

Tax Revenue and Nigeria Economic Growth

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Abstract

This study examines the relationship between Tax Revenue and Nigeria Economic Growth. In order to achieve this objective, data was gathered through secondary means. Tax Revenue is proxy by Petroleum Profit Tax, Value Added Tax and Companies Income Tax, while Economic Growth is proxy by Gross Domestic Product. Data collected were analyzed with the aid of the Stata computer software. The study revealed that Petroleum Profit Tax (oil tax revenue) has a positive but no significant relationship with Nigeria Economic Growth, while Value Added Tax and Companies Income Tax (non-oil Tax Revenue) have significant relationship with Nigeria Economic Growth. The study recommends that government should minimize the wide spread corruption and leakages prevalent in tax administration in Nigeria, and transparently and judiciously account for tax revenue generated through the provision of more quality public goods and services, and need not to increase the rates of Value Added Tax and Companies Income Tax in the short run, but to closely monitor the operations of companies engaged in petroleum operations to minimize tax evasion, and as well as support the development of entrepreneurial activities in order to significantly increase Tax Revenue so as to sustain the significant relationship of VAT and CIT (non-oil tax) revenue with Nigeria Economic Growth.

Keywords: Tax Revenue, Economic growth, Company Income Tax, Value Added Tax.

Introduction

The necessity for taxation emanated from the need for government to provide essential amenities for societal growth and development. This will enable the government to effectively superintend human affairs in a given geographical space. The government will need financial and material resources to carry out its functions which include the provision of basic amenities of life such as good roads, pipe borne water, electricity, health facilities as well as security over lives and property.

Osita (2004) described taxation as the most important source of government revenue from the view point of certainty, consistency, and reliability. The Nigerian Government has over depended on the oil sector of the economy for most of its revenue since the mid 1970's, despite the unreliable and fluctuating nature of oil prices in the international oil market. According to Ariyo (1993), this development has led to the neglect of other revenue sources like non-oil tax, Agriculture and solid minerals, and also that the advent of oil boom in Nigeria encouraged laxity in the management of non-oil sources of Government revenue, leading to a sustained reduction of non-oil revenue to the government over the years. This has culminated in persistent shortage of government revenue to fund its obligations to stimulate economic growth, thereby leading the country into economic recession in 2016 and the attendant socio-economic crisis.

According to Hendrik (2001), economic growth involves increasing the capacity of the economy to satisfy the wants and needs of inhabitants of a nation, and also 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 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.

. The Economic Recovery and Growth Plan (ERGP, 2017) believes that the economic growth recorded during 2011-2015 which averaged between 4.8% per annum was mainly driven by high oil prices, and was largely non-inclusive. Continuing, this document (ERGP, 2017) maintains that "majority of Nigerians remain under the burden of high poverty, inequality and unemployment". In the opinion of the growth plan document, this unfavourable economic scenario may be due largely to the seeming lack of critical investments in agricultural production and food security, infrastructural development; power and energy provision, roads and rail construction, industrialization, education and critical skills acquisition, solid minerals development, the provision of good quality health care for a healthy work force, as well as high corruption and mismanagement of public finance, thereby leading to a positive but jobless economic growth trajectory.

The Economic Recovery and Growth Plan (2017) document believes that after more than a decade of economic growth, the sharp and continuous decline in crude oil prices since mid-2014, along with a failure to diversify the sources of government revenue and foreign exchange in the economy, led to economic recession in 2016. The capacity of government spending to stimulate economic growth was equally constrained, especially due to lack of fiscal buffers to absorb the shock, thereby culminating in the resultant socio-economic crises that accompanied the economic recession in the country.

