

## Effect of Tax Revenue on Economic Growth in Nigeria

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### **Abstract**

*This study investigated the effect of tax revenue on economic growth in Nigeria, focusing on three key tax components: Value Added Tax (VAT), Company Income Tax (CIT), and Customs and Excise Duties (CED) over the period 2004–2024. Using an ex-post facto research design, the study employed time series data sourced from the Federal Inland Revenue Service, the National Bureau of Statistics, and other relevant publications. The Correlation Analysis and Ordinary Least Squares (OLS) regression technique were utilized to assess the impact of these tax revenues on Nigeria's Gross Domestic Product (GDP) growth. The findings revealed a mixed impact of tax revenues on economic growth. VAT and CIT exhibited negative coefficients, suggesting a potential adverse effect on GDP growth; however, these effects were statistically insignificant. In contrast, CED demonstrated a positive and significant relationship with GDP growth, indicating its potential as a more effective revenue source for stimulating economic expansion. The overall model explained 46.13% of the variance in GDP growth, with a significant F-statistic, affirming the collective impact of the tax variables on economic growth. Based on these findings, the study recommended reforms in VAT and CIT policies to enhance their contribution to economic growth, and called for improvements in the efficiency and transparency of customs and excise duties administration to maximize their positive impact. The study contributed to the knowledge by highlighting the differential impacts of tax components on economic growth and provided policy recommendations for optimizing tax revenue management in Nigeria.*

**Keywords:** Taxation, Company Income Tax(CIT), Value Added Tax (VAT), Customs Excise Duties(CED), Gross domestic product (GDP).

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## 1.0 INTRODUCTION

Notwithstanding the fact that power to tax is conterminous with the boundary of the sovereign's jurisdiction, taxation in a state may affect economic life in other states, and may influence the economic indices and the development trajectory of taxing state in diverse ways. The government of any nation is saddled with enormous responsibilities which are influenced greatly by the income generated by the government from different sources one of which includes taxes. According to AbomayeNimenibo (2017) Taxation is a process established by the government to exert control over tax and tax collection. Taxes are frequently levied to limit the creation of certain products and services, to protect new business and local businesses, and to regulate business and keep inflation under control (Edewusi&Ajayi, 2019). Tax is widely regarded as the most effective instrument for improving the public sector's capabilities and debt repayment (Okoye&Exejiofor, 2014). Thus it can be said that the economic development of a country depends on various reasons one of which is the presence of an effective and efficient tax revenue policy. In Nigeria the contribution of tax revenue has not met the expectations of Government. Government has equally expressed this disappointment and has accordingly vowed to expand the non-oil tax revenue. It is in the light of the foregoing that this study examines the extent to which the tax system has contributed to economic growth of Nigeria.

The emergence of oil as a major tax revenue and other taxes such as personal income tax, company income tax, etc. are supposed to be means through which Nigerian government solves the economic problems of the nation and to also enhance government expenditure which is expected to be beneficial to its citizens through the provision of social infrastructures Adereti, (2011). However, in Nigeria, this has not been the case because despite the tax revenue and expenditure reported year in year by the government, the physical state of the nation in terms of social amenities, capital development, economic growth and development appear backward. This is evident in the lack of electricity supply, portable drinking water, basic health care delivery, bad roads, just to mention but a few.

This study is aimed at contributing to resolving the contending level of inadequacies associated with the administration of tax revenue in Nigeria which has denied the country of significant economic growth and development by investigating the effect of tax revenue on economic growth in Nigeria. Specific objectives are to:

1. Investigate the effect of company income Tax on the economic growth in Nigeria.
2. Access the effect of value added tax on the economic growth in Nigeria.
3. Ascertain the effect of custom and excise duties on the economic growth in Nigeria.

This paper is divided into five (5) sections. Section 2 is the Review of Related literature; section 3 comprises the methodology and section 4 and 5 consists of Data presentation and Analysis.

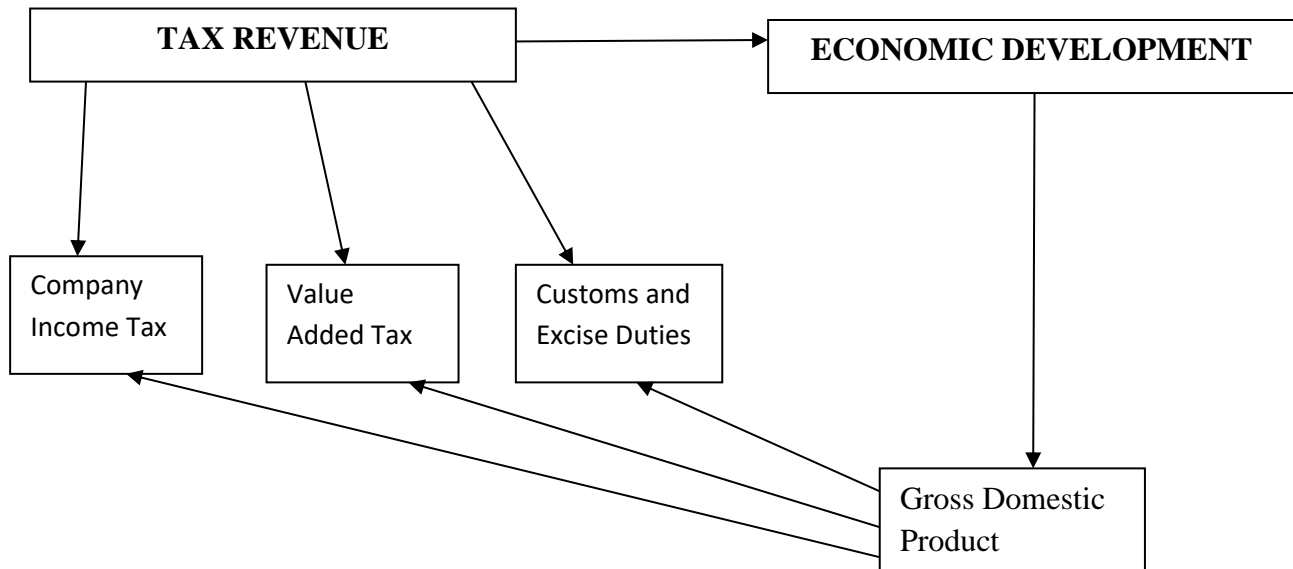
## **2.0 REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Framework**

