



TAXATION AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The pivotal role of taxation in revenue generation cannot be under emphasis in any economy. Due to its importance, this study has been carried out to investigate the impact of taxation on economic growth in Nigeria. Four hypotheses were stated and tested. The study used mostly secondary data from the Central Bank of Nigeria Bulletin (CBN) and reports from Federal Inland Revenue for the period of 29 years (1994 – 2022). The study used Regression Analysis by applying an Error Correction Model (ECM) and Granger Causality Approach based on the outcome of the unit root test and to discover both long and short run effect. The study revealed that Custom and Excise Duty has a negative and insignificant impact on Nigeria Gross Domestic Product in the short run. Petroleum Profit Tax (PPT) has a negative impact on the Nigeria Gross Domestic Product in the short run. However, Value Added Tax (VAT) and Company Income Tax both have positive and significant impact on Nigeria Gross Domestic Product in the short run. The study recommended that Efforts should be intensified by the government towards increased collection of tax revenue this is due to the low contribution of tax revenue to GDP over the period of study. This can be done through blocking all loopholes in our tax laws as well as bringing more prospective tax payers into the tax net (especially the informal sector). Also

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there should be stringent penalty imposed on any individual or corporate body who indulge in any form of tax malpractices, if the positive correlation between taxation and economic growth should be maintained.

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Introduction

The substantial population of Nigeria does not result in commensurate tax revenue, primarily due to the significant proportion of the population operating within the informal sector of the economy, which poses challenges in bringing them under the tax net (Udoh, 2015). Despite the considerable share of the Nigerian workforce occupied by the informal sector, its contribution to the nation's internally generated revenue remains low, as tax revenue is predominantly derived from direct taxation on personal income and royalties (Akeju, 2018). This issue persists as many taxable individuals conceal their income within the informal sector to evade or avoid tax payments (Udoh, 2015). The mobilization of tax revenue as a means of financing developmental activities in Nigeria has been hindered by various forms of resistance, including tax evasion, avoidance, and other corrupt practices, which are detrimental to the economy and contribute to the current state of underdevelopment in the country. Tax revenue is a significant source of government revenue worldwide (Lyndon and Paymaster, 2016), and the low tax-to-GDP ratio in Nigeria is a persistent challenge. Additionally, the over-reliance of the Nigerian economy on crude oil has undermined the crucial role of taxation as a reliable means of revenue generation, with crude oil exports accounting for over 80% of the total federal government revenue, while the non-oil sector accounts for the remaining 20% (Odusola, 2006).

According to the Chairman of the Federal Inland Revenue Services (FIRS), Babatunde Fowler, as stated in the agency's 2017 quarterly report, Nigeria's tax-to-Gross Domestic Product (GDP) ratio is one of the lowest at 6%, in comparison to countries such as South Africa with 26% and other Organization for Economic Co-operation and Development (OECD) countries averaging 34.8%. This position is also supported by Akinlere A. Akinyiga, (2021) ACA, a tax professional at Pedabo, who published on February 12, 2021 that despite the reported increase in tax revenue by the FIRS, the tax-to-GDP ratio has remained at an abysmal 6%. The low revenue derived from taxation will inevitably result in poor economic growth and development in the country, as dwindling oil revenue will not be sufficient to generate the necessary funds for the government to effectively implement its developmental policies, programmes, and projects. Therefore, purposive taxation and the implementation of tax laws and policies become indispensable in generating the necessary funds to drive economic growth and development in the country, as tax revenues are the most reliable revenue for governments around the world. Despite the numerous reforms carried out to position the Nigerian tax system for effective revenue generation, there has been a high incidence of tax evasion and avoidance by taxpayers, which further reduces the level of government expenditure, resulting in a reduction in the income, savings, and expenditures of households and firms, leading to low levels of economic activities, economic growth, and development. It is against this backdrop that this study was conducted to establish the empirical relationship between taxation and economic growth in Nigeria. The broad objective of this study is to assess the impact of taxation on economic growth in Nigeria.

Literature Review

Customs and Excise Duties and Economic Growth

Customs duty is a tax imposed on imports, and occasionally on exports, by the customs authorities of a nation. The purpose of this tax is to generate revenue for the state and/or to safeguard domestic industries from more efficient or predatory foreign competitors. The basis for customs duty is typically the value of goods or other criteria, such as weight or dimensions, as determined by the state. Customs and excise duties are the oldest forms of modern taxation and are also referred to as import duties. They are levied either as a percentage of the import value or as a fixed amount on a specific quantity. In a study conducted by Odusola (2006) on the impact of various taxes on economic growth in Nigeria from 1985 to 2004, it was found that customs and excise duties had a negative correlation with gross domestic product, indicating an inverse relationship between customs excise duties and economic growth in Nigeria.