As the functions of government increases especially in a modern economy, government's revenue to finance its obligations must necessarily increase. Thus the need for more certain, consistent, reliable and diversified sources of government revenue in Nigeria (such as Value Added Tax Revenue and Companies Income Tax Revenue) can therefore not be overemphasized. According to the Federal Ministry of Economic Planning in their Economic Recovery and Growth Plan (ERGP, 2017), following the crash in the price of crude oil in the international market, where crude oil sells well below \$120 per barrel, coupled with decline in oil production on account of militant activities in the Niger Delta, government's financial position has decreased to low levels, and consequently hampering the spending capacity of the government on critical investments in Agricultural production and food security, infrastructural development; power and energy provision, roads and rail construction, industrialization, education and skills acquisition and employment generation, thereby plunging Nigeria's economy into a recession in 2016 with its attendant socio – economic crisis on the country's economy.

From the empirical review in this study, it came to light that previous researchers such as Chude and Chude (2015), as well as Afuberoh and Okoye (2014) did not clearly bring out the relationship of the variables (VAT, PPT and CIT) in the Nigeria economic growth. Secondly, most of the research work on this topic stopped between 2015 and 2016, and therefore does not include the most recent data on this topic. Due to the economic reality of today, the scope of the study will cover up to 2017. This study will also provide clear analysis for appropriate identification of the relationship of the variables (VAT, PPT and CIT) and Nigeria Economic growth through the use of the Stata Econometrics computer software package. By so doing, this study will help to close the gap earlier identified in the works of previous researchers.

The study therefore examines the relationship between tax revenue and Nigeria's economic growth. The specifically the study assesses the relationship between Value Added Tax (VAT) revenue, the relationship between Petroleum Profit Tax (PPT) revenue, the relationship between Companies Income Tax (CIT) revenue and Nigeria's economic growth. The paper hypothesizes that:

H₀1: Value Added Tax (VAT) revenue has no significant relationship with Nigeria's economic growth.

H₀2: Petroleum Profit Tax (PPT) revenue has no significant relationship with Nigeria's economic growth.

H₀3: Companies Income Tax (CIT) revenue has no significant relationship with Nigeria's economic growth.

Literature Review

Conceptual Clarification

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.

The Kaldor Model of distribution

In this economic growth model, Kaldor postulates that the saving-income ratio is variable in the growth process. Here, Kaldor based economic growth on the classical saving function which implies that savings equals the ratio of profits to national income. This is given by: $S = P/Y$

The Pasinetti Model of Profit and Growth.

This economic growth model is an extension of the Kaldor model of distribution by incorporating worker's profits as returns on their savings. This shows that there exists a distribution of income between profit and wages, thereby keeping the system in long run- equilibrium.

Joan Robinson's Model of Capital accumulation.

In her book, "The Accumulation of Capital", Joan Robinson builds a simple model of economic growth based on the capital rules of the game. In this model, net national income is the sum of the total wage bill plus total profits which is expressed thus: $Y = WN + PK$

Meade's Neo-Classical Model of economic growth.

In this model, professor Meade constructed a neo-classical model of economic growth that is designed to indicate the way in which the simplest form of economic system behave during a process of equilibrium growth. Here, the net output produced depends on four factors. These include: The net stock of capital available in the form of machines, the amount of labour force available, the availability of land and natural resources, the state of technological knowledge which continues to improve over time.

Petroleum Profit Tax (PPT) and Nigeria's Economic Growth

Odusola (2006) documented that Petroleum Profit Tax (PPT) is a tax applicable to upstream operations in the oil industry. He continued that PPT is particularly related to rents, royalties, margins, and profit sharing elements associated with oil mining, prospecting and exploration leases. According to the definition of the Petroleum Profit Tax Act (PPTA), Petroleum operations essentially involve petroleum exploration, development, production and sale of crude oil.

