

# Tax revenue types and economic growth: Evidence from Nigeria

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**ABSTRACT:** This paper examined the effect of tax revenues on the economic growth of Nigeria. The study adopted the ex post facto research design and used annual time series data for thirteen years (2010 – 2022). The data were sourced from the National Bureau of Statistics (NBS) and the Federal Inland Revenue Service (FIRS). The ordinary least squares of the multiple regression model were used for estimation. Gross domestic product a proxy of economic growth represents the dependent variable while oil tax and non-oil tax represent the independent variable. The findings revealed that non-oil tax had a negative and insignificant effect on the economic growth of Nigeria (Coefficient = -0.0101, p-value = 0.9879). In contrast, oil taxes had a positive and insignificant effect on the economic growth of Nigeria (Coefficient = 0.9657, p-value = 0.2031). The tax revenues had a positive and insignificant effect on the economic growth of Nigeria (F- statistics = 1.011, p-value = 0.39795, R<sup>2</sup> = 0.002). The null hypothesis which stated that tax revenues had no significant effect on the economic growth of Nigeria could not be rejected. The study recommended that the government should provide an enabling structure that will stimulate the economy to encourage the generation of more tax revenues that will improve the economic growth of Nigeria and the need to improve on administrative aspect of revenue collection.

**Keywords:** Economic growth, gross domestic product, Nigeria, non-oil tax, oil tax, tax revenue.

## INTRODUCTION

Economic growth is the increased capacity of a nation's economy to satisfy the needs and yearnings of its population. Economic growth is an increase in the number of goods and services produced per head of the population of a country over a period. The government plays a significant role in stimulating the economic growth of a nation by providing an enabling environment that encourages expansion in the economic activities of its people which adds to the gross domestic product (GDP). Gross domestic product (GDP) is one of the metrics used to measure the performance of a country's economy.

Onoja and Ibrahim (2021) cited Adams Smith describing economic growth of a nation as a sustained increase in real Gross Domestic product (GDP), per capita income, and expansion of the production possibilities of an economy. The Economic Recovery and Growth Plan was

launched in 2017 when the country's economy plunged into recession for the first time after 25 years and a sharp fall was recorded in oil prices from highs of about US\$112 per barrel in 2014 to below \$40 in 2016. The plan was established to launch Nigeria back to sustainable, accelerated development, and restoration of economic growth in the medium-term, 2017-2020 (Ugwueze, 2023). The plan aimed to restore economic growth and encourage investment in Nigeria to build a globally competitive economy.

The ERGP document stated that there had been a sharp and continuous decline in global crude oil prices (the mainstay of Nigeria's economy) since 2014 coupled with a failure to diversify the sources of government earnings, this led to a sharp drop in government earning capacity which resulted in an economic recession in 2016. This

curtailed that the spending capacity of the government to stimulate economic growth (Dibia and Onwuchekwa, 2019). As a result of this revenue shortfall, the government was unable to embark on capital projects that would expand the economy and stimulate economic growth. ERGP (2017) maintained that Nigeria depended on oil as its mainstay to meet its economic needs. The country could not sustain this when the oil price dropped sharply. This resulted in the government taking external loans to meet her budget deficits (Agunbiade and Idebi, 2020). Nigeria's economy is described as a mono-economy due to our large dependence on a single product for earning capacity chiefly from oil revenue. This calls for diversification of Nigeria's economy so that no single source will hold the country to ransom in meeting its budget expectations. This calls for the diversification of government revenue that is to encourage other areas that have been effectively tapped. The agricultural area, tax revenue, and other areas should be explored to serve as buffer in times of oil price shock (Okpe *et al.*, 2017). The spate of government borrowing in recent times has shown that oil revenue alone can not sustain government revenue hence there is a need to improve the government revenue and relieve the government of some expenditures that could be taken up by public-private participation.

ERGP (2017) referred to the sharp drop in oil prices in the international market where oil sold below \$120 per barrel coupled with Niger Delta militancy, oil theft, drop in production, and corruption. These impacted the revenue capacity of the government which also affected its spending on critical investments agricultural sector to achieve food security, infrastructural development, power and energy sector, roads, health care sector, roads and rail construction, steel rolling to boost manufacturing and industrialization, education and skills acquisition, employment generation, which plunged Nigeria's economy into recession in 2016 with its associated socio-economic woes on Nigeria's economy and its citizens.

From previous works done on tax revenue and economic growth of Nigeria, it was observed that previous researchers did not consider oil tax and non-oil tax revenues as variables which are considered by this paper. Agbo and Ozuegbu (2022), Agunbiade and Idebi (2020), Onoja and Ibrahim (2021) as well Dibia and Onwuchekwa (2019) considered VAT, CIT, and PPT as independent variables while GDP as a proxy of economic growth was considered as the dependent variable. This study set out to cover oil tax and non-oil tax revenues which is a departure from previous research. The study will provide results to the readers on the need to improve our non-oil tax revenues in Nigeria to ensure current economic realities, the scope of the study will cover up-to-date data (2022). To achieve the objective of this study, the relations between the independent variables (oil tax and non-oil tax revenues) and the Economic growth of Nigeria as the dependent variable will be analyzed through the use of the

E-views software package. This will close the gap identified in previous research.