Petroleum Profit Tax and economic growth in Nigeria

Onaolapo, Fasina, and Adegbite (2013) conducted an empirical study on the impact of petroleum profit tax (PPT) on the Nigerian economy. Secondary data was obtained from the Central Bank of Nigeria Statistical Bulletin, covering the period from 1970 to 2010. The analysis was concluded using multiple regressions to examine the effects of Gross Domestic Product (GDP), petroleum profit tax, inflation, and exchange rate on economic growth. The results indicated that all of these variables had significant effects on the economy. In a similar vein, Ihenyen and Mieseigha (2014) investigated taxation as a tool for promoting economic growth in Nigeria. They utilized annual time series data from the Central Bank of Nigeria Statistical Bulletin, spanning the years 1980 to 2013. The data on Corporate Income Tax (CIT), Value Added Tax (VAT), and Economic Growth (GDP) was analyzed using the Ordinary Least Square (OLS) technique. The empirical findings revealed that the hypothesized relationship between corporate income tax, value added tax, and economic growth did indeed exist in the Nigerian context. Therefore, the results provide compelling evidence that taxation can be leveraged as an instrument for promoting economic growth in Nigeria. This conclusion underscores the need for the government to implement additional measures to prevent tax avoidance and evasion, thereby ensuring that income is properly redistributed throughout

Value Added Tax and Economic Growth

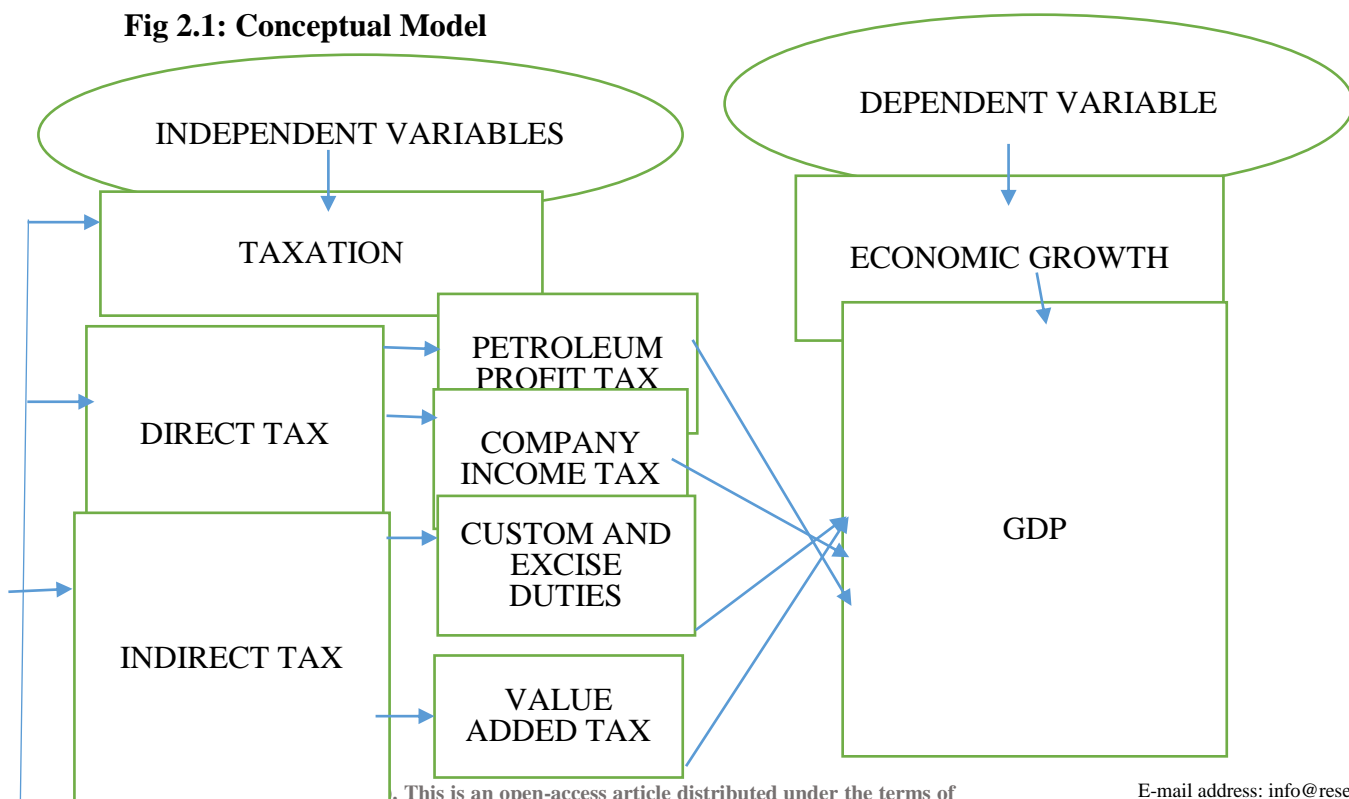
Ihenyen and Mieseigha, (2014), conducted a study on the use of taxation as a tool for economic growth in Nigeria. The authors utilized annual time series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin spanning the period from 1980 to 2013. The data included Corporate Income Tax (CIT), Value Added Tax (VAT), and Economic Growth (GDP), which were estimated using the Ordinary Least Square (OLS) technique. The empirical results indicated that the hypothesized relationship between corporate income tax, value added tax, and economic growth indeed exists in the Nigerian context. Therefore, the findings provide compelling evidence that taxation can be leveraged as an instrument for economic growth in Nigeria. This conclusion underscores the need for the government to implement additional measures to prevent tax avoidance and evasion, thereby ensuring proper income redistribution within the economy. Similarly, Adegbie and Fakile (2011) examined the relationship between company income tax and Nigeria's economic development, using VAT as one of their proxies for the independent variable. The authors employed GDP to capture the Nigerian economy and Petroleum Profit Tax (PPT), Company Income Tax (CIT), Customs and Excise Duties, and VAT to measure Company Income Tax. The study revealed a significant correlation between company income tax and Nigerian economic development, with tax evasion and avoidance identified as major

impediments to revenue generation. In another study, Owolabi and Okwu (2011) empirically evaluated the contribution of VAT to the development of Lagos State's economy. The authors considered various development aspects, including infrastructural development, environmental management, education sector development, youth and social development, agricultural sector development, health sector development, and transportation sector development. The results indicated that VAT revenue had a positive impact on the development of the respective sectors. However, the positive contribution was statistically significant only in the agricultural sector development.