The importance of Petroleum Profit Tax (PPT) to Nigeria's economic growth cannot be over-emphasized. Ogbonna (2011) documented that Nigeria's petroleum industry constitutes a major source of revenue to the government, and occupies a strategic position in the economic growth of Nigeria. According to Onaolopo, Fasina and Adegbite (2013), Petroleum Profit Tax (PPT) is the most important tax in Nigeria in terms of its share of total revenue, contributing 95% and 70% of foreign exchange earnings and government revenue; and the importance of foreign exchange to Nigeria's import-dependent economy cannot be over-emphasized. Onaolapo, Fasina and Adegbite (2013) continued that the petroleum industry is the largest generator of Gross Domestic Product (GDP) in Nigeria, which is Africa's most populous nation, and contributed to national economic growth in varied ways through employment generation, income generation, industrialization, as well as improvements in other economic variables.

However, Ogbonna (2009) expressed the opinion that the administration of Petroleum Profits Tax in Nigeria has mainly been focused on revenue generation to the detriment of stimulating economic growth and development of the country.

Value Added Tax (VAT) and Nigeria's Economic Growth

Okoye and Ani (2004), defined VAT as "an indirect form of taxation based on the general consumption behaviour 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.

Companies Income Tax and Nigeria's Economic Growth

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 favourable 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. Achievement of favourable 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.

Empirical Review

Many empirical studies have been carried out on the contribution of taxes to government revenue generation and Nigeria's economic growth. For instance, Cornelius, 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 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 analyse 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.

Umoru and Anniwe (2013) examined the effect of tax structure on Nigeria's economic growth. The researchers employed co – integration and error correction methods of empirical estimation to analyse their data. They came out with the conclusion that direct taxation is significantly and positively corrected with economic growth, while indirect taxation had significant negative impact on economic growth. On the basis of the empirical analysis, the study concluded that petroleum profit tax is one of the most important direct taxes in Nigeria that affects the economic growth of the country and should therefore be properly managed to reduce the level of evasion by petroleum exploration companies in Nigeria. The study recommended among others that companies involved in petroleum operations should be properly supervised by the relevant tax authority (FIRS) to reduce the level of tax evasion; government should show more accountability in the management of tax revenue and finally, the level of corruption in Nigeria and that of government officials should be drastically reduced to win the confidence of tax payers for voluntary tax compliance, thereby increasing government tax revenue.

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.

Theoretical Framework

Harrod-Domar theory of growth

The Harrod-Domar theory of economic growth assigns a key role to investment in the process of economic growth. It places emphasis on the dual character of investment to facilitate economic growth. In the first instance, it creates income, and secondly, it augments the productive capacity of the economy by increasing its capital stock. In this model, as long as net investment is taking place, real income and output will continue to expand. However, in order to maintain full employment equilibrium level of income from year to year, it is important that both real income and output should expand at the same rate at which productive capacity of the capital stock is expanding.

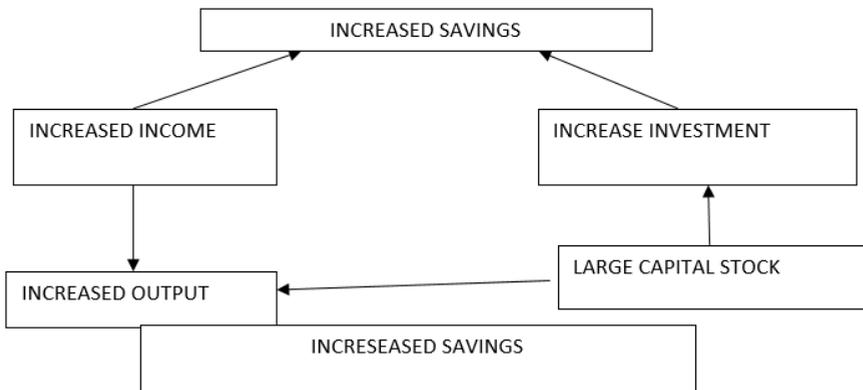


Figure. 2.1 Harrod-Domar Economic Growth Model

The Harrod-Domar Economic growth model above suggests that the rate of a nation's economic growth depends on the level of savings, productivity of investment, as well as the amount of capital employed.