The general objective of the study was to examine the effect of tax revenues on Nigeria's economic growth while the specific objectives were to assess the effect of oil tax on the economic growth of Nigeria and evaluate the effect of non-oil tax on the economic growth of Nigeria. The following hypotheses were therefore formulated:

1. Non-oil tax has no significant effect on the economic growth of Nigeria.
2. Oil tax has no significant effect on the economic growth of Nigeria

## LITERATURE REVIEW

### Conceptual review

#### *Economic growth*

Gross domestic product as a measure of economic growth is the aggregate output of goods produced in a country. This speaks to the engagement of people in productive activities in a country. In a country where there is high unemployment and low spending by the government, the GDP will be low. According to Adams Smith in his book on the Wealth of Nations, it was opined that the economic growth of a nation deals with sustained increase in real gross domestic product (GDP), per capita income, and expansion of the production possibilities of an economy. This suggests that economic growth entails increased capacity of a country's economy to meet the wants and needs of its citizens.

#### *The Kaldor Model of distribution*

Kaldor in his model opined that the saving income ratio is variable in the growth process that is, it is subject to what is available from an income which can be put aside for investment. Kaldor subjected economic growth to the classical saving function which shows that savings equals the ratio of profits to national income. The functional equation is shown below:

$$S = P/Y$$

Where: S = Savings; P = Profit; Y = National Income

#### *The Pasinetti Model of profit growth and growth*

This model is an extension and improvement on Kaldor; 's model of distribution by introducing workers' pay (profits) as returns on their savings. This reveals a distribution of

income between profit and wages keeping the system in a long-run equilibrium.

### **Joan Robinson's Model of Capital Accumulation**

Joan postulated that net national income is the sum of the total wage bill and total profits. This suggests that everyone in an economy is either engaged in labour or entrepreneurship which produces wages or profits. The economic activities determine the wages and profits which contribute to the national income.

$$Y = WG + P$$

### **Oil tax**

Oil tax revenue is collected by the Federal Government of Nigeria. The tax falls under the revenue class collected by the Federal government. The tax rate is 85% for onshore oil and gas operations and 50% for offshore operations. Petroleum Profits Tax Act provides that where a company engaged in petroleum operations is also engaged in transportation of chargeable oil by ocean going oil-tanker operated by or on behalf of the company from Nigeria to another territory, then any profit or loss attributable to such transportation shall be taxed. The tax is governed by the Petroleum Profits Tax Act (Cap P13 LFN 2004 as amended). Companies liable to Petroleum Profits Tax are not liable to company income tax (CIT) on the same income. According to the Petroleum Profits Tax Act (PPTA), petroleum operation significantly involves petroleum exploration, development, production, and sale of crude oil.

Petroleum Profit Tax plays a significant role in the economic life of Nigeria as it accounts for over 85% of its revenue and has also been a major forex earner for more than fifty years (Agbo and Onuegbu, 2022). Emphasis has been on oil revenue to the neglect of other non-oil sources that could help the country in times of oil price shocks (Agunbiade and Idebi, 2020). Agunbiade and Idebi (2020) suggested a broad-based tax strategy focusing on all key areas of the tax system with measurable outcomes.

### **Non-oil tax**

This refers to various taxes other than petroleum profits tax collected by the Federal Government of Nigeria. These taxes are Company Income Tax (CIT), Value Added Tax (VAT), Customs and Excise Duty (CED), Capital Gains Tax (CGT), and Tertiary Education Tax (TET) (Adegbie *et al.*, 2020).

**Value-added tax:** VAT is governed by the Value Added Tax Act Cap VI, LFN 2004 (as amended). Value Added

Tax (VAT) according to FIRS is a consumption tax paid when goods are purchased and services rendered. It is a multi-stage tax. VAT is borne by the final consumer. All goods and services (produced within or imported into the country) are taxable except those specifically exempted by the VAT Act. Zero-rated items include goods and services purchased by diplomats and goods purchased for use in humanitarian donor-funded projects. VAT is charged at a rate of 7.5%. The VAT rate was increased from 5% to 7.5% on 1 February 2020.

**Customs and excise duty (CED):** Customs and excise in Nigeria are guided by the Customs and Excise Management Act (CEMA). It is divided into 13 parts covering 195 Sections and 3 Schedules. It has 19 subsidiary legislations (Regulations). Custom duties in Nigeria are levied only on imports. Rates vary for different items, typically from 5% to 35% and are assessed with reference to the prevailing Harmonized Commodity and Coding System (HCCS code).

The First Schedule deals with the value of imported goods; The Second Schedule deals with the form of warrant of distress; The Third Schedule deals with provisions relating to forfeiture.

S. 37(5) deals specifically with duty imported goods, relief from the duty of goods entered for transit or transshipment; relief from the duty of goods temporarily imported, exempt from goods, and goods delivered free of duty; valuation of imported goods for purpose of valorem duties among others.

S. 48-62 deals specifically with exportation, stores, and clearance outwards.

Parts V – IX deal with excise and excisable goods.

S. 118-120 (Part VIII) deals with other goods subject to Excise duty License to manufacture excisable goods and powers to make regulations.