#### **Taxation**

Tax according to Worlu and Emeka (2012) is a compulsory fee levied by the government on incomes, activities, products and properties by a government. Similarly, Abata (2014) describes tax as a mandatory charge, intentionally imposed by governments on the people of a country in order to generate extra income that will support the running of the affairs of the entire state. Globally, tax is becoming an essential revenue source for governments. Tax is sometimes used to regulate business activities in specific sectors of the economy. Taxes are instruments deployed to pool available resources for public goods - infrastructure, health and safety, research, roads, pipe borne water, schools, courts, transportation, funding the police and the provision of parks and gardens amongst others. It is in view of the aforesaid that taxation has been considered a tool for the achievement of economic development in various countries. Noteworthy, the instrumentality of taxation to economic development particularly in the purview of public policy tend to be a recent discovery, yet it presents a schema that may overshadow several of its potentials. Apparently, the deployment of taxation as an apparatus of fiscal policy in Nigeria may have been weakened due to corruption and other possible causes. This may have accounted for the abysmal level of tax revenue and poor developmental strides of past governments. In accordance with the above view, Kiabel and Nwokah (2009) posits that in response to the diminishing level of revenue generation accompanied by the constant rise in governance cost, government at all levels are compelled to establish policies and adopt possible approaches to foster an increase in the amount of revenue generated. However, in order to enhance the management of tax systems and also augment the tax yield in Nigeria, the government embarked on the alteration of various tax laws which resulted to the adjustment of tax laws such as Value Added Tax (Amendment) Act, 2024. The reform in Value Added Tax (Amendment) Act, 2024 empowers the Federal inland Revenue Service(FIRS) to disregard any fictitious disposition by the business entities or direct that adjustment be made in that regard. Accordingly, the reforms in other tax laws such as Company Income Tax (Amendment) Act, 2024, Federal Inland Revenue Services (Establishment) Act, 2007 and custom and excise duty (Amendment) Act, 2024 are expected to expand the government revenue base through tax generated and ensuring adequate and strict compliance to tax laws (Chude and Chude, 2015).

**Diagram 2.1.1 Conceptual Framework**



*Source: Researchers Compilation, 2024*

### **Companies Income Tax (CIT)**

According to Ani (2004), CIT is a direct tax levied on the profits of companies. Companies Income Tax is derivable from the taxable profits of companies which are incorporated under the Companies and Allied Matters Act, 1990 as amended till date or any other law that may replace it dealing with the incorporation of companies. In line with section 8(1) of the Companies Income Tax Act (CITA), CIT are payable upon profits of any company accruing in, derived from, brought into, or received in Nigeria in respect of any trade or business that may have been carried out. Currently, the rate of CIT is 30% of assessable profit. Dickson and Rolle (2014) posited that government often use CIT incentives such as tax exemptions to attract and retain local and foreign investors to engage in productive activities thereby increasing economic growth, and also influence a favorable balance of payment with other countries. Since companies' income tax is progressive (the higher the earnings, the higher the CIT), it encourages economic growth. Ani (2014) mentions the objectives of CIT which aids Nigeria's economic growth to include: Source of government revenue to finance infrastructural projects, equitable distribution of income/wealth, and achievement of favorable balance of payment, as an instrument of fiscal policy to regulate the economy and influence economic growth. To discourage the manufacture and consumption of undesirable goods inimical to public health so as to maintain a health society and work force to aid economic growth.

### **Value Added Tax (VAT)**

Okoye and Ani (2004), defined VAT as “an indirect form of taxation based on the general consumption behavior of the people”. This definition is in line with the Statements of Standard Accounting Practice (SAAP) number five (5), issued in the United Kingdom in 1974, to be a tax on the supply of goods and services which is eventually borne by the final consumers, but collected at each stage of production and distribution chain. Margaret, Charles and Gift (2014), believed that the impressive performance of VAT in all the countries it was introduced actually influenced the decision of the government to introduce VAT in Nigeria in 1994. The Federal Inland Revenue Service (FIRS) documented that VAT, which replaced the old sales tax, is a consumption tax which is relatively easy to administer, easy to collect and difficult to evade, thus increasing government revenue thereby aiding Nigeria’s economic growth. The FIRS is responsible for the administration of VAT in Nigeria.