Company Income Tax and Economic Growth

Adegbie and Fakile, (2011), conducted a study on the relationship between company income tax and Nigeria's economic development. The researchers utilized the Gross Domestic Product (GDP) as a measure of the Nigerian economy, and the Petroleum Profit Tax (PPT), Company Income Tax (CIT), Customs and Excise Duties, and Value Added Tax (VAT) to assess Company Income Tax. The findings of the study indicated a significant correlation between company income tax and Nigerian economic development, with tax evasion and avoidance being the primary obstacles to revenue generation. Chigbu, Akujuobi, and Appah (2012), investigated the causality between economic growth and Company Income Tax in Nigeria from 1970 to 2009. The study collected data from the Central Bank of Nigeria (CBN) Statistical Bulletin and the Federal Inland Revenue Service (FIRS), which were analyzed using relevant econometric models such as Augmented Dickey-Fuller, Diagnostic Tests, Granger Causality, and Johansen Co-integration. The results of the econometric analysis revealed that taxation, as an instrument of fiscal policy, has a significant impact on economic growth, and taxation granger causes economic growth in Nigeria. Based on the econometric results, the study concluded that taxation is a crucial instrument of fiscal policy that contributes to the economic growth of any country. The study provided useful recommendations to improve revenue generation from taxation, which would positively stimulate the economy of Nigeria.

Fig 2.1: Conceptual Model



Theoretical Framework

Expediency Theory.

This theory posits that every tax plan must pass the practicality test, which is the sole criterion employed by the government in determining a tax policy (O. H. Otu and Adejumo, 2013). The authorities must consider no other factor when deciding on a tax proposal, including the impact of the tax system and the social and economic objectives of the state (Ayuba, 2014). Kiabel (2009) asserts that the state's economic and social objectives are to establish an effective tax system that is relevant to the nation's economic growth. The concept of expediency is predicated on the relationship between tax liabilities and government actions. The state is expected to levy the members of society for the services it provides (Anyanfo, 1996).

Empirical Literature

Adeyemi, (2023), conducted an investigation into the potential impact of tax revenue, specifically Company Income Tax (CIT), Custom Excise Duties (CED), and Value-Added Tax (VAT), on the economic growth of Nigeria, both individually and jointly. To achieve this, an ex-post facto research design was adopted, and data spanning a period of 40 years (1980-2020) was analyzed using the Autoregressive Distributive Lag Model (ARDL). The results of the study indicated that tax revenues have a long-term relationship with the economic growth of Nigeria. This suggests that effective mobilization of tax revenues within the economy can significantly contribute to the development of the country's real gross domestic product in the long run. Furthermore, the study revealed that customs and excise duties have a negative and significant effect on economic growth in Nigeria in the long run. On the other hand, Company Income Tax (CIT) was found to have a positive but insignificant effect on the real gross domestic product in the long run in Nigeria. Value-added tax was also found to have a positive and significant effect on real gross domestic product in the long run in Nigeria. In conclusion, the study highlights the significant role that tax revenue, as measured by CIT, CED, and VAT, plays in the economic growth of Nigeria. As such, the government is recommended to strengthen the tax system to enhance economic growth and development.

In their study, Omodero, Okafor, and Nmesirionye (2021) investigated the impact of personal income tax (PIT) on the aggregate income of Nigeria from 2011 to 2020, utilizing the ordinary least squares method. The gross national earnings served as the dependent variable, while the personal income tax collected at the federal government level in Nigeria was the independent variable. The empirical results indicate that PIT exerts a noteworthy positive effect on the gross national income.

Olugbe and Adegbe (2020), conducted an investigation into the role of personal income tax in the development of infrastructure in Lagos state. The objective of the study was to determine the impact of personal income tax on the provision of infrastructure in the state, utilizing an ex-post facto research design. The study focused on the period between 1997 and 2018, analyzing the relationship between Personal Income Tax and infrastructure development in Lagos State. Secondary data were sourced from Lagos State Internal Revenue Services (LIRS), Lagos State Ministry of budget and planning, and Lagos State Ministry of Finance. The data were analyzed using descriptive and inferential statistics. The findings of the study revealed that personal income tax has a significant effect on the development of infrastructure in the state.

Adeusi et al, (2020), conducted a study to examine the influence of non-oil revenue on the economic growth of Nigeria. Specifically, the researchers analyzed the impact of company income tax, value added tax, personal income tax, and custom and excise duties on non-oil revenue from 1994 to

2018, using data obtained from the Federal Inland Revenue Service and National Bureau of Statistics. The data were analyzed using Ordinary Least Square Regression Techniques. The findings of the study indicated that value added tax and custom and excise duties had a more significant positive impact on economic growth, while company income tax and personal income tax had a negative but significant effect on economic growth.

