983.	3444342.
Minimum	7062750.	294495.7	198760.9	95734.74
Std. Dev.	42915810	2153539.	1373497.	821651.1
Skewness	0.482264	1.085184	0.865354	1.686667
Kurtosis	2.052117	3.337351	2.515391	5.771100
Observations	20	20	20	20

Descriptive data are shown in Table 1. The mean is the average of all the values in the set. Real GDP averages out to 59,018,807. This points to a real GDP of about 59 million on a typical basis. Half of the data points fall below the median and half above it, making it the middle value. As an example, half of the observations have total revenue < 1,835,577, which is the median TOTAL Revenue. A measure of how dispersed or variable the data is around the mean is the standard deviation, abbreviated as Std. Dev. There is a large amount of variation in tax revenue among the data, as indicated by the standard deviation of 1,373,497. You can see the range of values for each variable in the minimum and maximum values. The skewness of a distribution is a measure of its symmetry. If the skewness value is near zero, then the distribution is almost symmetrical. A skewness of 0.482264 indicates that Real GDP is somewhat skewed to the right in this instance. The distribution's tail heaviness is quantified by kurtosis. Greater dispersion in the tails is indicated by a higher kurtosis score. As an illustration, the kurtosis of 5.771100 for non-tax revenue indicates a distribution with heavy tails.

Table 2: Correlation Analysis

Correlation Probability	REAL_GDP	TOTAL	TAX_REVENUE	NON_AX_REVENUE
REAL_GDP	1.000000 -----			
TOTAL	0.976129 0.0000	1.000000 -----		
TAX_REVENUE	0.983479	0.988734	1.000000	

	0.0000	0.0000	-----	
NON_AX_REVENUE	0.914411	0.968191	0.919832	1.000000
	0.0000	0.0000	0.0000	-----

Correlation analysis results are shown in Table 2 above. Coefficients of correlation quantify the nature and direction of linear relationships between sets of data. A correlation value of 1 shows a highly positive relationship, 0 shows no relationship at all, and -1 shows a highly negative relationship. There is a 0.976129 link between overall federal revenue and real GDP. A significant level of relationship between these variables is indicated by the strong positive correlation that this suggests. Revenue collected by the federal government is generally inversely proportional to the growth of real GDP. When looking at REAL GDP and TAX REVENUES together, you can see a connection of 0.983479. There is a high level of relationship between real GDP and tax revenue, as indicated by the strong positive correlation. There is a positive correlation between rising real GDP and rising tax revenue. There is a 0.914411 link between REAL GDP and Non Tax Revenue. This points to a robust positive connection, which implies a substantial relationship between non-tax revenue and real GDP. In general, non-tax revenue rises in tandem with real GDP. The statistical importance of the observed correlations is indicated by the probability values that are connected with each correlation coefficient. According to the reported probability values, which are all 0.0000, the correlations in this example are statistically significant at the usual significance level. There are robust positive correlations between real GDP and total and tax revenue, according to the correlation study. Plus, non-tax revenue has a highly favorable correlation with real GDP. These results imply that tax and non-tax revenue sources in Nigeria tend to rise in tandem with economic expansion in the country.

Table 3: Unit Root Test

Variable ADF	t-Statistic	Prob.*	Order of Integration	Remark
GDP	-4.334466	0.0045	1(0)	Stationary
TOTAL REVENUE	-3.456212	0.0224	1(1)	Stationary
TAX REVENUE	-7.923840	0.0000	1(2)	Stationary
NON-TAX REVENUE	-4.061217	0.0066	1(0)	Stationary

What follows is inferred from the outcomes of the unit root test: The GDP ADF test statistic is -4.334466 and the p-value is 0.0045. We reject the null hypothesis of a unit root since the likelihood is less than the standard significance level of 0.05. Thus, GDP does not show a unit root and is stagnant. For TOTAL REVENUE, the ADF test statistic is -3.456212, and the probability is 0.0224. With a p-value less than 0.05, we can rule out the possibility of a unit root. Accordingly, total revenue does not change. For TAX REVENUE, the ADF test statistic is -7.923840, and the probability is 0.0000. Strong evidence to reject the null hypothesis of a unit root is provided by the p-value, which is significantly below 0.05. As a result, TAX REVENUE does not change. With a probability of 0.0066, the ADF test statistic for NON-TAX REVENUE is -4.061217. With a p-value lower than 0.05, we can rule out the possibility of a unit root. No change is observed in non-tax revenue. Gross domestic product, total revenue, tax revenue, and non-tax revenue are all determined to be stationary variables according to the ADF test. This means that there are no long-term trends or systematic changes in these variables, and that their statistical features remain constant throughout time.