This study is anchored on the Keynesian theory of taxation. This is due to the fact that if high taxes are not imposed, it will lead to shortage of government revenue, thereby impeding the ability of government to effectively meet its obligations to citizens. Such a scenario is capable of creating socio – economic crisis and the resultant adverse consequences in the economy.

Methodology

The study examines Effect of Tax Revenue on Economic growth in Nigeria. The explanatory research design was used for this study. This is because this study is considered explanatory in nature, as it seeks to explain the relationships between tax revenue and economic growth This study focuses on all the tax data on economic growth in Nigeria between 2003 and 2017 as provided by the federal Inland Revenue service.

Secondary data was obtained from the office of the Federal Inland Revenue Service (FIRS), Abuja, and the annual report of the Central Bank of Nigeria (CBN), office of the National Bureau of Statistics, Abuja, as well as academic and professional publications. Upon completion of data collection, combinations of both descriptive and inferential statistics were employed as methods of data analysis. The regression analysis was conducted using the stata computer software package. The reasons for employing this software package are because time series data are employed for this research. It enhances the quality of the data, data becomes more variable, more degree of freedom and it reduces and eliminates bias in the data (Baltagi, 2005). Since multivariate regression is used to test the hypotheses, assumptions of multi co-linearity, normality and linearity were also tested. The Pearson correlation matrix is used to test the multi collinearity assumption while Multivariate regressions for the model were conducted for the year (2003-2017).

Operationalization of Variables

The variables for this study are divided into two (2), the independent variables and dependent variables. All these variables are included in the framework designed by the researcher. See below the framework for this study in figure 3.1

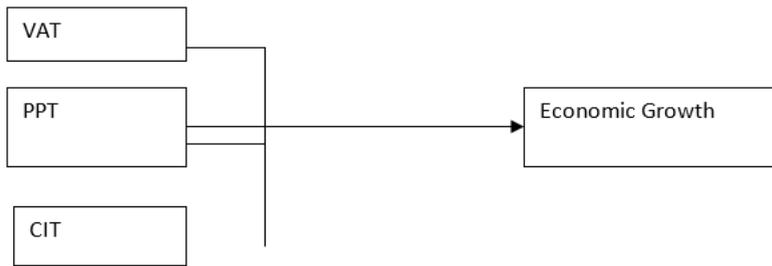


Figure 3.1 research Framework

Table 3.1

Operationalization/ Justification of variables

Variables	Acronyms	Operationalization	Sources
Value Added Tax	VAT	Value added tax	Adesina (2011)
Petroleum Profit Tax	PPT	Petroleum profit tax	Okafor (2012)
Companies Income Tax	CIT	Company income tax	Akwe (2012)
Economic Growth	GDP	Gross domestic product	Owolabi and Okwu (2011)

Sources: Researcher, 2018

Explanatory Variables

The explanatory variables for this research work include:

VAT - Value Added Tax

PPT - Petroleum Profit Tax

CIT- Companies Income Tax

GDP - Gross Domestic Product

μ - Error Term or Stochastic Variable

Tax Revenue (proxy by VAT, PPT & CIT) is the independent variable

Economic Growth (proxy by GDP) is the dependent variable

Model Specification

The functional relationship between tax revenue and Nigeria's economic growth is expressed thus:

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

$$\text{GDP} = f(\text{VAT}, \text{PPT}, \text{CIT})$$

$$\text{GDP} = B_0 + B_1\text{VAT} + B_2\text{PPT} + B_3\text{CIT} + \mu_t$$

Unit of Analysis

The unit of analysis is very important in the determination of sample, instruments and of data collection. Aggregation of the data collected during the succeeding data analysis period is called unit of analysis (Sekaran, 2000). Furthermore, Sekaran (2000) stated that the unit of analysis can be individuals, groups, division, industries, organization or countries. This study uses only data from Tax regulatory body and National Bureau of statistics in Nigeria as unit of analysis. The justification for adopting this method is as a result of secondary data employed for this research.