### **Custom and Excise Duty**

Customs duties in Nigeria are the oldest form of modern taxation and are one of the type’s indirect taxes and are divided into import duties or export duties. Their introduction dates back to 1860 known as import duties, which represents taxes on imports into Nigeria, charged either as a percentage of the value of imports or as a fixed amount of contingent on quantity. Prior to the introduction of Structural Adjustment Programmed (SAP) in 1986, customs duties were as high as 300 percent but currently range between 2percent and 75 percent. The point of customs duties is primarily to protect domestic production by making imported goods more expensive (Ikeokwu&Leyira, 2019). Customs duty is based generally on the value of goods or upon the weight, dimensions, or some other criteria that will be determined by the state. They are charged either as a percentage of the value of import or a fixed amount on specific quantity (Fasoranti, 2013).

Adegbie, (2010) studied the Customs and Excise Duties Contribution towards the development and growth of Nigerian economy. The study reveals that there is a strong relationship between customs and excise duties and economic development of Nigeria. This shows that this is a source of income that Nigeria should develop. Excise duties were also introduced on several goods to broaden the revenue base in Nigeria in 1962. Excise systems can be defined as comprising all selective taxes or duties, related levies and charges on tobacco, alcohol, bleaching creams, gambling, petroleum products, motor vehicles, and other specific goods, services, and activities. Excise duties are commodity taxes levied on goods manufactured within the country. They are charged either as a percentage of the value of the import or a fixed amount for a specific quantity. This indirect tax not only serves the purpose of raising revenue for the country, but also serves to discourage the consumption of certain goods (Fasoranti, 2013). However, the institution is much criticized for corruption and inefficiency and its upper echelon is often driven with intrigue and in-fighting. All these need to change if Nigeria dream of economic development is to be achieved.

## **Economic Growth**

According to Hendrik (2001), economic growth involves increasing the capacity of a country's economy to satisfy the wants and needs of inhabitants of that nation. Hendrik (2001) continued that "economic growth refers to increase in output, while economic development refers to all the changes in the economy, including the social, political and institutional changes that accompany changes in output." In his ageless book, *The Wealth of Nations*, Adams Smith documented 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. Sharp, Register and Grimes, (2002) documented that economic growth is the long run process that results from the compounding of economic events over time. Similarly, Dwivedi (2002) posited that economic growth means a sustained increase in per capita national output or net national product over a long period of time. It means that the rate of increase in total output must be greater than the rate of growth of the population.

This study uses Gross Domestic Product (GDP) as a proxy for economic growth. GDP is a comprehensive measure of the total value of goods and services produced within Nigeria's borders, and its growth rate is widely regarded as an indicator of economic performance. It measures a country's economic growth by calculating the total value of goods and services produced within its borders. In Nigeria, tax revenue plays a vital role in driving economic growth. Increased tax revenue enables the government to finance public expenditure, infrastructure development, and social welfare programs, thereby boosting GDP and stimulating economic growth.

## **2.2 Theoretical Framework.**

This study is anchored on the benefits received theory of taxation (BRTT).

### **2.2.1: Benefits Received Theory of Taxation (BRTT)**

This theory is believed to have been initiated by Knut Wicksell and popularized by Erik Lindahl (Cooper, 1994; TrotmanDickenson, 1996). Proponents of the theory argue that an exchange relationship exist between the government of a people and the tax payers. On the basis of this relationship therefore, the government has a responsibility of providing goods, services and basic infrastructures for use by members of the society, who in return are expected to make contributions through taxation in proportion to whatever benefits that may have been derived from their access to the amenities, infrastructures, goods and/or services provided by government (TrotmanDickenson, 1996; Bhartia, 2009; Ihenyen and Mieseigha, 2014). Impliedly, a contractual relationship tends to exist between the government of a people and the taxpayers; as such, the government has a responsibility to provide public goods and/or services; whereas, the responsibility to bear the costs associated with the provision of such public goods and services rest on the taxpayers in proportion to the level of benefits received (Chigbu, Akujuobi, and Appah, 2012). Clearly, the assumption of the BRTT is that citizens of a state or country should be taxed proportionate to the consumption of social goods and/or the services rendered by government. Since tax revenue of every government ought to be ploughed back to provide basic infrastructures



and social amenities for sustainable economy development, the researcher is of the view that the BRTT is suitable for this study. It is on this note that the work was anchored on the BRTT as we set out to examine the statistical link between the revenue generated from the different forms of taxation in the country and economic development.

### **2.3 Empirical Reviews**

Ayeni and Afolabi (2020), study examined the dynamic effect of tax revenue, infrastructural development on economic growth in Nigeria, using an annual secondary time series data from 1981 – 2018. Regression analysis was used. Findings from the impulse response results show that while tax revenue influences economic growth and infrastructure, infrastructure does not influence economic growth, but significantly influence tax revenue collected.

Gerald et al. (2016), aimed at establishing the role of customs and excise duties on women cross border traders of Bettsbridge, Chirundu, and Nyamapanda. The research is a case study approach and questionnaire. The research findings show that customs and excise taxes play a role in women cross-border traders if they are fair and simple to understand. Unfortunately, this is not the case in Zimbabwe because the customs and excise taxes on women cross-border traders were found to be negative on profitability and sustenance and do not help women cross-border traders at all. In addition, the customs and excise taxes were found to encourage underhand dealings such as corruption and smuggling. This includes corruption by local and foreign customs officials, delays in goods clearance and restrictions on goods imported. In addition, findings suggest that customs and excise duty information is not easily accessible as well. Thus, the study recommended the implementation of measures that encourage registration of cross-border women traders to allow for preferential or exemption from customs and excise duties using particular thresholds, as well as the implementation of trade facilitation policies and anti-corruption measures, and improvement in the accessibility of taxation information.