Table 4: Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.898708	77.31961	47.85613	0.0000
At most 1 *	0.644166	36.10414	29.79707	0.0082
At most 2 *	0.526165	17.50491	15.49471	0.0246
At most 3 *	0.201962	4.060784	3.841466	0.0439

In Table 4, the eigenvalues, statistics, critical values, and probabilities are reported for different hypotheses regarding the number of cointegrating equations. Based on the results in the table, the null hypothesis (**H0:** There is no cointegration relationship) is rejected at the 5% level of significance. The test statistics for each hypothesis are larger than the corresponding critical values, indicating that the cointegration relationship is present among the variables.

Table 5: Tax Revenue and Economic Growth (Real GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.015252	0.582140	8.615196	0.0000
TAXR	0.907390	0.042032	21.58796	0.0000

R-squared	0.962813	Mean dependent var	17.55016	
Adjusted R-squared	0.960747	S.D. dependent var	0.941689	
S.E. of regression	0.186571	Akaike info criterion	-0.425373	
Sum squared resid	0.626556	Schwarz criterion	-0.325800	
Log likelihood	6.253728	Hannan-Quinn criter.	-0.405935	
F-statistic	466.0399	Durbin-Watson stat	0.246564	
Prob(F-statistic)	0.000000			

In this regression study, we look at how real GDP growth relates to tax revenue (TAXR) received by the federal government. Each variable's provided values include its coefficient, standard error, t-statistic, and probability. There is a coefficient of 5.015252. It stands for the real GDP projected value in the absence of tax revenue, the independent variable. Our coefficient comes out to 0.907390. It shows that real GDP increases by 0.907390 units for every one unit rise in tax income. Here, we see that the t-statistics for the intercept (C) and tax revenue (TAXR) are both quite high, with p-values of 0.0000 for the former and 8.615196 for the latter. These results show that the two coefficients have a considerable statistical impact. The independent variable (tax revenue) can explain about 96.28% of the variation in the dependent variable (real GDP) according to the R-squared value of 0.962813. Taking into consideration all of the degrees of freedom in the model, the corrected R-squared value comes to 0.960747. A regression standard error (S.E. of regression) of 0.186571 was calculated. The average value that deviates from the fitted regression line is represented by it. A general test of the regression model's significance is the F-statistic. The F-statistic is 466.0399 and the corresponding probability is 0.0000. This provides strong evidence that the regression model is statistically significant. When testing for residual autocorrelation, the Durbin-Watson statistic is useful. A result of 0.246564 indicates that positive autocorrelation is not present here. All things considered, the regression model has a very substantial F-statistic of 466.0399. This suggests that tax collection to the federal government is a good indicator of economic growth in Nigeria. It appears from the data that tax revenue is a key factor propelling Nigeria's economy forward. In order to promote long-term economic growth, policymakers should put an emphasis on efficient tax collecting and utilization tactics.

Table 6: Non-Tax Revenue and Economic Growth (real GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.586437	0.915266	5.011042	0.0001
NTAXR	0.971624	0.068441	14.19643	0.0000

R-squared	0.918010	Mean dependent var	17.55016
Adjusted R-squared	0.913455	S.D. dependent var	0.941689
S.E. of regression	0.277031	Akaike info criterion	0.365266
Sum squared resid	1.381433	Schwarz criterion	0.464839
Log likelihood	-1.652659	Hannan-Quinn criter.	0.384704
F-statistic	201.5388	Durbin-Watson stat	0.959565
Prob(F-statistic)	0.000000		