Results and Discussion

The study uses VAT, PPT, and CIT to indicate tax revenue and Gross Domestic Product as proxy for economic growth for the period of 2003 to 2017 (that is 15 years). Table 4.1 presents the figures of Gross Domestic Product (GDP), Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Companies Income Tax (CIT) in Nigeria for the period of Fifteen (15) years (2003 – 2017).

Table 4.1 Data for the research in Billions

Year	GDP	VAT	PPT	CIT
2003	33,004,796.34	136,411,195,482.82	432,604,082,464.54	114,773,549,268.15
2004	36,057,737.78	163,297,644,060.50	878,625,818,385.40	130,791,877,049.62
2005	38,378,796.06	192,656,500,238.13	1,352,240,333,801.02	170,303,596,128.54
2006	40,703,681.36	232,697,196,045.77	1,349,522,480,302.02	246,671,752,648.75
2007	43,385,877.08	314,545,459,426.06	1,132,039,173,131.73	332,443,891,962.36
2008	46,320,014.94	401,736,686,467.03	2,060,883,883,648.70	420,582,988,206.56
2009	50,042,360.65	481,407,349,067.46	939,412,237,977.13	600,590,101,017.74
2010	54,612,264.18	564,892,034,367.62	1,480,363,895,241.91	666,132,500,585.70
2011	57,511,041.77	710,555,190,249.19	3,070,591,156,709.50	715,441,977,939.77
2012	59,929,893.04	802,964,773,457.72	3,201,319,571,023.34	846,591,938,812.83
2013	63,218,721.78	767,333,425,892.48	2,666,366,902,994.02	998,436,121,814.50
2014	67,152,785.84	802,964,773,457.72	2,454,064,276,673.66	1,204,833,776,449.03
2015	69,023,929.94	767,333,425,892.48	1,289,960,879,877.01	1,408,432,864,503.65
2016	67,931,235.93	828,199,394,271.89	1,157,808,090,922.32	1,124,721,669,907.67
2017	68,496,917.93	972,348,407,529.22	1,520,481,810,364.95	1,262,009,217,165.73

Source: FIRS, Abuja and National Bureau of Statistics, Abuja. (2003-2017). Note: for the analysis, Natural log of each numbers were used.

Descriptive Statistics of Variables

Table 4.2 presents the descriptive statistics of continuous variables. The variables are Gross Domestic Product, Value Added Tax, Petroleum Profit Tax and Companies Income Tax in Nigeria. Economic growth is proxy using the Gross Domestic Product (GDP). The data analysis was conducted with the aid of Stata computer software. This is so because it makes data to become more robust and informative.

Table 4.2: Descriptive Statistics Analysis of the Variables

Variables	Mean	Min.	Max.	SD
GDP	7.71	7.52	7.83	.110
VAT	11.65	11.13	11.98	.289
PPT	12.16	11.63	12.51	.232
CIT	11.71	11.05	12.14	.370

Note: N=15, GDP=Gross Domestic product, VAT= Value Added Tax, PPT= Petroleum Profit Tax and CIT= Companies Income Tax. Min= Minimum, Max= Maximum and SD = Standard deviation. Source: Researcher's Computation(2018)

The results in table 4.2 show the descriptive statistics for the overall data set. Measures of central tendency; mean was used to summarize the data, while standard deviation tested the degree of dispersion among the variables under investigation. GDP, VAT, CIT and PPT value for the period of 2003-2017, showed a mean of 7.71, 11.65, 12.16 and 11.71, with their standard deviations of .110, .289, .232, and .370 respectively. All the distributions were positively skewed, indicating that they are not

symmetrically distributed. The Kurtosis values of the distributions indicated that they are not normally distributed. To ensure that the data for this study were fit for the study, the stationarity test was carried out on the data.