Ngwoke, (2019), conducted an evaluation of the impact of taxation on economic growth within the period of 2007-2017. The study utilized an ex-post facto approach and relied on secondary data sourced from the Central Bank of Nigeria Statistical Bulletins for the relevant years. The hypotheses were subjected to unit root tests and regression analysis as statistical tools. The findings revealed that Petroleum profit tax, Company income tax, and Customs and excise duties had significant effects on the gross domestic product of Nigeria. The study concluded that the independent variables accounted for approximately 96% of the changes observed in the dependent variable, indicating a high level of goodness of fit with an R^2 of about 99%.

Ogwuche, Abdullahi, and Oyedokun (2019), conducted a study on the impact of company income tax on economic growth in Nigeria over an eleven-year period from 2007 to 2017. The researchers employed multiple regression analysis techniques and descriptive statistics to analyze their data collection. Their findings indicated that company income tax significantly influences economic growth in Nigeria. As a result, they recommended that policies regarding company income tax be reviewed to eliminate the loopholes that encourage tax avoidance, which many companies exploit to evade tax payment. Additionally, they suggested that the Integrated Tax Office (ITO), established in 2004, be adequately computerized and staffed with qualified and experienced personnel. Therefore, company income tax represents a significant source of revenue that, when appropriately utilized, can contribute to economic growth in Nigeria.

Oshiobugie and Akpokerere, (2019), conducted a study on tax revenue and its impact on the Nigerian economy from 2000 to 2017. Previous research has indicated that tax revenue plays a significant role in promoting economic growth. However, some scholars have noted that tax can be discriminatory as it is based on profits or income, and the benefits derived from tax payment do not necessarily correspond to the contributions made by individual taxpayers. The primary objective of this study was to examine the relationship between tax revenue and economic growth in Nigeria. The researchers collected secondary data from various editions of the Central Bank of Nigeria Statistical Bulletin and employed an ex-post facto research design. Ordinary least square regression techniques were utilized to analyze the data using E-view 8.0 software. The null hypotheses (H_0) were tested at a 5% level of significance. The study found that tax revenue had an insignificant effect on economic growth during the period under review. The researchers concluded that personal income tax and company income tax could have either a positive or negative impact on economic growth in Nigeria.

Ironkwe and Agu (2019) conducted an analysis of the correlation between total tax revenue and economic growth in Nigeria. The study collected time series data on various types of total tax revenue and economic development from 1986-2016 from reputable sources such as the Central Bank of Nigeria statistical bulletin, Federal Inland Revenue Service, and National Bureau of Statistics. The data was analyzed using multiple regression analysis. The findings revealed a significant positive relationship between total tax revenue and unemployment in Nigeria. The study concluded that total tax revenue has a positive correlation with unemployment and recommended that the government should allocate its social welfare programs in a manner that directly benefits taxpayers. This would instill confidence in taxpayers that their hard-earned money is being utilized effectively by the government. Furthermore, the study suggests that tax officials require improvement through adequate training and provision of suitable working materials and facilities.

Okoror and Onatuyeh, (2018), conducted an evaluation of the correlation between value added tax and economic growth in Nigeria from 1994 to 2017. The study utilized variables such as gross domestic product, value added tax, labor force participation, share of investment in GDP, openness, and population growth rate. The OLS regression technique was employed to estimate the data collected during the study period. The results indicated a negative relationship between value added tax and economic growth in Nigeria. Additionally, the study revealed that labor force participation, share of investment in GDP, and population growth rate were positively correlated with GDP in Nigeria. Conversely, the relationship between openness and economic growth was negative. The authors posited that the negative relationship was indicative of leakages resulting from poor administration of VAT in Nigeria. As a solution, they recommended that the FIRS undertake sensitization and human resource capacity development to address the growing challenges of effective tax administration.

Inimino, Abu, and Bosco, (2018), conducted a study on the correlation between tax revenue and economic growth in Nigeria from 1980 to 2015. The data utilized in the research was obtained from the Central Bank of Nigeria's statistical bulletin. The study employed Co-integration and ECM econometric methods as the primary analytical techniques, utilizing data on real gross domestic product, petroleum profit tax, company income tax, and customs and excise duties. The Co-integration analysis revealed the existence of a long-term relationship among the variables. The Parsimonious Error Correction analysis indicated that company income tax and customs and excise duties had a positive and significant impact on economic growth in Nigeria. However, petroleum profit tax had an impact on economic growth in Nigeria, but it was not statistically significant. Additionally, the coefficient of the parsimonious ECM had the appropriate sign (i.e., negative) and was statistically significant, indicating that short-term dynamics adjust to the long-term equilibrium relationship.

Methodology

Research Design

The longitudinal and ex-post facto research method will be adopted in this study because the study involved the collection of past data for 29 years starting from 1994-2022 the period was representative and long enough to capture the responsiveness of chosen independent variables on economic growth GDP in the country. The proxies for taxation, economic growth were observed and recorded annually over the period of time. This research design approach makes it easier to collect the data from various sources in examining the impact of taxation on the economic growth in Nigeria.