Table 6 displays the outcomes of a regression analysis that looked at the correlation between Nigeria's real GDP growth and the federal government's non-tax revenue (NTAXR): The correlation between Nigeria's real GDP growth and non-tax revenue (NTAXR) is shown by the regression analysis. Each variable's provided values include its coefficient, standard error, t-statistic, and probability. A value of 4.586437 is the coefficient. When non-tax revenue is set

to zero, it shows the predicted value of real GDP, the dependent variable. A value of 0.971624 is the coefficient. It indicates that real GDP rises by 0.971624 units for every one unit increase in non-tax revenue. Specifically, the t-statistic for the intercept (C) is 5.011042 and for the non-tax revenue (NTAXR) coefficient is 14.19643, with p-values of 0.0001 and 0.0000, respectively. These results show that the two coefficients have a considerable statistical impact. The independent variable (non-tax revenue) accounts for around 91.80% of the variation in the dependent variable (real GDP), according to the R-squared value of 0.918010. A somewhat lower estimate of the explanatory power is provided by the adjusted R-squared value of 0.913455, which takes into account the degrees of freedom in the model. A regression standard error (S.E. of regression) of 0.277031 was calculated. The average value that deviates from the fitted regression line is represented by it. A general test of the regression model's significance is the F-statistic. This case's F-statistic of 201.5388 with a 0.0000 probability indicates a statistically significant regression model. Non-tax revenue has a positive and statistically significant link with economic growth in Nigeria, according to the regression study. A real GDP rise of 0.971624 units is related with a one-unit increase in non-tax revenue, according to the coefficient for non-tax revenue (NTAXR), which is 0.971624. With an R-squared value of 0.918010, the federal government's non-tax revenue explains around 91.80% of the variation in real GDP. With an F-statistic of 201.5388, the regression model is statistically significant.

Table 7: Total Tax Revenue and Economic Growth (Real GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.004514	0.626495	6.391932	0.0000
TOTATN	0.946723	0.043690	21.66906	0.0000

R-squared	0.963081	Mean dependent var	17.55016
Adjusted R-squared	0.961029	S.D. dependent var	0.941689
S.E. of regression	0.185898	Akaike info criterion	-0.432595
Sum squared resid	0.622047	Schwarz criterion	-0.333021
Log likelihood	6.325945	Hannan-Quinn criter.	-0.413157
F-statistic	469.5482	Durbin-Watson stat	0.486324
Prob(F-statistic)	0.000000		

Table 7 displays the findings of the regression analysis that looked at the correlation between tax income collected by the federal government (TOTATN) and GDP growth in Nigeria: Estimates of Here is the coefficient: 4.004514. It stands for the predicted value of real GDP, the dependent variable, when total tax revenue, the independent variable, is set to zero. The coefficient comes out to 0.946723. It indicates that real GDP increases by 0.946723 units for every one unit rise in total tax revenue. The t-statistics assess the coefficients' significance. High t-statistics (6.391932 and 21.66906, respectively) with probability (p-values) of 0.0000 indicate that both the intercept (C) and total tax revenue (TOTATN) coefficients are

statistically significant in this example. With an R-squared value of 0.963081, we can deduce that total tax revenue explains around 96.31% of the variance in real GDP, the dependent variable. After adjusting for model degrees of freedom, the corrected R-squared value reduces the estimated explanatory power to 0.961029. S.E. of regression, or standard error of regression, is 0.185898. The average value that deviates from the fitted regression line is represented by it. A general test of the regression model's significance is the F-statistic. An F-statistic of 469.5482 and a p-value of 0.0000 demonstrate statistical significance for the regression model.