S. 121-127 deals with excise licenses entries, provisions relating to the furnishing of information by manufacturers.

**Company Income Tax (CIT):** CIT is governed by the Companies Income Tax Act (CITA), Cap C21, LFN 2004 (as amended). CIT is a tax imposed on the profit of a company from all sources. The rate of tax is 30% of the total profit of a company. Some profits are exempted from CIT provided they are not derived from trade or business activities carried out by the company e.g. Cooperative Society. There are currently three CIT rates applicable to companies in Nigeria subject to their turnover:

30% for large companies with over N100 million turnover; 20% for medium companies with N25 million to N100 million turnover; and 0% for small companies with less than N25 million turnover. This is collected by the Federal Inland Revenue Service (FIRS).

**Capital gains tax:** It is governed by the Capital Gains Tax Act, Cap C1 LFN 2004 (as amended). Capital Gains Tax is charged at a flat rate of 10% of chargeable gains. The chargeable gain is the difference between the sale proceeds from the sale of the assets. Expenses that are incidental to the disposal are allowed as a deduction from the sales proceeds.

**Tertiary education tax (TET):** It is governed by the Tertiary Education Trust Fund (Establishment etc) Act 2011 imposed on all companies registered in Nigeria. The rate of the tax before the 2021 Finance Act was 2%. It was increased to 2.5% in the 2021 Finance Act. In practice, many companies pay the tax on a self-assessment basis along with their CIT. For companies subject to PPT under the PPTA, tertiary education tax is to be treated as an allowable deduction. For other companies, income/profit taxes are not deductible in arriving at taxable income. The new Tertiary Education Tax (TET) rate of 3% of assessable profits will become effective for TET due in respect to accounting periods ending on or after 1 September 2023.

## Theoretical review

### *Expediency theory*

This study anchored on the expediency theory which was propounded by Bhartia (2009). The theory assumes that every tax proposal must pass the practicality test and it must be the basis for the government to choose a tax policy. It must be the only consideration weighted by the authorities in choosing a tax proposal. The economic and social objectives of the state and the effects of a tax system should be treated as irrelevant (Adegbe et al., 2020). Asaolu et al. (2018) explained that the expediency theory is based on a link between tax liability and state activities. It is assumed that members of the society should be charged for the services provided by the government. This assumption has a justification for it since it is unjustifiable to institute a tax which cannot be levied and collected efficiently and effectively. This theory which is embedded in the canon of taxation explains the economy, effectiveness and efficiency of tax collection instruments. Taxation provides a powerful set of policy tools to the authorities and should be effectively used to correct economic and social weaknesses of the society such as income inequality, regional disparities, and unemployment in the society (Egbinike et al., 2018).

## Empirical review

### *Tax revenues and economic growth in Nigeria*

Some empirical studies have been carried out on the effect of tax revenues on the economic growth of Nigeria. Some of them have been identified to add impetus to this study. Oshemi and Otusanya (2023) investigated the volatility of tax revenue and the economic growth of Nigeria. The study used ex post facto research design with secondary data obtained from the National Bureau of Statistics, Central Bank of Nigeria Statistical Bulletin, and World Development Indicators covering a period of 40 years (1981 – 2020). Pearson correlation coefficient and stationarity tests were carried out for pre-estimation tests while VECM for short run estimates and OLS estimate for long run estimates were run for post-estimation tests among all variables through E-views. The results revealed that tax revenue volatility consisting of Oil and non-oil tax revenue sources moderated by the inflation rate, interest rate, exchange rate, and crude oil price had a positive and significant relationship in the short run ( $R^2=0.81$ ,  $\rho = 0.07$ ,  $t\text{-test} = 2.465$ ,  $p<0.05$ ) but had a positive and insignificant relationship on the long run ( $\rho = 0.185$ ,  $t\text{-test} = 0.891$ ,  $p>0.05$ ) on economic growth in Nigeria. It was concluded that macroeconomic variables of inflation, effective exchange rate, interest rate, as well as crude oil prices contribute to the fluctuations in total tax revenue. A recommendation was made that the government should review tax laws and policies to streamline and ensure optimal tax revenue generation to absorb potential shocks,

Otekunrin et al. (2023) examined the impact of oil and non-oil tax revenue on economic growth in Nigeria. Ex post facto research design was adopted. Data were drawn from annual reports of CBN and FIRS publications. Error Correction Model (ECM) was employed to analyze the data collected after subjecting it to unit root tests and cointegration tests. The result showed that PPT with a coefficient of 31.71067 and p-value of 0.0004 and CED with a coefficient of 1.786145 and p-value of 0.0206 had a positive significant relationship with economic growth while CIT with a coefficient of -1.4446.5 and p-value of 0.0066 and VAT with a coefficient of -23.33177 and p-value of 0.0001 had a negative significant relationship with economic growth. The author recommended that taxation should be used to fund infrastructure that will boost economic growth. The result also showed that all independent variables except VAT were positive and significant while VAT was negative and significant against economic growth.

Agbo and Onuegbu (2022) examined the impact of tax revenue on Nigerian Economic Growth (1994 – 2020). The research design adopted was ex post facto research design, GDP was used to represent economic growth while Value Added Tax, Company Income Tax, and Petroleum Profit Tax represented tax revenues. The

findings revealed that value-added tax had a positive and significant impact on the economic growth of Nigeria, company income tax had a negative and significant impact on the economic growth of Nigeria and petroleum profit tax had a positive and weak impact on the economic growth of Nigeria. In a similar vein, The author recommends a good governance system that will ensure transparent tax collection and improve economic growth.