Sources of Data Collection

Secondary data were employed in the study which consisted of GDP, CED, PPT, VAT and CIT in Nigeria ranging from 1994-2022. The data were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin and Annual Report, Federal Inland Revenue Services (FIRS) Quarterly Report, National Bureau of Statistics (NBS) and World Bank country specific report.

Model Specification

Based on the functional relationship between the theory of the optimal commodity taxation and economic growth, a link was drawn from the two variables. The model for the study states that economic growth proxies by GDP depends on various forms of taxation. The model is in line with the work Ofoeghu et al (2016) in the empirical analysis of the effect of tax revenue on economic development in Nigeria. The model states that a linear relationship existed between tax revenue, economic growth and development in Nigeria. Their model was modified thus, the functional relationship and the resultant models are as specified below.

Functional relationship

$$\text{GDP} = f(\text{Taxation}) \dots\dots\dots 3.3.1$$

The mathematical form of the relationship becomes

$$\text{GDP} = \alpha_0 + \alpha_1 \text{CED} + \alpha_2 \text{PPT} + \alpha_3 \text{VAT} + \alpha_4 \text{CIT} \dots\dots\dots 3.3.2$$

For the purpose of analysis, the econometrics form of the model therefore include the stochastic terms thus:

$$\text{GDP} = \alpha_0 + \alpha_1 \text{CED} + \alpha_2 \text{PPT} + \alpha_3 \text{VAT} + \alpha_4 \text{CIT} + u_t \dots\dots\dots 3.3.3$$

We also specified the log form of the model as:

$$\text{Log GDP} = \alpha_0 + \alpha_1 \text{log CED} + \alpha_2 \text{log PPT} + \alpha_3 \text{log VAT} + \alpha_4 \text{log CIT} + u_t \dots\dots\dots 3.3.4$$

Where Log GDP = Log of Gross Domestic Product

Log CED = Log of Custom and Excise Duties

Log PPT= Log of Petroleum Profit Tax

Log VAT= Log of Value Added Tax

Log CIT = Log of Company Income Tax

α_0 = Constant parameter

$\alpha_1, \alpha_2, \alpha_3$ and α_4 = Coefficient of the explanatory variables

u_t = Stochastic disturbance term

The Apriori expectation was that the coefficients of CED, PPT, VAT and CIT are positively related to GDP i.e $\alpha_1, \alpha_2, \alpha_3$ and $\alpha_4 > 0$

Method of Data Analysis

The method of data analysis adopted in this study was the multiple ordinary least square (MOLS) method. This method is a good estimating technique for time series data because it has BLUE properties i.e Best, Linear, Unbiased and Efficient (BLUE). This technique established a stronger causal relationship between the chosen variables in achieving the research objectives. The data obtainable were electronically analyzed with the aid of Economic view (E-view) 9.0 version.

The following tests were carried out;

Diagnostics Tests, Stability Tests; Unit Root Tests, Cointegration Test, Error Correction Model Test were to test for short run and long run dynamics relationship between the dependent and the independent variables in assessing the validity of the cointegrating relationship between the dependent and the independent. Variables and in balancing any equilibrium at the long run among the variables of interest.

Data Presentation and Analysis

Data Diagnostics Tests

This section deals with the serial correlation and heteroscedasticity test result among the Gross Domestic Products, Excise Duties, Petroleum Profit Tax, Value Added Tax, and Company Income Tax.

Table 4.1.1: Breusch- Godfrey Serial Correlation LM Test for LOG (GDP) Model

F-statistic	0.839670	Prob. F(2,22)	0.4452
Obs*R-squared	2.056681	Prob. Chi-Square(2)	0.3576

Source: Authors' Computation using E-View 10.0

Table 4.1.2: Breusch – Pagan-Godfrey Heteroskedasticity Test for LOG (GDP)

F-statistic	0.456362	Prob. F(4,24)	0.7669
Obs*R-squared	2.049840	Prob. Chi-Square(4)	0.7266
Scaled explained SS	1.272375	Prob. Chi-Square(4)	0.8660

Source: Authors' Computation using E-View 10.0

The result from the Breusch- Godfrey serial correlation test in Table 4.1.1 display above revealed that we cannot reject the null hypothesis the F-statistic of 0.839670 with p-value of 44.5 percent is greater than the 5% significance level. Thus, we accept the null hypothesis that there is no serial correlation among the residuals in the Gross Domestic Product model. Likewise, the Breusch-pagan-Godfrey Heteroskedasticity test in Table 4.1.2 shown above indicated that we cannot reject the null hypothesis because the F-statistic of 0.456362 with P-value of 76.7 percent significance level. Thus, we accept the null hypothesis that the residuals were homoscedastic in the Gross Domestic Product model.

