Capital Expenditure and the Impact of Taxation on Economic Growth in Nigeria

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Abstract: This study examined the relationship among capital expenditure, taxation and economic growth in Nigeria. The main objective is to establish the extent to which capital expenditure relate with economic growth as posited by Wagner and to determine the nexus between taxation and economic growth. The specific objective is to evaluate the long run relationship among Petroleum Profit Tax (PPT), Company Income Tax (CIT), Value Added Tax (VAT), capital expenditure and economic growth based on time series data (1989-2019). The study was established on Wagner's (1883) Law of Ever-Increasing State Activities and Friedman Revenue Theory (1978). Secondary data were obtained from Federal Inland Revenue Services and Central Bank of Nigeria Statistical Bulletin. The Study adopted the descriptive analysis, regression, ARDL Cointegration test and error correction model.   The results confirmed the existence of relationship among capital expenditure, PPT, CIT, VAT and real gross domestic product. The result indicated that in the long run capital expenditure and PPT had positive significant effect on economic growth while CIT and VAT had negative relationship with economic growth. It was also discovered that there was a causality running from capital expenditure to economic growth to support Wagner and that there was a causality running from taxation to economic growth according to Friedman. It is recommended that government should enhance fiscal synchronization, that is, decisions about capital expenditure and taxation should be made simultaneously to enhance economic growth.

Keywords: Company Income Tax, Capital Expenditure, Gross Domestic Product, PetroleumProfit Tax, ValueAddedTax,

I.   Introduction

Taxation is a major source of government revenue all over the world and governments use its proceeds to render their traditional functions, such as: the provision of goods, maintenance of law and order, defense against external aggression, regulation of trade and business to ensure social and economic maintenance (Edame&Okoi, 2014). A system of tax avails itself as a veritable tool that mobilizes a nation's internal resources and it lends itself to creating an environment that is conducive for the promotion of economic growth (Ayuba, 2014). Therefore, tax plays a major role in assisting a country to meet its needs to promote self-reliance. The need for tax payments has been a phenomenon of global significance as it affects every economy irrespective of national differences (Oboh& Isa, 2012).

The level of tax to be paid by the citizens and the items to be taxed is determined by the government. Such decision according to Ngerebo and Masa (2012) is based on the cost of the projects or programmes government intends to execute, which is the principal determinant of the budget size. Government also judges the basis, rates, the category of citizens, and the time period to pay the tax, on the direction of the economy desired and government's perception of the standard of living of the citizens. Taxes therefore affect the expenditure size of government, the productivity and level of

activities of businesses, the consumption pattern of individuals, the propensity to save and invest and the growth path of the economy (Al-Yousif, 2017).

In Nigeria, the incidence of tax evasion and avoidance by tax payers is high, leading to low level of government revenue which further reduces the level of government expenditure, culminating into a reduction in the income savings and expenditure of households and firms, leading to low level of economic activities and economic growth (Fagbemi, 2015). Government needs money to be able to execute its social obligations to the public and these social obligations include but not limited to the provision of infrastructure and social services. According to Murkur and Olugu (2013), meeting the needs of the society calls for huge funds which an individual or society cannot contribute alone and one medium through which fund is derived is through taxation.

In Nigeria, this important role of taxation lacks in our system. Oboh and Isa (2012) noted that the system is lopsided and dominated by oil revenue, that over the past two decades, oil revenue has accounted for at least 70per cent of the revenue, by implication traditional tax revenue has never assume a strong role in the country's management fiscal policy. Folster and Henrekson (2011) observed that government capital expenditure is the expenses incurred by the government for the infrastructural development, the economy and the society at large and taxation plays the key role in this revenue mobilisation and capital expenditure financing.

The increasing cost of running government coupled with dwindling revenue has left government in Nigeria with formulating strategies to improve the revenue base. More so, the near collapse of the national economy has created serious financial stress for all sectors of the economy. As a result of fall in the international price of oil and the collapse of the national economy, the direct allocation from federation account to the states has also fallen (Amahalu&Ezechukwu, 2017).Despite the numerous sources of revenue available to the three tiers of government as specified in the Nigeria 1999 Constitution, since the 1970s till now, over 80per cent of the annual revenue of the 3 tiers of government come from petroleum. However, the serious decline in the price of oil in recent years has led to a decrease in the funds available to finance the economy. The need for government to generate adequate revenue from internal sources has therefore become a matter of extreme urgency and importance. This urgent need for improvement in revenue generation has underscored the reason why revenue from tax has been the focus of government in improving the revenue generation.