Table 4.3: Result Summary of Unit Root Test

Trend and Intercept at 5%, and 10% level of significance

Variables	ADF Statistic	Test 1% critical values	5% critical values	10% critical values	Order	Remarks
LGDP	-1.584426	-4.0113	-3.1003	-2.6927	1(0)	Stationary
LVAT	-1.484133	-4.0113	-3.1003	-2.6927	1(0)	Stationary
LPPT	-1.180389	-4.0113	-3.1003	-2.6927	1(0)	Stationary
LCIT	0.173195	-4.0113	-3.1003	-2.6927	1(0)	Stationary

Source: Researcher's Computation (2018)

The results of the unit root test using Augmented Dickey –Fuller at 1%, 5%, and 10% level shows that all the time series variables are stationary at levels. This shows that the findings of the study will be reliable in explaining the relationship between tax revenue and Nigeria's economic growth. Following the result of the stationarity test above, the study adopts the technique of ordinary least squares for the regression analysis. This is based on the premise that, all the variables in the data set are robust and can yield best linear unbiased estimates.

Diagnostic Tests for Multiple Regression Analysis

Before the commencement of regression analysis, the basic assumptions in multiple linear regressions using stata are checked. These assumptions include, multicollinearity, normality and outlier

Multicollinearity

This form of normality test of data distribution inspection focuses on the degree of the relationship that exists between independent variables. A serious multicollinearity and correlation between the independent variables exists when the correlation is above 0.86, and this is insignificant in this study. (Hair et al 2010). See table 4.4

Normality

It is important to test for normality of variables across two or more variables (Coakes and Ong, 2011; Pallant, 2003). In order to uphold the assumption of normality in respect of data distribution, normality is one of the pre-requisite for multivariate analysis. If this is neglected it can lead to misleading relationship between the variables under investigation and hence distort the findings of the research (Gujarati, 1995). However, normal P-P plot was used in this study to test for normality as suggested by some previous scholars. For example, Hair et al., (2010) delineate normal p-p plot and histogram as graphical representation of data distribution that enhance visual inspection at a glance. This study adopts normal P-P plot to check for the distribution of the data. See appendix 2 for P-P results.

Outliers

Outliers are unusual observations present in a set of data with extreme values that differ from the rest of the data (Karioti, 2007). It can also be referred to as observation with extreme values which are different from other observation in the same category. It does not strongly influence the estimated slope of the regression line but could adversely affect the model fit and estimated error (Latin, Douglas, and Green 2003) and leads to wrong conclusion and inaccurate prediction. When outliers are identified, the next consideration is either to delete or to retain the outlier. However, for the current study, the robust regressions were used because this method gives less weight to outliers and also check the robustness of the model (Hair et al., 2010).

Correlation Matrix of Variables

The Pearson correlation matrix in this research is presented in the Table 4.4. Generally, all correlations between independent variables are less than 0.86, thus it is said that there is no issue of multicollinearity. The current study posits absence of multicollinearity. See Table 4.4

Table 4.4 Correlation Matrix of Variables

Variables	GDP	VAT	PPT	CIT
GDP	1.000			
VAT	0.782	1.000		
PPT	0.608	0.671	1.000	
CIT	0.990	0.686	0.603	1.000

Note * $p < .10$, ** $p < .05$, *** $p < .1$. following Hair Et al 2006, the acceptable level of correlation is 0.86 and bellow. Any variable above this acceptable level posit presence of multicollinearity.

The study hypotheses were tested using Discriptive statistics. The results is presented in table 4.4 to 4.5

Ho1: H₀1: Value Added Tax (VAT) revenue has no significant relationship with Nigeria's economic growth.