Okoror et al (2019), study examined empirically, the impact of company income tax on infrastructural development in Nigeria. This study adopts an ex-post facto research design. In this study, secondary data was adopted. The data covers the period 1981-2017. Dynamic Least Squares for co-integrated regression was used. The results reveal that the coefficient is positive and statistically significant at 5% level. Therefore, we reject the null hypothesis that CIT has no positive and significant impact on Infrastructural development in Nigeria. The study recommends that government should focus on Improving and stimulating Company Income tax revenue. The positive relationship between Company Income Tax and Infrastructural development is an indication that a higher company Income tax will lead to increased infrastructural development in Nigeria hence efforts should be geared towards expanding the tax base, ensure transparency in collections proper utilization.

Ihenyen and Mieseigha (2014), examined taxation as an instrument of economic growth in Nigeria. Using annual time series data sourced from the Central Bank of Nigeria (CBN) statistical bulletin during the period 1980 through 2013, a linear model of Corporate Income Tax (CIT), value added tax (VAT) and economic growth (GDP) was estimated using the ordinary least square (OLS)

technique. The empirical result suggests that the hypothesized link among corporate income tax, value added tax and economic growth indeed exist in the Nigerian context. Thus the result offer tantalizing evidence that taxation is an instrument of economic growth in Nigeria. This conclusion points to the need for additional measures by government in ensuring that taxpayers do not avoid and evade tax so that income can be properly redistributed in the economy. In addition, regulatory authorities charged with the sole responsibility of collecting tax should further be strengthened to enforce compliance by taxpayers. Above all, the tax collected should be properly distributed so that economic growth can be properly harnessed.

Inyiama and Ubesie (2016), examine the effect of value added tax and customs and excise duties on Nigeria's economic growth. Secondary sources were explored in data gathering while a simple regression technique was employed in data analysis for test of the study hypotheses. Furthermore, correlation analysis was applied to the assessment of the relationship between non-oil revenue sources and Nigeria's gross domestic product. The outcome reveals that all the non-oil tax revenue affects Nigeria's gross domestic product. On the side of the relationship between the variables studied, the strength of their relationship is very high for all the variables. The researcher concludes that value added tax and customs and excise duties are some of the major contributors to Nigeria's gross domestic product. The revenue sources could be used to predict the value and status of the nation's gross domestic product as indicated by the strength of the relationship between the variables. The federal, state and local authorities therefore could finance a reasonable proportion of their capital and recurrent budgets through non-oil tax revenue.

Adereti, Adesina and Sanni (2011) examined the relationship between Value Added Tax and economic growth in the Nigerian economy. The study employed time series data on both the dependent and independent variables such as Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total Federal Government Revenue over a period of 14 years ranging from 1994 – 2008. The study's methodology comprised of a combination of descriptive and inferential statistics. The outcome of the study suggested a positive relationship exists between revenue generated from VAT and Gross Domestic Product (GDP).

Adegbie and Fakile (2011) carried out a study which aimed at ascertaining the statistical correlation between Company Income Tax (CIT) and the development of the Nigerian economy covering a period of 26 years spanning from 1981 – 2007. The Gross Domestic Product (GDP) was employed in the study as a proxy for economic development, and this was estimated against total revenue generated from CIT. primary and secondary data were utilized in the study and these data were analyzed using the Chi-square and multiple regression analysis. The result of the analysis depicts that Company Income Tax has a significant impact on economic development proxy as GDP. The study revealed that tax evasion and tax avoidance are the major factors responsible for dwindling in the level of revenue generated.

Ogar and Oka (2016) examined the impact of tax revenue on the Nigerian economy. The objectives of their study were; to examine the relationship between petroleum profit tax and the Nigerian economy, the impact of company income tax on the Nigerian economy, and the effectiveness of non-oil revenue on the Nigerian economy. Data were sourced from Central Bank of Nigeria's



Statistical Bulletin and extracted through desk survey method. Ordinary least square of multiple regression models was used to establish the relationship between dependent and independent variables. The finding revealed that there is a significant relationship between petroleum profit tax and the growth of Nigeria economy. It also showed that there is a significant relationship between non-oil revenue and the growth of Nigeria's economy. The finding equally revealed that there is no significant relationship between company income tax and the growth of Nigeria economy. It was recommended that government should Endeavour to provide social amenities to all nooks and crannies of the country. It was further recommended that government should engage in a complete re-organization of the tax administrative machineries in order to reduce to tolerable levels the problem of tax evasion and avoidance, and finally, to enhance the tax base of government, employment opportunities should be created, and a good environment for entrepreneurship and innovation to thrive should be made available, using tax proceeds

Achor and Ekundayo (2016) examined the impact of indirect tax revenue on economic growth in Nigeria. The study uses value added tax revenue and customs & excise duty revenue as independent variables, and economic growth was proxy with real Gross Domestic Product as the dependent variable. The study employed secondary data collected from Central Bank of Nigeria's statistical bulletin for the period covering 1993 to 2013 for the empirical analysis using the convenient sampling technique. The research design is time series and the data were analyzed using descriptive statistics, correlation, unit root test, co-integration test and error correction model regression. The result revealed that value added tax had significant impact on real Gross Domestic Product. The study therefore recommended that existing tax administrative loopholes should be plugged for tax revenue to contribute immensely to the development of the economy since past value added tax and custom and excise duty had a significant impact on economic growth.