Ayeni and Omodero (2022) examined the relationship between tax revenue and economic growth in Nigeria. Ex post facto research design was used. The data on independent variables (hydrocarbon tax, company income tax, and value-added tax) and dependent variables (gdp) were sourced from CBN statistical bulletin and FIRS publication. The study variables which comprise GDP, PPT, CIT & VAT were found to be stationary at first difference. Thus, a Johansen co-integration test was also conducted and it revealed a long-run relationship. Consequently, the study used the Vector Error Correction Model (VECM) to evaluate the effects of PPT, CIT and VAT on GDP. The result showed that PPT and VAT had positive and significant effects on GDP while CIT had a negative and significant effect on GDP. The author canvassed for training and workshops for tax agencies in Nigeria to improve tax collection from companies operating in Nigeria. The companies were advised to contribute to the environment where they are operating through taxation.

Ezekwesili and Ezejiofor (2022) carried out a study on the tax revenue and economic growth of the Nigerian economy. Secondary data were obtained from the Central Bank of Nigeria (CBN), Statistical Bulletin and Annual Abstract of Statistics from the National Bureau of Statistics (NBS). Regression analysis: predicts the value of a variable based on the value of the other variable and explains the effect of changes in the values of the variable on the values of the other variables with the aid of E-view 9.0. The findings showed that tax revenue had no significant effect on the inflation rate and interest rate of Nigeria at a 5% level of significance. It was recommended that the federal government should support public financial management, promote supervision and transparency measures, improve tax administration, and combat tax evasion.

Ndu and Uguru (2022) examined the effect of non-oil tax revenue on economic growth in Nigeria. The ex post facto research design was adopted for the study. Secondary data were collected from the official publications of CBN, the FIRS and NBS. Data analysis was carried out using descriptive statistics while OLS was employed to test the hypotheses at a 5% level of significance. The result revealed that VAT, CIT, and CED had both positive and statistically significant impacts on economic growth. It was recommended that tax proceeds should be judiciously utilized to develop other non-oil sectors of the Nigerian economy such as mining and agriculture.

Onoja and Ibrahim (2021) investigated the effect of tax

revenue on Nigeria's economic growth. Data were sourced through secondary means. Tax revenue was represented by PPT, VAT, and CIT while economic growth was represented by GDP. Data were analyzed with the help of Stata research software. The results revealed that Petroleum Profit Tax (oil tax revenue) had a positive but no significant relationship with the economic growth of Nigeria, while Value Added Tax and Companies Income Tax (non-oil tax Revenue) have a significant relationship with the economic growth of Nigeria. The government was advised to reduce the corruption level and leakages in tax administration. It was posited that the does not need to increase tax rates if the leakages are rightly blocked.

Agunbiade and Idebi (2020) evaluated tax revenue and economic growth nexus, empirical evidence from the Nigerian economy. The data were sourced from the National Bureau of Statistics (NBS) and the Federal Inland Revenue Service (FIRS). The study employed the Vector Error Correction Model (VECM) to establish the nature and strength of the relationship between taxation and economic growth. The findings showed that the impact of the shock in the indirect tax (VAT) and direct tax (CIT and PPT) on GDP growth does not die out over the specified period under consideration. Variance decomposition analysis found that the effect of the shock to the direct tax (CIT and PPT) on GDP growth tends to be low, whereas the effect of the shock to the indirect tax (VAT) on GDP growth tends to be significant to increase over the period. A broad-based tax that covers all the key tax areas was advised to increase the tax nets.

Aliyu and Mustapha (2020) examined the impact of tax revenue on economic growth in Nigeria (1981-2017). The data for the study were sourced from FIRS annual publications and the National Bureau of Statistics (NBS) portal. To achieve the objectives of the study, OLS and ARDL techniques were employed to estimate the relationships and the dynamics and long-run effects of independent variables on dependent variables. The ARDL bound test results revealed that the variables were co-integrated while ARDL long-run estimation indicated that petroleum profit, value-added tax and government domestic debt are significant and positively related to GDP. In addition, company income tax and customs and excise duties came out significant but had a negative impact on economic growth. An aggressive tax collection system was advised to increase the tax revenue of the government and all loopholes should be blocked.

Berembo and Igonikon (2020) did an empirical analysis of government revenue on economic growth: implications for leaders. Explanatory, historical and correlational design was adopted for the study while secondary data was utilized for the study. Data were sourced from the Statistical Bulletin of the Central Bank of Nigeria and National Bureau of Statistics annual reports (2000-2017). Regression was used for data analysis and testing of the hypothesis. The result of the study showed that the federal

government's independent revenue had a significant and positive relationship with economic growth when measured on the GDP. The implication for leaders is that government revenue when adequately utilized by leaders in respect of the provision of infrastructure, and creation of employment opportunities. This will increase the consumption of goods and services, income level of the citizens and exportation would be achieved, these would likely increase the economic growth of the country.