Table 4.5 Multiple regression summary Result

Variables	Coefficient	Std. Error	t-statistic	Prob.
C	3.082	918	33.55	0.000
VAT	0.000	5.60	2.96	0.013*
PPT	05.845	6.66	0.88	0.399
CIT	0.000	3.23	5.57	0.000***

R² = R-squared 0.9903

Adjusted R² = 0.901696

Prob > F = 0.0000

Note * $p < .10$, ** $p < .05$, *** $p < .01$

Table 4.5 presents the results of multiple regression analysis between the tax revenue variables and economic growth with the corresponding coefficient, t-value and the probability value (P-value). The model was produced to capture their relationship. The detailed diagnostic test is as follows, R² = 99% and probability = 0.000. The result in the model shows a robust result as there is significant positive relationship from the model. The calculated t-statistics: df at 45 at 0.05 level of significance ranges from- 2.021 to + 2.021.

From the result on table 4.5 presents that Value Added Tax revenue is indicated by a critical t-statistics value of 2.96 which is more than the calculated t-statistics value of 2.021 at 0.05 level of significance, which shows that VAT revenue has significant relationship with Nigeria economic growth. Based on the result, the null hypothesis is rejected and the alternate hypothesis is accepted to the effect that Value Added Tax (VAT) revenue has significant relationship with Nigeria's economic growth.

Ho2: Petroleum Profit Tax (PPT) revenue has no significant relationship with Nigeria's economic growth.

From the result on table 4.5 it can be seen that Petroleum Profit Tax revenue has no significant relationship with GDP in Nigeria, but somewhat positive relationship G.D.P. (Petroleum Profit Tax (PPT) coefficient = 05.845, t-value = (0.88). It is such that a unit rise in Petroleum Profit Tax causes a 0.58-unit stagnation in the Gross Domestic Product (GDP). Likewise, it can be seen that Petroleum Profit Tax is indicated by a critical t-statistics value of 0.88 which is less than the calculated value of 2.021, at 0.05 level of significance. This shows that there is no significant relationship between PPT and Nigeria's economic growth. Based on the results, the null hypothesis is accepted, while the alternate hypothesis is rejected to the effect that Petroleum Profit tax (PPT) revenue has no significant relationship with Nigeria economic growth.

Ho3: Companies Income Tax (CIT) revenue has no significant relationship with Nigeria's economic growth.

The result on table 4.5 revealed that Companies Income Tax revenue has a positive and significant impact on the GDP in Nigeria (Companies Income Tax (CIT) coefficient = 0.000, t-value = 5.57). It is such that a unit rise in Company Income Tax causes excellent performance of Gross Domestic Product (GDP). Likewise, it can be deduced that Companies Income Tax revenue is indicated by a critical t-statistics value of 5.57 which is more than the calculated value that ranges between - 2.021 to +2.021 at 0.05 level of significance. This shows that there is a significant relationship between CIT revenue and Nigeria's economic growth. Based on the results, the null hypothesis is rejected and alternate hypothesis is accepted to the effect that Companies Income Tax (CIT) revenue has significant relationship to Nigeria's economic growth.

Generally, pulling all the tax variables together, it can be observed that tax revenue has significant relationship with Nigeria's economic growth with a R² value of 0.99, indicating a 99% relationship with Nigeria's economic growth. This shows that tax revenue is important to Nigeria's economic growth. Table 4.5 below presents the summary of hypotheses tested:

Table 4.6 : Summary of Hypotheses Tested

Hypotheses	Expected Result	Achieved Result	Decision
Value Added Tax (VAT) revenue has no significant relationship with Nigeria's Economic growth	Positive	Positive	Supported
Petroleum Profit Tax (PPT) revenue has no significant relationship with Nigeria's Economic growth	Positive	Not Significant	Not supported
Companies Income Tax (CIT) revenue has no significant relationship with Nigeria's Economic growth	Positive	Positive	Supported

Discussion of Findings

The study shows that Value Added Tax (non-oil) tax revenue has positive significant contribution to Nigeria's economic growth. This finding is in line with the government's drive to improve economic growth and revenue generation through improved management of taxes in Nigeria. The finding is in consonant with the discovery of Izedonmi and Okunbor (2014) whose findings showed that VAT Revenue had significant relationship with Nigeria's GDP.