Furthermore, researchers have maintained that increase in government capital expenditure can be an effective tool to stimulate aggregate demand for a stagnant economy and to bring about crowed-in effects on private sector which will bring about the needed economic growth. In the recent past, the government has either increased or decreased its capital expenditures to improve the country's developmental needs or manage the recurring budget deficit position in Nigeria. It has also adopted explicit target for its capital spending to monitor the fiscal situation and attain sustainable growth. For decades, government capital expenditure have been expanding in Nigeria, as in any other country of the world but this observed growth in government spending appears to apply to most countries regardless of their level of economic growth and development.

Despite these efforts, the rate of economic growth and development could not be said to have commensurate effect on capital expenditure. Consequently, this study sought to examine how capital expenditure and taxation relate with economic growth in Nigeria. This necessitates an attempt to establish whether or not government capital expenditure relate with economic growth as posited by Wagner's (1883) Law of Ever-Increasing State Activity and if economic growth have a long run relationship with taxation as posited by Friedman (1978) Tax Revenue Theory within the Nigeria context.

<center>**II.   Review of Literature**</center>

2.1 Conceptual Clarifications
2.1.1 Value Added Tax (VAT)
Ajakaiye (2013) defined VAT as a "multi stage tax imposed on the value added to goods and services as they proceed through various stages of production and distribution and to services as they are rendered" which is eventually borne by the final consumer but collected at each stage of production and distribution chain. Ajakaiye (2013) said that, VAT is a tax paid at each stage of value added. It is a multi-stage tax which applies whenever goods and services are supplied by the producers. He also said that VAT is levied on the value gained or added on the products before being sold. He went further to say that VAT is one of indirect taxes collected by the government in this case the incidence of tax is borne by either the producer or the final consumer or shared by both.

In accounting, value added refers to the incremental value, which a producer employing labour adds to his raw materials or purchases prior to selling the processed goods and services as they pass through stages in the business chain from the manufacturing, importation through whole sale, to retailing, the payment is bore by the final consumers because it is included in the selling price. VAT is a consumption tax which is relatively easy to administer and difficult

to evade. All these form the major bulk of source of revenue for Nigeria and therefore, an effective and efficient application of this revenue should be of paramount importance not only to the government but also for economic development and buoyancy in Nigeria. The value added tax rate is presently 7.5% in Nigeria (Abiahu, and Amahalu, 2017).

2.1.2 Company Income Tax (CIT)

Company income tax (occasionally called corporate tax) is a tax levied on the profit of all companies operating within Nigeria. In the 1980s, the tax rate was 45 per cent of the companies' declared profits, but this has now been reduced to 30 per cent. Supporting this, Emmanueland Charles(2015) argued that this tax is payable for each year of evaluation of the profits of any corporation at a rate of 30per cent. It is governed by Company Income Tax Act (CITA), 1979 as amended. Put differently, Company Income Tax Act, 1990 is the current enabling law that governs the collection of taxes on profits made by companies operating in Nigeria.

This is a percentage of the profit of a company accruing in, derived from, brought into or received in Nigeria. This tax is payable to the Federal Tax of Inland Revenue. The rationale behind the tax is to levy tax on the company which is juristic person as different from its shareholders as the company becomes a distinct legal entity at incorporation. The tax is regulated by the Companies Income tax Act 2004.CIT was created by the Companies Income Tax Act (CITA) 1979 and has its root from the Income Tax Management Act of 1961. It is one of the taxes administered and collected by the Federal Inland Revenue Service (FIRS). The tax contributes significantly to the revenue profile of the Service. It is relatively easy to collect as a result of government persistence on the submission of tax certificates in respect of any official responsibility from administration by corporations.

2.1.3 Petroleum Profit Tax (PPT)

This is a tax imposed on the profit of oil producing companies in Nigeria. That is, the petroleum profit tax is subject to any occupant or resident company or anyone in charge of a non-resident company who are exploring petroleum or producing it. This also includes any liquidator, recipient, or agent of liquidator or recipient of any corporation carrying on petroleum operations in Nigeria. It is regulated by Petroleum Profit Tax Act, PPTA (1959) as amended. Eyisi, Oleka and Bassey (2015) argued that petroleum profit tax is singled out because of the significance of oil in the Nigerian public revenue performance. It is the most significant tax in Nigeria in terms of its share of 95per cent of government revenue and 70per cent of total foreign exchange earnings. PPT is a tax on the income of companies in upstream petroleum operations in lieu of CIT.