Table 4.1.3: Ramsey Test for GDP Model

	Value	df	Probability
t-statistic	0.112119	23	0.9117
F-statistic	0.012571	(1, 23)	0.9117
Likelihood ratio	0.015846	1	0.8998

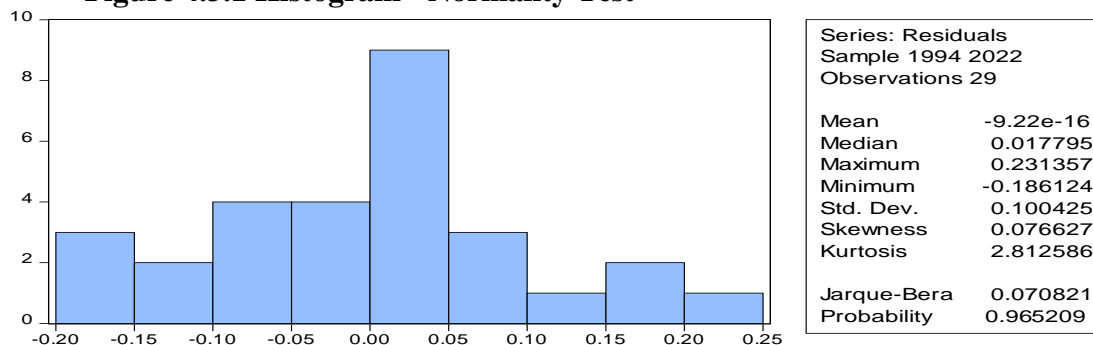
Source: Authors' Computation using E-View 10.0

The result from the Ramsey RESET test for model misspecification in Table 4.1.3 displayed above revealed that we cannot reject the null hypothesis because the P-value of 0.9117 is greater than the 5% significance level. Thus, we accept the null hypothesis that the model is correctly specified in a logarithms form.

Normality Test

The normality test of Jarque-Bera test and histogram normality test were employed. The histogram normality test shows that the histogram has a bell-shaped curve, showing that the model has a normal distribution. The Jarque-Bera value is **0.070821** and the p-value is **0.96** which is higher than 0.05, hence, we accept that this model has a normal distribution. The result is presented in figure 4.2.1:

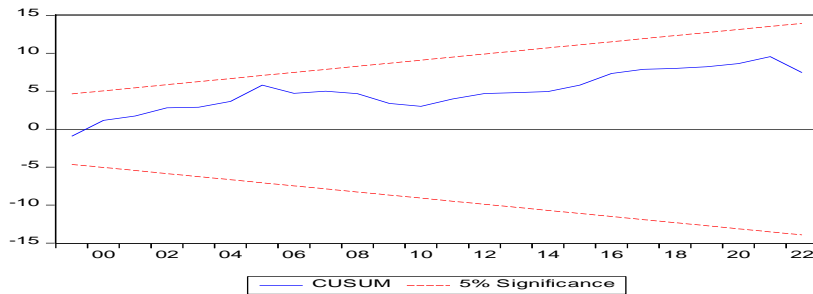
Figure 4.3.1 Histogram - Normality Test



Source: Authors' Computation using E-View 10.0

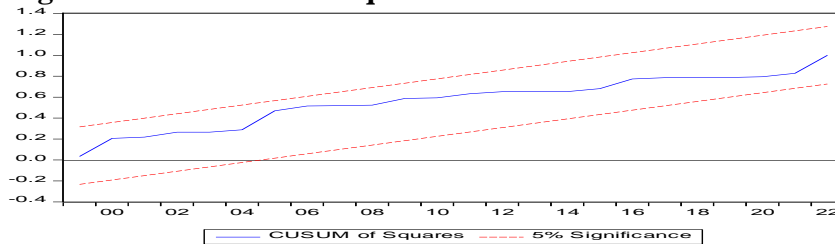
The recursive estimates help check if the model is fitted within the accepted level of significance (0.05%) or falls outside the range. For this model, we used both the CUSUM and CUSUM Sum of squares. See figures 4.2.2 and 4.2.3 respectively.

Figure 4.2.2 CUSUM Graph



Source: Authors' Computation using E-View 10.0

Figure 4.2.3 CUSUM of Squares



Source: Authors' Computation using E-View 10.0

The model is well fitted within the acceptable significance level of 0.05. We can conclude that this model is stable and free from structural change. The CUSUM sum of squares shows that the model is also fitted within the 5% level of significance, consequently, there is no deviation or structural break that can alter the stability of the model. Invariably, the graphs fall inside the range. Hence, the model is stable.

Unit Root Test

The results of the unit root test using Augmented Dickey Fuller (ADF) tests were reported below on Table 4.3.1 and 4.3.2 at level and at first difference respectively

Table 4.3.1: Augmented Dickey-Fuller Unit Root Test at First Difference

Variables	Lag Length	ADF Statistics	5%CriticalValue	Remarks
LOG(GDP)	6	-2.156880	-2.971853	Not Stationary
LOG(CED)	6	-1.507126	-2.971853	Not Stationary
LOG(PPT)	6	-2.041714	-2.971853	Not Stationary
LOG(VAT)	6	-2.898415	-2.976263	Not Stationary
LOG(CIT)	6	-2.224509	-2.981038	Not Stationary

Source: Authors' Computation using E-View 10.0

The Null hypothesis was that there is a unit root in the variables. The uniform values of the lag length were as a result of automatic lag selection based on Schwarz information Criterion (SIC). The maximum lag length automatically selected for the sample size was 6.0 this was to enable same lag length for all the chosen variables in order to allow for sound judgment and decision making.