Chude and Chude (2015) investigated the impact of company income tax on the profitability of brewery companies in Nigeria. The study employed the augmented Dickey Fuller Unit Root test, Johansen's co-integration test and Ordinary Least Squares techniques to analyze time series secondary data. The study revealed positive correlation between taxation and profitability.

Dickson and Rolle, (2014) studied the impact of tax reforms on tax revenue generation in Nigeria. Specifically, the researchers attempted to verify the relationship between federally collected revenue and specific tax revenue generation sources. The study employed annual time series data spanning the years (1981- 2011). The various income taxes were used as a proxy for tax reforms. By way of preliminary test, the Augmented Dickey fuller was employed to test for unit root. All the time series variables were non-stationary at levels but became stationary after first differencing. The Johansen's co-integration test shows that long-run relationship exists between tax reform and federally collected revenue in Nigeria.

Onaolapo, Fasina and Adegbite (2013) examined the effect of petroleum profit tax (PPT) on Nigeria Economy. In order to achieve their research objectives, secondary data were obtained from Central bank of Nigeria statistical bulletin covering the period of 1970 to 2010. In concluding their analysis, multiple regressions were employed to analyses data on such variables as Gross Domestic Product (GDP), Petroleum Profit Tax, Inflation and Exchange rate were all found to have

significant effects on Economic Growth with the adjusted R square of 86.3%. Following the outcome of this study, it was concluded that the abundance of petroleum and its associated income has been beneficial to the Nigerian Economy for the period 1970 to 2010, and that income from a nation's natural resource has a positive influence on economic growth and development. It was recommended that Government should transparently and judiciously account for the revenue it generates through Petroleum Profit Tax by investing in the provision of infrastructure and other public goods and services, and that government should more effectively and efficiently utilize revenue generated from PPT to create growth, employment opportunities and wealth in the economy so as to encourage tax payers to be more willing to meet their tax obligations to the Government.

Adesina (2011) studied Value Added Tax and Economic growth in Nigeria. To achieve their objectives, the researchers employed time series data on Gross Domestic Product (GDP), Value Added Tax (VAT) revenue, total Tax Revenue, and Total Federal Government Revenue from 1994 to 2008. Their data which was sourced from the Central Bank of Nigeria were analyzed, employing both simple regression analysis and descriptive statistical method. The result showed a positive relationship between VAT and economic growth. .

Ude and Agodi (2014) studied the impact of non-oil revenue on the growth of the Nigerian economy. The study utilized secondary data from annual observations ranging from 1980 to 2013. The study employed revenue from agriculture and manufacturing as proxy for non-oil revenue. The analytical findings revealed that non-oil revenue proxy as agricultural revenue; manufacturing revenue and interest are found to have significant impact on the growth of the Nigerian economy.

In a study carried out focusing on the OECD countries, Macek (2014) examined that influence of tax on economic growth. The study adopted a multiple regression model which pictures the relationship between the dependent and explanatory variables. The period covered in the study ranges from 2000 to 2011. Personal Income Tax, Company Income Tax, Social Security Contribution, VAT were employed as Tax variable, while GDP, capital accumulation, human capital and government expenditure proxy for economic growth. The study revealed that Company Income Tax has a statistical significant effect on economic growth.

### **3.0 METHODOLOGY**

This study adopts the Ex-post facto method of research. Ex-post facto means 'after the event' meaning that the events under investigation had already taken place and data already exists. The study covers Nigeria's economy with time series rather than cross sectional data being used. Data relating to revenues from different tax components, investment expenditure and GDP were collected for the years 2000-2024. The study uses Correlation and regression analysis technique to examine the effect of tax revenue on the economic growth and development in Nigeria which is measured using its Gross Domestic Product (GDP). The study was carried out in Nigeria with the view to investigate the effect of tax revenue on economic growth in Nigeria. This research employed secondary source of data. Data were obtained from Federal Board of Inland Revenue, State of Inland Revenue, Nation Bureau of statistics, internet and certain journals and publications.

The population of this study consists of all the sectors of Nigeria economy. The sample size of the study consists of the selected economic variables that were used to proxy tax revenue which includes CIT, VAT, and CED. The study employed an ordinary least square (OLS) regression analysis, which the data is subjected to a diagnostic test using descriptive statistics analysis.

### 3.1 Variable Descriptions and Measurements

s/n	Variable	Type	Measurement	Source
1	Company Income Tax	Independent	30% of chargeable income	Dickson and Rolle (2014)
2	Value Added Tax	Independent	7.5% of chargeable income	Okoye and Ani (2004)
3	Custom and Excise Duty	Independent	35% to 5% depending on the commodity	Adegbe, (2011)
4	Gross Domestic Product	Dependent	Consumption + investment + government spending + net exports	Fasina and Adegbite (2013)

Source: Researchers Compilation, 2024

### 3.2 Model Specification

The model for this study was adopted and modified from the work of Amahalu Nestor Ndubuisi, 2018. Thus the model functional:

Nigeria's economic growth = f (tax revenue)

$$GDP = f(CIT + VAT + CED) \quad (1)$$

Where:

GDP= Gross domestic product

CIT= company income tax

VAT= value added tax

CED= custom and excise duty

From the function above, the following model will be adopted to run the multiple linear regressions;

$$GDP = \beta_0 + \beta_1 CIT + \beta_2 VAT + \beta_3 CED + \mu_t \quad (2)$$

Where;

$\beta_0$  = constant term

$\beta_1$  = coefficient of CIT

$\beta_2$  = coefficient of VAT

$\beta_3$  = coefficient of CED

$\mu_t$  = error term or stochastic variable

### 3.3 Decision Rule

If the p-value is less than or equal to 0.05 ( $p \leq 0.05$ ), we reject the null hypothesis ( $H_0$ ) of no significant effect and conclude that the variable has a statistically significant effect on economic growth. If the p-value is greater than 0.05 ( $p > 0.05$ ), we fail to reject the null hypothesis ( $H_0$ ) and conclude that the variable does not have a statistically significant effect on economic growth,

## 4.0 DATA ANALYSIS AND DISCUSSION

### 4.1 Descriptive Statistics

**Table 1: Descriptive Statistics**

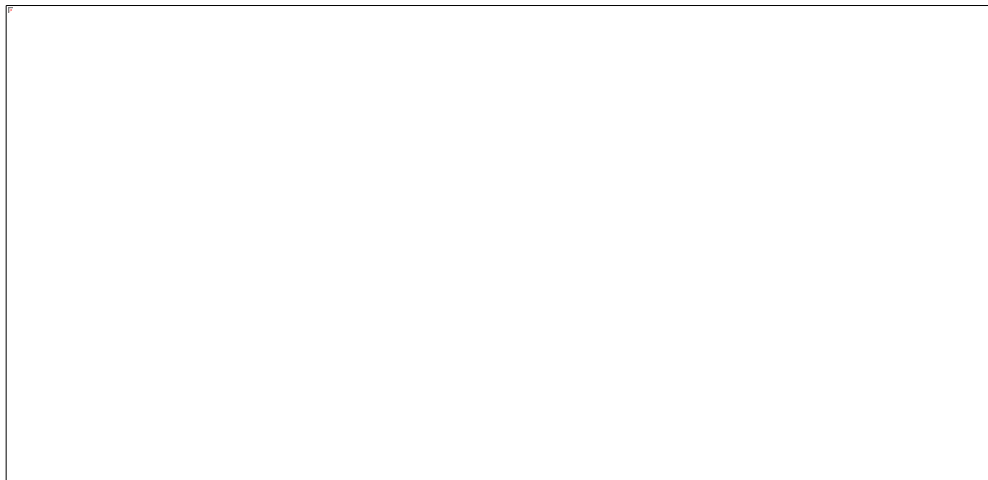
	<b>GDP</b>	<b>VAT</b>	<b>CIT</b>	<b>CED</b>
<b>Mean</b>	79059.37	841.3808	942.0350	877.8604
<b>Median</b>	67347.17	638.0250	678.9000	787.6150
<b>Maximum</b>	204797.9	3640.000	3800.000	3210.000
<b>Minimum</b>	6990.620	58.50000	51.10000	101.5000
<b>Std. Dev.</b>	61640.81	861.9450	983.8726	827.7281
<b>Skewness</b>	0,635135	1.803028	1.521849	1.390143
<b>Kurtosis</b>	2.272445	6.044872	4.653375	4.275324
<b>Jarque-Bera</b>	2.142923	22.27488	11.99774	9.356446
<b>Probability</b>	0,342508	0.000015	0.002482	0.009296
<b>Sum</b>	1897425	20193.14	22608.84	21068.65
<b>Sum Sq. Dev.</b>	8.74E+10	17088190	22264120	15758076
<b>Observations</b>	24	24	24	24

**Source: Computed from E-views 10.0**

The descriptive statistics table offers crucial details on the central tendency, dispersion, skewness, and kurtosis of the data for the variables in the model. The results of the descriptive statistics in Table 1 above showed that the mean of the variables in each period are: GDP ₦79059.37 Billion, VAT ₦841.3808Billion, CIT ₦942.0350 Billion and CED ₦877.8604 Billion respectively. Their respective high standard deviations of, ₦61640.81 billion, ₦ 861.9540 billion, ₦ 983.8726billion, and ₦827.7281 billion respectively suggest a wide variation within the values of each series of the variables. Also, the values for their respectively skewness and kurtosis are close to 0 and 3 respectively indicating presence of normal distribution in the series. This is confirmed by the normality test in figure 1 below.

## 4.2 Normality Test

**Figure 4.2.1 Normality test Result**



**Source: EvIEWS 10.0 output**

The probability of Jarque-Bera of 0.193177 shows that we fail to reject the null hypothesis of normal distribution and reject the alternative of no normal distribution. It implies that the result of the analysis can confidently be used for inferences

## 4.3 Serial Correlation Test

**Table 2 Breusch-Godfrey Serial Correlation Test**

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.330023	Prob. F(2,18)	0.1259
Obs R-squared	4.935608	Prob. Chi-Square(2)	0.0848

#### Source: output from Eviews 10.0

The Breusch-Godfrey (BG) test is a crucial diagnostic tool used to detect autocorrelation in the residuals of a regression model. Autocorrelation occurs when the error terms in a time series model are correlated with each other. It violates one of the key assumptions of linear regression, which is that the errors are independent and identically distributed (IID). Autocorrelation can significantly impact the efficiency and reliability of model estimates. If present, it can lead to incorrect inferences and predictions.