Abe (2019) investigated the effect of tax revenue on the economic development of the Nigerian economy. Ex post facto research design was used and secondary data for the period 2003 - 2017 were obtained from the records of the National Bureau of Statistics (NBS). The independent variable represents value-added tax, petroleum profit tax, personal income tax, company income tax, and custom and excise duties while the dependent variable represents economic development (real GDP) and human development index (HDI). Autoregressive Distributed Lag (ADL) and regression were used to analyze the data. The results revealed that petroleum profit tax had a negative effect on economic development and human development index (real GDP and HDI). This implies that revenue derived from petroleum profit tax was not properly channelled to the provision of appropriate infrastructure that will improve the economic development of the country. It was recommended that tax revenues should be judiciously used by the government to impact the country's economy.

Dibia and Onwuchekwa (2019) evaluated the relationship between taxation and economic growth in Nigeria. Ex post facto research design was used to carry out the study. The data used for the study were sourced from the CBN statistical bulletin over a thirty-five-year period (1981-2016). PPT and CIT were used as independent variables and real GDP was used as dependent variables. The findings revealed that petroleum profit tax (PPT) and company income tax (CIT) showed a positive and significant effect on the Real Gross Domestic Product (RGDP) in Nigeria. The government was advised to employ effective fiscal policies that will encourage investments in the real sector and employment opportunities. This will encourage tax compliance, an enabling environment, and innovation to enhance income from tax proceeds.

Asaolu *et al.* (2018) examined the effect of tax revenue on economic growth in Nigeria. The study adopted a descriptive and historical research design; secondary data for twenty-two years (1994 -2015) were collected from various issues of the Central Bank of Nigeria (CBN) statistical bulletin and annual reports. Tax revenue as an independent variable was measured with Value Added Tax (VAT); Petroleum Profit Tax (PPT); Company Income Tax (CIT) and Custom and Excise Duties (CED) while the dependent variable was Economic Growth (EG) proxied by the Gross Domestic Product (GDP). Analysis was

performed on data collected using Auto Regressive Distributed Lag (ARDL) Regression and other post estimations (Jarque-Bera test; Breusch-Godfrey LM and Ramsey Reset Test) to determine the existence of the relationship between the variables. The results of the study showed that VAT and CED had significant relationships with economic growth ( $p < 0.05$ ), while CIT had a negative significant relationship with economic growth ( $P < 0.05$ ). However, PPT had no significant relationship with economic growth. It was posited that taxation is irreplaceable and remains a strong socio-political and economic tool for the economic prosperity of the country. A complete re-organization of tax administrative machinery to reduce the incidence of tax evasion and avoidance to the barest minimum to improve the tax revenue was advised. It was also recommended that tax proceeds should be judiciously utilized.

Egbunike *et al.* (2018) did a comparative analysis of tax revenue and economic growth between Nigeria and Ghana. Ex post facto research design was used. Data were obtained from the Central Banks' statistical bulletin reports of the two countries. Multiple regression was used as a tool of analysis for the study. The results showed a positive effect of tax revenue on economic growth (represented by the GDP) of both countries. It was recommended that revenue generated from the tax should be effectively utilized to develop and grow the economy.

Okpe *et al.* (2017) examined the effect of tax revenue on economic growth in Nigeria. The study used secondary sources of data obtained from the CBN Statistical Bulletin and relevant government publications. The research design used for the study was ex-post facto. Ordinary Least Square Regression was used to test the hypotheses. The study found that petroleum profit tax did not have a significant effect on the gross domestic product of Nigeria; company income tax did not have a significant effect on the gross domestic product of Nigeria and customs and excise duties did not have a significant effect on the gross domestic product of Nigeria. The government was advised to engage in strategic pursuit of broadening the economic base of Nigeria.

Onakoya and Afintinni (2016) investigated taxation and economic growth in Nigeria. The Engle-Granger Cointegration test was employed to determine whether a long-run relationship existed between the variables. The Vector Error correction model was employed to confirm the long-run relationship and determine the short-run dynamics between the variables. Two post-estimation diagnostics tests (autocorrelation, and Heteroscedasticity) were also conducted to confirm the robustness of the model. The findings indicated that a long-run relationship existed between taxation and economic growth in Nigeria. The result also revealed a significant positive relationship at a 5% level of significance between Petroleum profit tax, Company Income tax and economic growth, but a negative relationship between economic growth and customs and