From the unit root test results conducted, the variable at level as displayed in table 4.3.1 above revealed that the ADF test statistic (-2.156880) of gross domestic product (GDP) was less than the critical value(-2.971853) in absolute terms. Hence, we failed to reject the null hypothesis of a unit root at the 5 percent significance level. Thus, gross domestic product was found to be non-stationary at level. Similarly, the other variables were likewise found to be non-stationary at level because their ADF test statistics were less than the critical value at the 5 percent significance level. Hence, the ADF unit root test confirmed that all the variables were not stationary at their levels. Thus, the variables were tested for stationarity in their first differences.

Table 4.3.2: Augmented Dickey-Fuller Unit Root Test at First Difference

Variables	Lag Length	ADF Statistics	5%CriticalValue	Remarks
LOG(GDP)	6	-2.986986	-2.981038	Stationary
LOG(CED)	6	-5.012007	-2.976263	Stationary
LOG(PPT)	6	-5.638270	-2.976263	Stationary
LOG(VAT)	6	-4.969133	-2.976263	Stationary
LOG(CIT)	6	-5.974250	-2.976263	Stationary

Source: Authors' Computation using E-View 10.0

The ADF units root test results in Table 4.3.2 above revealed that all the variables were stationary after differencing at the 5 percent significance level because all the individual ADF test statistic were all greater than their respective critical values in their absolute terms. Hence, we failed to accept the null hypothesis of a unit root at the 5 percent significance level. Thus, we conclude that all the variables were stationary after first differencing at the 5% significance level.

Co-integration Test

Having established the time series properties of the data, the study preceded at conduct the Johansen Cointegration test for GDP model. The results of GDP test for co-integration based on the trace and maximum Eigen value statistics were reported in Table 4.4.1 and 4.4.2 below.

This section deal with the presentation and analysis of co-integration test results among gross domestic product and customs and excise duty, petroleum profit tax, value added tax and company income tax.

Table 4.4.1: Unrestricted Co-integration Rank Test (Trace) For LOG (GDP) Model

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.764046	91.26159	69.81889	0.0004
At most 1 *	0.601111	52.27038	47.85613	0.0182
At most 2	0.424283	27.45541	29.79707	0.0910
At most 3	0.300809	12.54765	15.49471	0.1325
At most 4	0.101381	2.886190	3.841466	0.0893

Source: Authors' Computation using E-View 10.0

Table 4.4.2: Unrestricted Co-integration Rank Test (Maximum Eigenvalue) for RGDP Model

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.764046	38.99121	33.87687	0.0112
At most 1	0.601111	24.81497	27.58434	0.1087
At most 2	0.424283	14.90775	21.13162	0.2954
At most 3	0.300809	9.661461	14.26460	0.2351
At most 4	0.101381	2.886190	3.841466	0.0893

Source: Authors' Computation using E-View 10.0

The co-integration test based on the Trace test statistics as shown in the Table 4.4.1 above indicated that there were two co-integrating equations at the 5percent significance level. Similarly, the maximum Eigenvalue test as display in Table 4.4.2 above statistics also identified one co-integrating

equations at the 5 percent level of significance. It therefore implies that long-run relationship existed among gross domestic product and the tax revenue variables.

Error Correction Model (ECM)

Co-integration is a prerequisite for the error correction mechanism. Since co-integration has been established, it is pertinent to proceed to the error correction model.

Table 4.5 Result of the Error Correction Model (ECM) Dependent Variable = d (GDPPC)

Variable	Coefficient	Standard Error	t-statistics	Probability Value
C	0.072458	0.031938	2.268736	0.0334
DLOG(CED)	-0.004304	0.015300	-0.281310	0.7811
DLOG(PPT)	-0.028453	0.043115	-0.659924	0.5162
DLOG(VAT)	0.286599	0.113376	2.527870	0.0192
DLOG(CIT)	0.251432	0.095956	2.620279	0.0156
ECM(-1)	-6.93E-06	2.64E-06	-2.623851	0.0155
R² =0.412412	R² =0.278869	f-statistics =3.088242	Prob (F- Statistics = 0.029224	DW =1.619357

Source: Authors' Computation using E-View 10.0

The ECM equation shows that Custom and Excise Duties (CED) has a negative and insignificant relationship with GDP. The negatively signed coefficient of CED contradicts the a priori expectation. A unit increase in CED consequently means that GDP falls by **0.004304** units. The findings suggest that Custom and Excise duties has not been beneficial to Nigeria and that it does not play much of an important role in economic growth process of Nigeria. Petroleum Profit Tax (PPT) exerts an insignificant negative impact on GDP. The negative sign goes at variance with the a priori expectation though not statistically significant. A unit increase in PPT leads to a decrease in GDP by **0.028453** units. This implies that Petroleum Profit Tax (PPT) has a negative impact on economic growth of Nigeria. Value Added Tax (VAT) is in conformity with the a priori expectation is positively related to GDP and it is statistically significant. A unit increase in VAT revenue leads to **0.286599** units increase in GDP. This implies that as revenue from VAT increases, Economic Growth increases. Company Income Tax (CIT) has a positive relationship with GDP, thus conform to the a priori expectation and also it is significant on GDP. The implication of CIT connotes that the more revenue generated from Company Income Tax increases the economic growth is boosted.