The F-statistic of 0.1259 and the prob. of 0.0848 shows that we cannot reject the null hypothesis of no serial correlation and reject the alternative of serial correlation. Therefore the model does not suffer from serial correlation problems thereby good for further analysis.

#### 4.4 Pearson Correlation Analysis

The result of Pearson correlation is presented in Table 3.

**Table 3 Pearson Correlation**

	<b>GDPGR</b>	<b>VATGDP</b>	<b>CITGDP</b>	<b>CEDGDP</b>
<b>GDPGR</b>	1			
<b>VATGDP</b>	-0.33165591605	1		
<b>CITGDP</b>	-0.39987328634	0.24423243670	1	
<b>CEDGDP</b>	0.50792581176	0.10433937474	-0.15312142941	1

Source: Output from Eviews 10.0

The use of a correlation matrix in this study is to explore the association between each explanatory variable (VAT, CIT, and CED) each as a percentage of Gross Domestic Product, and the GDP Growth Rate. Table 3 focused on the correlation between GDP growth Rate and the independent (VAT, CIT, and CED). The finding from the correlation matrix table shows that VAT and CIT with correlation ratio  $r = -0.33165591605$  and  $-0.39987328634$  respectively, each has a weak and negative correlation with the dependent variable- Gross Domestic Product Growth Rate (GDPGR), while CED with  $r = 0.50792581176$  has a moderate and positive correlation.

This suggests that as Value added tax increases, the Gross domestic product growth rate decreases. Equally, as company income tax increases, the Gross domestic product growth rate decreases. However, as the custom and excise duty tax increase, the gross domestic product increases. The magnitude of these changes are determined in the regression analysis below.

#### 4.5 Ordinary Least Squares (OLS) Regression Analysis

The result of the Ordinary Least Squares (OLS) regression analysis is presented in Table 4.



**Table 4 (OLS) Regression Analysis**

Dependent Variable: GDPGR  
Method: Least Squares  
Date: 07/01/25 Time: 22:06  
Sample: 2000 - 2024  
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VATGDP	-14.26998	7.516193	-1.898564	0.0721
CITGDP	-7.873408	5.574074	-1.412505	0.1732
CEDGDP	14.01991	4.665809	3.004819	0.0070
C	23.02674	9.690142	2.376306	0.0276
R-squared	0.461313	Mean dependent var	16.69708	
Adjusted R-squared	0.380510	S.D. dependent var	9.610643	
S.E. of regression	7.564313	Akaike info criterion	7.035772	
Sum squared resid	1144.377	Schwarz criterion	7.232114	
Log likelihood	-80.42926	Hannan-Quinn criter.	7.087861	
F-statistic	5.709111	Durbin-Watson stat	1.586652	
Prob(F-statistic)	0.005434			

**Source: Output from Eviews 10.0**

The Ordinary Least Squares (OLS) regression analysis was employed to examine the relationship between tax revenue components and economic growth in Nigeria from 2000 to 2024. The results indicate that the model explains approximately 46.13% of the variation in Gross Domestic Product Growth Rate (GDPGR), as evidenced by the R-squared value of 0.461313. The coefficients of the regression model reveal that Value-Added Tax (VAT) and Company Income Tax (CIT) have negative relationships with GDPGR, although the latter is statistically insignificant. Conversely, Customs and Excise Duties (CED) exhibit a positive and statistically significant relationship with GDPGR, suggesting that a 1% increase in CED is associated with a 14.02% increase in GDPGR. The overall significance of the model is confirmed by the F-statistic and its corresponding probability, which indicate that the relationships between tax revenue components and economic growth are statistically significant.

**4.6 Test of Hypotheses**

**Table 3 Summary of the Hypotheses**

Variable	Coefficient	Probability	Conclusion
VATGDP	-14.26998	0.0721	Negative and insignificant

<b>CITGDP</b>	-7.873408	0.1732	Negative and insignificant
<b>CEDGDP</b>	14.61991	0.0070	Positive and significant
<b>C</b>	23.02674	0.0276	Positive and significant

## Test of Hypotheses

### **H0<sub>1</sub>: Company Income Tax (CIT) has no significant effect on economic growth in Nigeria**

The null hypothesis that Company Income Tax (CIT) has no significant effect on economic growth in Nigeria is supported, as the p-value of 0.1732 is greater than the significance level of 0.05. The coefficient of CIT is -7.873408, indicating a negative relationship between CIT and economic growth. We therefore accept the null hypothesis that CIT has no significant effect on economic growth in Nigeria.

### **H0<sub>2</sub>: Value Added Tax (VAT) has no significant effect on economic growth in Nigeria.**

The null hypothesis that Value Added Tax (VAT) has no significant effect on economic growth in Nigeria is supported, as the p-value of 0.0721 is greater than the significance level of 0.05. The coefficient of VAT is -14.26998, indicating a negative relationship between VAT and economic growth. We therefore accept the null hypothesis that VAT has no significant effect on economic growth in Nigeria.

### **H0<sub>3</sub>: Customs and Excise Duties (CED) have no significant effect on economic growth in Nigeria.**

The null hypothesis that Customs and Excise Duties (CED) have no significant effect on economic growth in Nigeria is rejected, as the p-value of 0.0070 is less than the significance level of 0.05. The coefficient of CED is 14.61991, indicating a positive relationship between CED and economic growth. We therefore reject the null hypothesis that CED has no significant effect on economic growth in Nigeria.