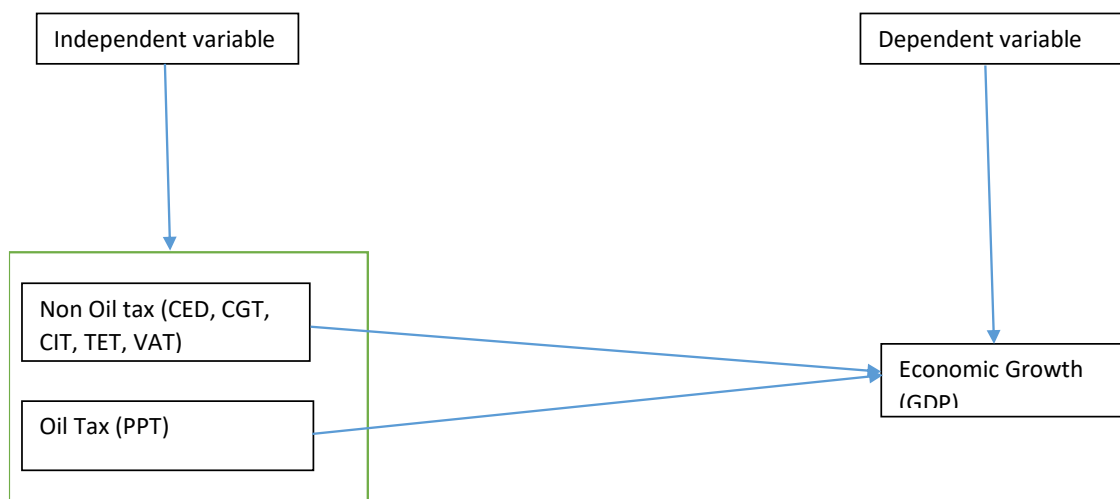


Figure 1. Conceptual framework (Source: Author’s Work).

Excise Duties. However, the tax components are jointly insignificant in impacting Nigerian economic growth. It was recommended that strong institutional reforms in the Department of Customs be established to plug the manifest leakages. The tax collection mechanism used by tax officials must be free from corruption

**Conceptual framework**

The conceptual framework (Figure 1) shows the relationship between the independent variables and dependent variables. The dependent variable is the economic growth which is represented by gross domestic product (GDP) while the independent variables are non-oil tax (customs excise duty – CED, capital gains tax – CGT, company income tax – CIT, tertiary education trust fund – TET and value-added tax – VAT, and oil tax (petroleum profit tax - PPT). The result of the relationship is found under data analysis and results in Table 3.

**METHODOLOGY**

**Research design**

The study examined the effect of oil and non-oil taxes on the economic growth of Nigeria. An ex-post facto research design was used for the study. A linear regression model was employed to establish the relationship between the dependent variable (GDP) and independent variables (non-oil tax and oil tax). The study focused on all the tax data (oil and non-oil taxes) and economic growth index (GDP) in Nigeria during the period 2010-2022.

**Method of data collection**

The study focused on tax data that accrued to the Federal Government of Nigeria against the economic growth proxied by the gross domestic product (GDP). Secondary data were obtained from the office of the Federal Inland Revenue Service (FIRS) and the annual report of the Central Bank of Nigeria. The data used for the study were for the period 2010-2022.

**Method data analysis**

Descriptive and inferential statistics were employed to carry out the data analysis. The regression analysis was done using the E-View 12.0 software package. Time series data were employed for the study. The Pearson correlation matrix was used to test the multicollinearity while regression was used to test the model for the period 2010 – 2022.

**Model specification**

The functional relationship between tax revenues and economic growth is expressed as follows:

$$Y = f(X)$$

$$\text{Economic Growth} = f(\text{Tax Revenue})$$

Y = dependent variable; X = independent variable

$$\text{GDP} = f(\text{NOT}) \tag{Eqn. 1}$$

$$\text{GDP} = f(\text{OT}) \tag{Eqn. 2}$$

**Table 1.** Descriptive analysis of variables

	LOG_GDP	LOG_NOT	LOG_OT
Mean	1.001114	9.066513	7.675455
Median	1.223775	9.071896	7.672548
Maximum	2.059111	9.723314	8.344984
Minimum	-0.652325	7.986864	7.125838
Std. Dev.	0.872892	0.404165	0.369597
Skewness	-0.770088	-1.205044	0.138278
Kurtosis	2.352627	5.327831	1.977877
Jarque-Bera	1.511917	6.081463	0.607326
Probability	0.469560	0.047800	0.738109
Sum	13.01449	117.8647	99.78091
Sum Sq. Dev.	9.143287	1.960196	1.639224
Observations	13	13	13

Source: Researcher's computation (2023) – E-views 12.0

**Table 2.** Correlation matrix of variables.

	LOG_GDP	LOG_NOT	LOG_OT
LOG_GDP	1	-0.1184	0.4102
LOG_NOT	-0.1184	1	-0.2782
LOG_OT	0.4102	-0.2782	1

Source: Researcher's computation (2023) – E-views 12.0.

Where: GDP = Economic Growth; OT = Oil Tax represented by Petroleum Profit Tax (PPT); NOT = Non-Oil Tax represented by Company Income Tax (CIT), Value Added Tax (VAT), Customs and Excise Duty (CED), Capital Gains Tax (CGT), and Tertiary Education Tax (TET).

$$\text{GDP} = \beta_0 + \beta_1 \text{NOT} + \mu_t \quad \text{Model 1}$$

$$\text{GDP} = \beta_0 + \beta_2 \text{OT} + \mu_t \quad \text{Model 2}$$

Where:  $\beta_0$  = coefficient;  $\beta_1 - \beta_2$  = constant or intercept;  $\mu_t$  = error term

## RESULTS AND DISCUSSION

The study used oil tax to represent Petroleum Profit tax and non-oil tax to proxy Company Income Tax (CIT), Value Added Tax (VAT), Customs and Excise Duty (CED), Capital Gains Tax (CGT), and Tertiary Education Tax (TET) while Economic Growth was used to represent Gross Domestic Product (GDP) from 2010 to 2022 (13 years). The absolute figures of the data were logged for the sake of analysis.