DISCUSSION OF FINDINGS

The regression model is statistically significant, as shown by the results of the analysis, especially the highly significant F-statistic of 466.0399. This result lends credence to the idea that tax income is a reliable indicator of GDP growth in Nigeria. These results are in line with other research works that have looked at the correlation between tax income and GDP growth in Nigeria. For example, Ojo and Adegbite (2017) looked at how tax income affected GDP growth in Nigeria and discovered a strong positive correlation between the two. According to the research, tax money is one of the most important factors in economic growth, and the federal government plays a significant part in this process. This is in line with the present results, which imply that tax money from the federal government is a major factor in the expansion of the Nigerian economy. The impact of tax income on economic growth in Nigeria was also examined in a study by Uzochukwu (2019), which also revealed a positive and significant relationship. In order to boost revenue generation and encourage sustainable economic growth, the study stressed the need for effective tax policy and administration. This view is bolstered by the latest data, which shows how crucial tax money is to Nigeria's economic progress. This study's results corroborate those of earlier studies that looked at the correlation between tax income and GDP growth in Nigeria. In particular, they highlight the role of federal tax income as an engine of economic expansion. The results shed light on the importance of tax revenue generation and good tax policy execution in promoting sustained economic growth, which is crucial for Nigerian policymakers and stakeholders to consider.

The entire regression model is statistically significant, according to the F-statistic of 201.5388 with a probability of 0.0000 in the regression analysis. This confirms what other research works have found regarding the correlation between non-tax income received by the federal government and GDP growth in Nigeria.

Olalekan, Ajibola, and Onipede (2018) looked at how non-tax income affected GDP growth in Nigeria. Their research showed that non-tax revenue had a positive and statistically significant effect on GDP growth. The study highlighted the importance of non-tax revenue, especially from the federal government, as a key driver of economic growth through financing public investments and infrastructure development. This is in line with the present results, which show that non-tax revenue received by the federal government has a positive and statistically significant effect on economic growth in Nigeria. Oladipo and Adeyemo (2019) also investigated the impact of non-tax revenue on GDP growth in Nigeria. According to this research, there is a strong correlation between non-tax revenue and GDP growth. The study highlighted the potential of non-tax revenue to drive economic growth, emphasising the significance of lowering reliance on oil revenue and diversifying revenue sources. This lines

up with the present results, which imply that non-tax revenue to the federal government is a major factor in Nigeria's economic growth. There is a positive and statistically significant correlation between non-tax revenue received by the federal government and economic growth in Nigeria, according to the current regression research. Consistent with earlier studies, these results highlight non-tax revenue's significance as a driver of economic growth. The findings highlight the importance of developing effective strategies to increase non-tax revenue production and allocate it efficiently to investments and development initiatives in Nigeria.

Overall, the regression model is statistically significant, as shown by the F-statistic of 469.5482 with a probability of 0.0000. This result agrees with earlier research works that looked at how GDP growth in Nigeria relates to total federal government revenue. The effect of total federal revenue on economic growth in Nigeria was examined in a study by Olomola and Adeyemi (2018). Total revenue and economic growth were found to be positively and statistically significantly related, according to their findings. Findings from the study highlighted the importance of tax income for funding public investments, increasing aggregate demand, and promoting economic expansion. This is in line with what we know now, that total federal government revenue correlates positively and significantly with GDP growth in Nigeria. Further, Ogunmuyiwa and Ogunmuyiwa (2019) investigated how tax income affected GDP expansion in Nigeria. Their findings pointed to a favourable and statistically significant correlation between tax income and GDP expansion. Public expenditure, infrastructure development, and economic growth can only be supported by taxation and other forms of revenue production, according to the report. This lines up with the present results, which indicate that total federal government revenue has a positive and statistically significant correlation with economic growth in Nigeria. Total federal government revenue and economic growth in Nigeria are positively and statistically significantly related, according to the regression analysis results. Consistent with earlier studies, these results show that tax money from the government is a major factor in economic expansion. In order to promote long-term economic growth in Nigeria, the results highlight the importance of efficient methods of raising taxes and making wise use of public funds.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings from the regression analyses indicate significant relationships between various revenue sources and economic growth in Nigeria. The results highlight the importance of revenue generation and its allocation in driving economic growth. Specifically, the study reveals that the regression analysis demonstrates a strong and statistically significant relationship between tax revenue and economic growth in Nigeria. This finding suggests that tax revenue, particularly from the federal government, plays a vital role in promoting economic growth. The regression analysis indicates a positive and statistically significant relationship between federal government non-tax revenue and economic growth. This emphasizes the significance of diversifying revenue sources beyond taxation and leveraging non-tax revenue to stimulate economic growth. The regression analysis shows a positive and statistically significant relationship between total federal government revenue and economic growth in Nigeria. This underscores the importance of government revenue, encompassing both tax and non-tax sources, in driving economic growth. These results emphasize the need for effective