## 4.7 Discussion

The coefficient of determination-adjusted R-squared in the model (Table 4) is 0.461313 and implies that 46% of total variation in economic growth can be explained using tax revenue variables in the study while the remaining 54% is due to other stochastic variables not included in the model. The F-statistic is 5.709111 and the probability of the F-statistic Prob(F-statistic) is 0.005434 implies that all the explanatory variables in the model have a joint and significant effect on the Nigerian economic growth represented by the gross domestic product growth rate.

From the results of the OLS analysis (Table 4), the constant parameter is positive at 23.02674. This means that if all the independent variables are held at zero, GDP as a dependent variable will grow by 23%.

### **Value Added Tax**

The coefficient of value added tax (VAT) in Table 4 is negative (-14.26998) and the Probability (P\_value) at 5% level of significance is 0.0721. This means that, value added tax has a negative but insignificant effect on gross domestic product growth rate. A 1% increase in value added tax will lead to -14.26998% decreases in economic growth. The coefficient for VAT on GDP is negative (-14.27) and statistically insignificant at a 5% level ( $p = 0.0721$ ). In contrast, Adereti, Adesina, and Sanni (2011), Inyama and Ubesie (2016) found a positive relationship between VAT revenue and GDP. This discrepancy suggests that, in this case, VAT revenue might not be contributing positively to economic growth, potentially due to issues in tax administration or collection inefficiencies.

**Company Income Tax:** The coefficient of (CIT) (Table 4) is negative (-7.873408) and the probability (P-value) is 0.1732 at 5% level of significance. This means that company income tax has a negative effect on economic growth but the effect is insignificant. The coefficient for CIT on GDP is negative (-7.87) and statistically insignificant ( $p = 0.1732$ ). Again, this is in contrast with Ihenyen and Mieseigha (2014); Adegbie and Fakile (2011) established a significant positive relationship between CIT and economic growth. This could indicate that, in the current analysis, CIT is not effectively supporting economic growth, possibly due to tax policy implementation issues or other economic factors.

### **Customs and Excise Duty**

The coefficient of CED (Table 4) is positive (14.01991) and probability (P-value) is 0.0070. This shows that the effect of Customs and Excise Duty tax has a positive and significant effect on economic growth. The coefficient for CED on GDP is positive (14.02) and statistically significant ( $p = 0.0070$ ). The positive coefficient for CED in the regression results aligns with the positive contribution to GDP reported by Inyama and Ubesie (2016). However, it contrasts with the negative impacts highlighted by Gerald et al. (2016), which may reflect broader issues with the tax system's fairness and efficiency.

## **5.1 Conclusion**

Findings of the study reveal a mixed impact of various tax revenues on GDP growth. The results indicate that VAT and CIT have negative coefficients, suggesting a potential adverse effect on GDP growth, although these findings are statistically insignificant. In contrast, customs and excise duties (CED) demonstrate a positive and statistically significant relationship with GDP growth, highlighting their potential as a more effective revenue source for stimulating economic expansion. The overall model explains 46.13% of the variance in GDP growth, with a significant F-statistic ( $p = 0.0054$ ), indicating that the included variables collectively have a meaningful impact on economic growth. These findings underscore the need for a reevaluation of VAT and CIT policies

while suggesting that improving the efficiency and impact of customs and excise duties could enhance economic growth.

## **5.2 RECOMMENDATIONS**

Based on the findings of this study, the following recommendations are made:

- i. Reform VAT Policies by improving VAT collection efficiency and broadening the tax base to enhance its contribution to economic growth.
- ii. Revise CIT Framework by adjusting CIT rates and structures to stimulate investment, ensure better compliance, and support economic development.
- iii. Enhance Customs and Excise Duties by Improving the efficiency and transparency of customs and excise administration to maximize their positive impact on economic growth.

## **5.3 Contribution to Knowledge**

This study contributes to the existing body of knowledge in the following ways:

- i. VAT Policy Effectiveness: This research reveals that the current VAT system in Nigeria may not be significantly contributing to economic growth, highlighting the need for policy reforms to enhance VAT's impact.
- ii. CIT Impact on Growth: The study demonstrates that the existing CIT framework may be negatively affecting economic growth, suggesting that adjustments to CIT rates and structures are necessary to better support investment and economic development.
- iii. Customs and Excise Duties: The findings show that efficient and transparent administration of customs and excise duties can significantly boost economic growth, providing a model for improving tax revenue management in Nigeria.

## **5.4 Recommendations for Future Research**

To further explore the relationship between taxation and economic growth in Nigeria, the following areas of study are recommended:

- i. Assessing the Impact of VAT Rate Changes: A study investigating the effects of varying VAT rates on Nigeria's economic growth could provide valuable insights into the optimal VAT rate for promoting economic development.
- ii. Evaluating the Effectiveness of CIT Incentives: Research examining the impact of CIT incentives on investment levels in key industries could help policymakers design more effective tax policies to attract foreign investment and stimulate economic growth.
- iii. Analyzing the Effects of Customs Procedure Enhancements: A study investigating how improvements in customs procedures influence revenue collection and economic growth could identify areas for reform and help optimize Nigeria's tax administration system.

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