### Descriptive statistics

Table 1 shows the descriptive statistics of variables used

in this study. The variables are Gross Domestic Product (GDP), Oil Tax (OT), and Non-Oil Tax (NOT). The mean values of GDP, OT, and NOY showed 1.001, 9.066, and 7.675 from 2010 to 2022 with their standard deviation of 0.873, 0.404, and 0369 respectively. All the distributions were positively skewed showing that they were not symmetrically distributed.

### Correlation matrix of variables

Hair *et al.* (2010) posited that 0.86 and below was considered the acceptable level of correlation. They stated further that any variable above this level is manifesting the presence of multicollinearity. Table 2 showed a negative relationship between GDP and non-oil tax (-0.1184) but a low correlation between Oil tax and GDP (0.4102). The table also showed a negative relationship between Non-oil tax and oil tax (-0.2782).

### Hypotheses testing

The study hypotheses were tested using inferential statistics. The results are presented using regression in Table 3.

**Table 3.** Regression.

<b>Dependent Variable: LOG_GDP</b>				
<b>Method: Least Squares</b>				
<b>Sample: 2010 2022</b>				
<b>Included observations: 13</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
C	-6.319996	9.057927	-0.697731	0.5012
LOG_NOT	-0.010100	0.648444	-0.015576	0.9879
LOG_OT	0.965764	0.709092	1.361973	0.2031
R-squared	0.168302	Mean dependent var		1.001114
Adjusted R-squared	0.001962	S.D. dependent var		0.872892
S.E. of regression	0.872035	Akaike info criterion		2.763200
Sum squared resid	7.604454	Schwarz criterion		2.893573
Log-likelihood	-14.96080	Hannan-Quinn criter.		2.736403
F-statistic	1.011797	Durbin-Watson stat		1.378571
Prob(F-statistic)	0.397950			

***Ho<sub>1</sub>: Non-Oil Tax has no significant effect on the economic growth of Nigeria***

Table 3 showed that non-oil tax had a negative insignificant effect on the economic growth of Nigeria with a coefficient of -0.0100 and a p-value of 0.9879. As a result of this outcome, we could not reject the null hypothesis hence alternate hypothesis was rejected which stated that the non-oil tax has a significant effect on the economic growth of Nigeria. The result revealed that every unit of non-oil tax introduced to the system resulted in a reduction of 0.010 per cent in the economic growth of Nigeria.

***Ho<sub>2</sub>: Oil tax has no significant effect on the economic growth of Nigeria***

Table 3 also showed that the Oil Tax had a positive and insignificant effect on the economic growth of Nigeria with a coefficient of 0.9658 and a p-value of 0.2031. In light of this result, we could not reject the null hypothesis hence the alternate hypothesis was rejected which stated that the Oil Tax has a significant effect on the economic growth of Nigeria, The result revealed that every unit of Oil Tax introduced into the system increased by 0.9658 per cent in the economic growth of Nigeria. This is in tandem with the result of Okpe *et al.* (2017) and Onoja and Ibrahim (2022) which reported a positive and insignificant effect of Oil Tax on the economic growth of Nigeria. In another vein, other studies showed positive and significant effects of Oil Tax on economic growth which include Otekunrin *et al.* (2023), Agbo and Onuegbu (2022, Dibia and Onwuchekwa (2019), and Aliyu and Mustapha (2020). The result of Agunbiade

and Idebi (2020) showed a negative and insignificant effect of Oil Tax on the economic growth of Nigeria. Ayeni and Omodero (2022) revealed a positive and significant effect of oil tax on Nigeria's economic growth.

Table 3 shows the results of the regression analysis between tax revenue and economic growth with the associated coefficients, t-value, and probability value. Table 3 revealed that tax revenue had a positive and insignificant effect on the economic growth of Nigeria with F-statistics of 1.012 and a p-value of 0.3979. This is in tandem with the study of Ezekwesili and Ezejiolor (2022) which reported that tax revenue had no significant effect on the inflation rate and interest rate of Nigeria.

The adjusted R squared revealed a very low relationship between the independent variables and dependent variables. It showed that no per cent of tax revenue was responsible for variation in the economic growth of Nigeria. There were other factors outside tax revenues that accounted for variation in the economic growth of Nigeria. Further studies should be carried out to establish other factors that could be responsible for the variation in the economic growth of Nigeria.

**Model one**

The study showed that the non-oil tax had a negative and insignificant effect on the economic growth of Nigeria. This is partly in tandem with the result of Agbo and Onuegbu (2022) which reported that company income tax, a subset of the non-oil tax had a negative effect on the economic growth of Nigeria. In the same vein, Aliyu and Mustapha (2020) and Onakoya and Afintinni (2016)

reported a negative effect of company income tax and customs and excise duty on the economic growth of Nigeria. Ayeni and Omodero (2022) and Asaolu *et al.* (2018) reported a negative effect of company income tax on the economic growth of Nigeria. Otekunrin *et al.* (2023) reported a negative effect of VAT on the economic growth of Nigeria.