It was also discovered that Petroleum Profit Tax (PPT) revenue has no significant relationship with Nigeria's economic growth. The finding is in line with the findings of Madugba, Ekwe, and Kalu, (2015) that discovered a negative relationship between Petroleum Profit Tax and Nigeria's economic growth.

Finally, findings from this study revealed that Companies Income Tax (CIT) revenue has positive significant relationship with Nigeria's economic growth. The finding supports the discovery of Cornelius, Ogar and Oka (2016), whose findings revealed that there is positive significant relationship between (CIT) revenue and Nigeria's economic growth.

Conclusion and Recommendations

This study examines the relationship between Tax Revenue and Nigeria's Economic growth. The specific objectives of this study include to: assess the relationship between Value Added Tax (VAT) revenue and Nigeria's Economic growth, examine the relationship between Petroleum Profit Tax (PPT) revenue and Nigeria's Economic Growth .and ascertain the relationship between Companies Income Tax (CIT) revenue and Nigeria's Economic growth.

In order to achieve the objectives of this study, secondary data covering the period from 2003 to 2017 was obtained from the Federal Inland Revenue Service (FIRS) Abuja, as well as National Bureau of statistics, Abuja. Tax revenue is the independent variable, while Economic Growth is the dependent variable. Tax revenue (independent variable) is proxy by Petroleum Profit Tax (PPT), Value Added Tax (VAT) and Companies Income Tax (CIT). Economic growth (dependent variable) is proxy by Gross Domestic Product (GDP). Regression analysis was carried out on the data collected with the aid of Stata Econometrics computer software package.

From the data presented and analyzed, it was discovered that Petroleum Profit Tax (oil tax) revenue has no significant relationship with Nigeria's economic growth. This may be as a result of over dependence of Nigeria economy on crude oil. It was also discovered that Value Added Tax and Companies Income Tax (non-oil tax) revenue have significant relationship with Nigeria's economic growth.

Based on the findings of this study, it is hereby concluded that Petroleum Profit Tax (oil tax) revenue has no significant relationship with Nigeria's economic growth. This is as the result of over dependence of government developmental effort on the oil sector. However, PPT demonstrated positive non-significant relationship to G.D.P. This is an indication that the contribution of PPT revenue in Nigeria cannot be over ruled. On the other hand, Value Added Tax and Companies Income Tax (non-oil tax) revenue have positive significant relationship with Nigeria's economic growth. This is an indication that consumers of good and services should be encouraged to pay VAT.

From the findings, the study made the following recommendations: The Federal Government should drastically minimize, or find ways and means of totally eliminating the leakages prevalent in petroleum profit tax administration in Nigeria, and should as well as transparently and judiciously account for revenue generated from petroleum profit tax through the visible provision of more quality infrastructures and public goods and services across the country in order to substantially increase government revenue. This is because, the more the revenue from petroleum profit tax is effectively and efficiently utilized by the federal government to aid growth, employment opportunities and wealth creation, the more tax payers will be willing to discharge their tax obligations, thereby increasing tax revenue to the government. Companies involved in petroleum operations should also be closely monitored by the Federal Inland Revenue Service (FIRS) to reduce the level of tax evasion so as to increase the amount of government revenue from PPT source. The Federal Government should make effort to increase the tax base rather than to increase the rate of Companies Income Tax so as to substantially improve revenue receipts from CIT source, prevent limited liability companies from distributing dividends to their shareholders pending when all outstanding tax liabilities are settled, and government should as well as support entrepreneurial development in Nigeria by fixing the country's electricity infrastructure problems, so as to increase electricity power supply to industries and Small and Medium Enterprises (SMEs).

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