2.1.4 Government Capital Expenditure

According to Brown and Jackson (2016), government expenditure refers to expenses incurred by the government for the maintenance of itself and provision of public goods, services and works needed to foster or promote economic growth and improve the welfare of people in the society. Government expenditure is estimated on the basis of spending incurred for the benefit of residents of a nation. Large proportion of government expenditure includes social security, education and infrastructure investment. Government expenditure could be capital or recurrent. Capital expenditure is defined as expenditure creating future benefits, as there could be some lags between when it is incurred and when it takes effect on the economy. Capital expenditure refers to the amount spent in the acquisition of fixed (productive) assets (whose useful life extends beyond the accounting or fiscal year), as well as expenditure incurred in the upgrade/improvement of existing fixed assets such as lands, building, roads, machines and equipment, etc., including intangible assets. Expenditure in research also falls within this component of government expenditure. Capital expenditure is usually seen as expenditure creating future benefits, (Brown, *et al*, 2016).

2.1.5 Economic Growth

Economic growth is a long-run phenomenon subjected to constraints such as inadequate infrastructure, excessive rise of population, inefficient utilization of resources, limited resources, cultural and institutional models that make excessive governmental intervention, the increase difficult etc. Economic growth is obtained by an efficient use of the available resources and by increasing the capacity of production of a country. It also boosts the redistribution of incomes between population and society. It is easier to redistribute the income in a dynamic, growing society, than in a static one (Furceri&Karras, 2013).

Economic growth has been of great importance in applied and theoretical studies in the last decades. The first steps taken concerning the development of the theories of economic growth were in the 1930's and 1940's. These theories have been directed to the two central questions of why growth rates across countries are different and what factors are responsible for this difference? This difference manifests in different standards of living and quality of life all over the

world. In some economies, when the investment and the productivity is low; the workers face little change in their standards of living and the growth rate and level of development will be low; whereas, in some other countries, these indices will be high enough (Mudaki&Masaviru,2016).

Nigeria's poor economic performance has been widely studied and considerable attention has been paid to the slow growth performance in Nigeria. Summarily, the growth rate in Africa hardly surpassed 2per cent while East and the Pacific countries had over 5per cent with Latin America being experienced growth rate above two per cent (2 per cent). Mudaki and Masaviru (2016) Studies have shown a diverse set of potential causes of Africa's growth tragedy, which range from bad policies to inadequate infrastructure, poor education and political instability, but notable among the causes has been low factor productivity growth (Mukur&Olugu, 2013). These literatures have improved the understanding of Nigerian growth tragedy but failed to guide directly to the factors behind the low productivity growth observed in Nigeria.

2.1.6 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is said to be a measure of aggregate output produced in an economy (Nwaiwu, 2015). This particular output can be classified according to Nwaiwu (2015) into 3 categories which include the total value of output produced, the total value of incomes yielded in producing the output and the total expenditures on the output. Economic growth is defined as the growth rate of GDP in a country. The GDP growth rate is the difference of the current year GDP and the previous year GDP divided by the previous year GDP and then multiplied by one hundred. As an example, the economic growth in 2010 can be seen by comparing the growth rate of GDP in 2010 with the growth rate of GDP in 2009. Thus, while the growth rate of GDP for 2010 is larger than the growth rate of GDP 2009, it means that there was an economic growth in 2010 and vice versa. The growth rate of GDP can be obtained as follows:

An increase in economic growth will help a country to increase per capita income. Also, economic growth will decrease the unemployment rate as there will be increase in demand for labour. Economic growths also help a country reduce its poverty rate and provided such economic growth increase and also achieve a higher standard of living for its citizens. GDP is used as the dependent variable in this study since it can represent economic growth for a country (Onakoya&Afintinni, 2016).

According to Otu and Adejumo (2013), gross domestic product measures the monetary value of final goods and services, that is, those that are bought by the final users produced in a country in a given period of time e.g. quarterly or yearly. It counts all the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and also include some non-market production, such as defense or education services provided by the government. An alternative concept, gross national product, or GNP, counts all the output of the residents of a country. Not all productive activity is included in GDP. For example, unpaid work (such as that performed in the home or by volunteers) and black-market activities are not included because they are difficult to measure and value accurately.

2.2 Theoretical Review

This study is based on Wagner's Law of Ever-Increasing State Activitiesand Friedman Tax Revenue Theory.

2.2.1Wagner's Law of Ever-Increasing State Activities

A German economist, Adolph Wagner, in his classic book, formulated a law of expanding state activity. He asserted that there is a long run propensity for the scope of government to increase with higher levels of economic development. Wagner's law states that increased public expenditure is due to the pressure of social progress.In brief, the law states that for growing economies, the share of all major government expenditure increases. Wagner based this generalization on two considerations: a) the income elasticity of demand for services provided by the government is greater than unity;b) during the course of economic development, the public sector constantly encroaches upon the private sector.Wagner argued that higher levels of economic development increase the strains of living and induce higher criminality; thus increasingly larger public expenditures are needed to control such crime.