Onakoya and Afintinni (2016) reported an insignificant effect of company income tax and customs and excise duty on economic growth which corroborated the result of this study. The result of this study is not in tandem with the study of Ndu and Uguru (2022) on non-oil tax and economic growth in Nigeria which reported a positive and significant effect of non-oil tax (VAT, CIT, and CED) on the economic growth of Nigeria. There is a need to encourage participation in small and medium-scale enterprises that will contribute massively to the gross domestic product. There should be a policy to drive local consumption of locally produced goods and services which will drive increase in tax collection of non-oil tax. This will impact non-oil tax on gross domestic product (GDP),

### Model two

The study showed that the oil tax had a positive and insignificant effect on Nigeria's economic growth. This is in tandem with the result of the study carried out by Dibia and Onwuchekwa (2019), Onoja and Ibrahim (2021), and Agbo and Onuegbu (2022) which reported a positive and weak impact of PPT on the economic growth of Nigeria. Aliyu and Mustapha (2020) showed that PPT had a positive effect on GDP. Onakoya and Afintinni (2016) and Ayeni and Omodero (2022) in their study on tax revenue and economic growth in Nigeria reported a positive effect of PPT on the economic growth of Nigeria. The study of Otekunrin *et al.* (2023) showed a mixed result with a positive and significant effect of PPT on the economic growth of Nigeria. This is not in tandem with the result of Ideh (2019) which showed a negative relationship between petroleum profit tax and economic development. It was an indication of improper use of petroleum revenue.

### Implication of the findings

The result showed that the non-oil tax had a negative and insignificant effect on the economic growth of Nigeria. This shows that the government's efforts in generating non-oil tax revenue are not yielding fruitful dividend that impacts the Nigerian economy. There is a need to drive this source of revenue more aggressively by the government. The economy is not buoyant enough to support the activities that will produce taxes from Non-oil sectors. The government should review its collection system on non-oil taxes (CIT, VAT, CGT, CED, and TET). The closure of

companies and loss of jobs as a result of the economic downturn could be partly responsible for the performance of non-oil taxes. It will be difficult to collect taxes from the non-oil sector when small and medium-scale businesses are not flourishing. This is the area that can add value to gross domestic product that represents economic growth. The enabling environment must be provided to increase activities in this area that can contribute to taxes.

The result also showed that the oil tax had a positive and insignificant effect of Oil Tax (PPT) on the economic growth of Nigeria. It has been established that more than 80% of government revenues and foreign exchange earning is derived from oil revenue. Oil remains the mainstay of Nigeria's economy but its contribution to economic growth is not significant. The number of people employed by the sector is not as much as that of the non-oil sector. The government should diversify the oil revenue to improve other sectors that could generate better revenue and contribute to the gross domestic product (GDP) of the country.

### Conclusion

The study examined the effect of Tax revenues on the economic growth of Nigeria. The objective of the study is to examine the effect of tax revenue on Nigeria's economic growth, evaluate the effect of non-oil tax on Nigeria's economic growth, and assess the effect of oil tax on Nigeria's economic growth.

Secondary data covering the period of 2010-2022 were obtained from the Federal Inland Revenue Service, CBN Statistical Bulletin, and the National Bureau of Statistics. The Independent variable was represented by non-oil tax (CIT, VAT, CGT, CED, and TET) and Oil Tax (PPT) items while the dependent variable was represented by the real economic growth (GDP). The results showed that non-oil tax had a negative and insignificant effect on economic growth. The Oil Tax had a positive and insignificant effect on the economic growth of Nigeria. Oil Tax has shown here that it is still relevant in providing succour to the Nigerian economy.

The result revealed that the general objective of tax revenue on economic growth was positive and insignificant which means that our tax system is not effective in impacting economic growth. This calls for a serious investigation by the government. The non-oil tax has a negative and insignificant effect on the economic growth of Nigeria. This calls for caution by the government to look into the non-oil sector. This is the area that engages more labour than the oil sector. If the tax collected from this area is negatively insignificant, there is a need to put a searchlight in it to get the desired result. The current economic situation is not friendly because of job losses, inflationary trends, cost of living, massive devaluation of Nigerian Naira, and high interest rates. The result is not

good for Oil Tax as well as it has a positive and insignificant effect on economic growth. The oil revenue is the mainstay of the country. The tax generated from it is not significant. It is important to diversify this oil revenue to areas in the non-oil sector that can impact the gross domestic product (GDP). The government needs to review the administrative machinery for tax collection to eliminate various leakages.

## CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

## Recommendations

As a result of the above findings and objectives of the study, the following recommendations are offered:

1. The government should improve on enabling an environment that encourages production and start-up businesses that will contribute to the economy which will result in tax payments by the businesses and employees. The closure of businesses and loss of jobs as a result of economic hardship should be looked into by the present administration. All the abandoned projects (steel rolling mills, car assemblies) that could impact other industries should be resuscitated. This will increase the tax net of tax payers. An increase in tax rate without an associated increase in tax net may not produce the desired result.
2. The government should review its oversight function on petroleum operations. The oil theft and leakages in collection of PPT should be reviewed. It is true that oil revenue is our major forex earner, effective audit of this source should be carried out to ensure that no money is lost. Nigeria needs every kobo to improve the economy and reduce the hardship among the citizens. Wastage of resources among the leaders should be discouraged to stop the bleeding of the Nigerian economy.

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