revenue mobilization strategies, efficient allocation of resources, and a reduction in reliance on oil revenue. Furthermore, the findings underscore the importance of government policies that promote revenue diversification and encourage sustainable economic development. The study underscores the crucial role of revenue generation, both through taxation and non-tax sources, in fostering economic growth in Nigeria. The findings provide valuable insights for policymakers and stakeholders in formulating strategies to enhance revenue generation, optimize resource allocation, and promote sustainable economic development in the country.

Recommendations

Based on the findings of the study and the importance of revenue generation for economic growth in Nigeria, the following recommendations are made:

1. The government should focus on improving tax administration and compliance to increase tax revenue. This can be achieved through effective tax policies, simplified tax procedures, and robust tax monitoring and enforcement mechanisms. Additionally, efforts should be made to broaden the tax base by bringing more individuals and businesses into the formal tax net.

2. There should be a deliberate effort to diversify non-tax revenue sources beyond oil revenue. The government should explore alternative revenue streams such as royalties, fees, fines, and income from state-owned enterprises. This can be achieved by creating a conducive business environment, promoting private sector participation, and encouraging investment in sectors other than oil.

3. It is crucial to ensure that generated revenues are efficiently allocated and effectively utilized for economic development. The government should prioritize investment in critical sectors such as infrastructure, education, healthcare, and agriculture to create an enabling environment for sustainable economic growth. Additionally, there should be transparency and accountability in the management of public funds to minimize leakages and corruption.

4. Efforts should be made to strengthen institutions responsible for revenue generation, management, and oversight. This includes enhancing the capacity and skills of tax and revenue administration personnel, improving data collection and analysis systems, and implementing robust financial management systems. Strengthening institutional frameworks will contribute to more efficient revenue generation and utilization.

5. The government should actively engage the private sector through public–private partnerships (PPPs) to leverage their expertise, resources, and efficiency in revenue generation and economic development initiatives. PPPs can facilitate investment in key sectors, promote innovation, and improve service delivery, thereby contributing to economic growth.

6. Regular monitoring and evaluation of revenue generation efforts, as well as the impact on economic growth, are essential. This will help identify areas of improvement, assess the effectiveness of policies and strategies, and make necessary adjustments. Continuous evaluation will ensure that revenue generation efforts align with the changing economic landscape and address emerging challenges.

Implications of the Study for Policymakers and Investors

The findings of this study have significant implications for both policymakers and investors in Nigeria. Policymakers must recognize the importance of both tax and non-tax revenue sources in promoting economic growth. Tax revenue can be used to fund critical infrastructure projects, which can have a positive effect on the productive capacity of the economy. Non-tax revenue can provide the government with a means of funding social programs geared towards alleviating poverty and promoting social welfare. In addition, policymakers must take a more strategic approach to taxation, ensuring that tax policies are designed to incentivize investment and innovation in key growth sectors of the economy. For investors, the study provides valuable insights into the relationship between government revenue policies and economic growth. Investors must consider the role of taxation policies in creating a favorable business environment, where innovation, investment, and long-term growth can flourish.

Limitations and Recommendations for Future Research

Despite the findings of this study, there are limitations that need to be acknowledged. Firstly, the selection of variables may not have captured all the important factors that influence economic growth in Nigeria. Second, the approach used in the paper to estimate the tax and nontax revenue may be subject to measurement errors. Moreover, the paper did not examine the individual effects of different types of tax and non-tax revenue on the economy. Future research can build on this by adding more explanatory variables, using more accurate data and exploring the differential effects of different types of tax and non-tax revenue on economic growth. It is recommended that future research should also consider the potential role of institutional factors in influencing the relationship between tax and non-tax revenue and economic growth in Nigeria. Moreover, the impact of tax evasion and corruption on the relationship should be explored in-depth in future research.

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