The coefficient of ECM (-1) is significant with the appropriate negative sign. Its coefficient of **-6.93E-06** means that the present value in GDP adjusts rapidly to previous changes in tax revenue.

The R² in the ECM shows that the exogenous variables in the ECM equation explains **41%** of total variation or changes in GDP and the remaining **59%** is accounted for by factors outside the model. Also, the F-Statistic of **3.088242** the ECM with its probability value of **0.029224** provides basis to logically conclude that the overall result obtainable in ECM is statistically significant.

Discussion of Finding

The short-run estimation of the ECM model it was revealed that CED had a negative and insignificant impact on GDP in Nigeria. The finding is in contrast with the studies carried out by Asaolu et al (2018) in which they found out that a positive and significant relationship existed between CED and Gross Domestic Product in Nigeria. In the same vein, Inimino et al (2018); and Abomaye-Nimeniboet al (2018) in their studies also revealed that a significant relationship existed between CED and Gross Domestic Product in Nigeria.

Similarly, it was also established the PPT had a negative and insignificant impact on GDP in

Nigeria. The finding is in line with the study carried out by Abomaye-Nimenibo et al (2018) which established no significant relationship between PPT and GDP in Nigeria. This study is however, in contrast to the studies carried out by Ibadin and Oladipupo (2015); Amos et al (2017) in which they confirmed that a positive and significant relationship existed between PPT and economic growth in Nigeria.

However, VAT was found to have a positive and significant impact on Gross Domestic Product in Nigeria. From the analysis of the output of the short-run regression result of the ECM model, it was found that VAT had a positive and significant impact on GDP in Nigeria. It implies that Value Added Tax has a significant impact on economic growth in the country. This revelation is in line with the study carried out by Ofishe (2015); Ibadin and Oladipupo (2015); Asaolu et al (2018); Yusuf et al (2018) were they established a positive and significant relationship between VAT and economic growth in Nigeria. This submission could be attributable to the fact that value added tax is a tax that is difficult to evade and avoid by tax payers. It therefore means that proper administration of value added tax in the country will lead to economic growth in both the short-run and in the long-run. In contrast, Madugba and Joseph (2016); Okoror and Onatuyeh (2018) established that a negative relationship exists between Value Added Tax and economic growth in the country.

Finally, CIT was found to have a positive and significant impact on Gross Domestic Product in Nigeria in the short-run. This result is in line with the findings of Amos et al (2017) which established that a positive and significant relationship existed between Company Income Tax and economic growth in Nigeria. In contrast, Asaolu et al (2018) study confirmed a negative and significant relationship between CIT and economic growth in Nigeria.

The study revealed that a long-run relationship existed between tax revenue and economic growth in Nigeria. Ofoegbu et al (2016) confirmed that a positive and significant relationship existed between tax revenue and economic development in Nigeria. This is in line with similar studies which confirmed that there were long-run relationship between tax revenue, economic growth and development in the country (Ofoegbu et al, 2016), (Worlu and Emeka, 2012); Ibadin, and Oladipupo, 2015; Ayeni et al 2017; Okonwo and Chukwu, 2019. However, the large amount of tax revenue collected over the years does not really reflect on the infrastructural and human development in Nigeria. It could be that the tax revenue either generated by the government is not judiciously used for the infrastructural and human development purpose or there is much less population paying taxes in the country.

This may be partly, attributable to lack of transparency and accountability in the management of revenue derived from taxation on one hand and tax evasion and avoidance by the tax payers, tax official corruption on the other hand. Lack of fiscal discipline among government officials saddled with the responsibilities of implementing government developmental policies and programmes may also attribute to the poor state of economic growth and development in the country.

Conclusions

is one of the sure means of generating revenue by government all over the world. Government will be able to finance and execute crucial infrastructural projects that will propel the economy in the paths of growth and development when funds are readily available for the governments. Finding from the study revealed that there is both short-run and long-run relationship between taxation and economic growth in Nigeria. Specifically, CED, PPT, VAT and CIT are major source of revenue that could revamp the Nigeria economy in the paths of growth. If tax laws and policies are reviewed and updated in line with current realities, faithfully implemented and revenue realized are judiciously and transparently utilized on basic infrastructural that can stimulate economic activities in the country then

Nigeria will be a better Nation. From the findings of the study, the following recommendations were made:

✓ Government should increase excise duty on tobacco and alcohol so as to boost revenue generation in the country.

✓ Government should monitor daily output of companies engaged in the petroleum operations in order to determine their actual output for the year in ascertaining their taxable profit as most companies under declare their profit.

✓ The petroleum tax law and policies should be review and updated to current realities as some of the provisions provide an escape route for oil companies to evade the payment of their tax obligations thereby reducing revenue that would have been available for economic growth and development of the country.

✓ Government should expand the VAT to the informal sector as taxable individuals and businesses hid under the informal sector to evade the payment of their taxes. Likewise, government should block all identified administrative loopholes and update the VAT Act to accommodate the changes that was introduced in the Finance Act of 2020 to reflect current realities. Besides, government should gradually shift to indirect form of taxation as it is difficult to evade and less costly to administer. Provisions of tax shelters and tax incentives in the company income tax Act should be scrutinize and amended in order to reduce or eliminate loopholes capitalized by companies to evade and avoid the payment of their taxes.

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