Furthermore, higher levels of economic development being increasingly complicated trade and legal relations, which in turn, requires increasing arbitration on the part of the state. On an international level, military forces cast off their former aggressive aspects and assume a preventive role, which requires larger standing armies.Wagner stated that increasingly larger expenditures on education and public health are needed with higher per capita national products. Consumption of cultural services grows faster than the GDP as the basic housing nourishment and clothing needs of population are increasingly met. Expenditure on governmental administration rise faster than the GDP with the increasing extensions of the functions of government and with the increasing bureaucratization of the state.

2.2.2 Friedman Tax Revenue Theory

Since 1980 there has been a growing concern over the relationship between government spending and revenues which some economists call the "tax-spend debate" or the "revenue-expenditure nexus". Friedman (1978) argues that there is a positive causal relationship between government revenue and economic growth. According to Friedman, increasing taxes simply lead to more expenditure and economic growth. Friedman (1978) claimed that if the government authorities increase the taxes, the resources that will be available for the government will be increased in the attempt to reduce the budget deficits and there will only be results in economic growth.

2.3 Empirical Review

Veronika and Lenka (2014) conduct a research about taxation of corporations and their impact on economic growth: the case of European Union (EU) countries. The aim of this research is to verify the expected negative relationship between corporate taxation and long-term economic growth. This research uses a sample which consist of 27 EU members countries for the period 1998 to 2010. The data collection is based on secondary research, quantitative and an annual time series. The data were gotten from statistical database of Eurostat. The findings show that there are negative relationship between corporate tax burden and long-term economic growth. The regression analysis employed was based on the neoclassical growth model of Macek, (2014), and he found that corporate income tax, personal income tax and social security contribution were harmful for economic growth. The study could not confirm the impact of value-added tax on economic growth, but the property tax had insignificant impact. He then concluded that Organisation for Economic Cooperation and Development (OECD) countries should reduce corporate and personal income taxes and place more emphasis on indirect taxes such as tax on consumption.

Poulson and Kaplan (2014) carried out a study on the impact of taxes on economic growth in the United States of America using data covering the period 1974 – 2010. The results of their study revealed that higher marginal tax rates had significant negative impact on economic growth in the States. Macek (2014) investigated the impact of taxation revenue on economic growth in OECD countries, using time series secondary data for the period 2000 – 2011. A mathematical multiple regression model was adopted to capture the linearity correlation between the variables of the study. Tax variables by OECD classification include personal income tax, corporate income tax, social security contribution, property tax, value-added tax and tax on consumption. While economic growth variables captured in the model include gross domestic product, capital accumulation, human capital and government spending.

Oladipupo and Ibadin (2015) examined indirect taxes and economic growth in Kenya. This study used time series data within 34 years starting from 1981 to 2014. Data collected through secondary sources and was analyzed and tested for unit roots using the Augmented Dickey-Fuller test. The main unit tested at each stage and found not to move while other variables such as value-added tax (VAT), petroleum tax profit (PPT) and custom and excise duty (CED) except real gross domestic product (RGDP) does not move. The second difference showed the long-term relationship. The study used Error Correction Model to assess the impact of VAT, PPT and CED on RGDP. Results of the study found that the VAT and PPT showed positive and significant correlation to RGDP. In addition, the study also found that in two periods CED has a positive relationship with RGDP while VAT of two-period showed negative relationship but have a significant relationship with RGDP. They said that the effectiveness and efficiency of administration and collection of taxes by government and an overhaul of the government agencies responsible for overseeing the oil operation are imperative.

Bakare and Olubokun (2015) carried out a study about the relationship between taxes and growth at the state level. This study used 1977 to 2011 data to measure the business activity. The variable which was used in this study are personal income per capita, employment population ratio, the amount of total, state and local tax revenue, statutory marginal personal income tax rate, adjusted marginal personal income tax rate, and unemployment rate. The findings showed inconsistency with the view that cuts in top state income tax rates will automatically or necessarily generate growth. The result also showed that marginal tax rates generally have no impact on employment and statistically significant, but economically small, effects on the rate of firm formation in Rwanda

Emmanuel and Charles (2015) investigated the impact of taxation on the Nigerian economy from 1994 to 2012. They used Co-integration and ECM Methods of econometrics. The results revealed that positive relationships exist between tax components and dependent variables (GDP and unemployment). But, the individual explanatory variables have not contributed to the growth of the economy significantly; also the explanatory variables have not considerably contributed to the decrease of the high rate unemployment and inflation in Nigeria within the studied period.

Adaramola and Ayeni-Agbaje (2015) examined the tax structure and economic growth in Nigeria: disaggregated empirical evidence from 1986 to 2012. The Engle–Granger Co-integration test and ECM methods were used. The result showed that tax revenue has a linear association with economic growth. Specifically, tax from petroleum profits and

corporate income tax were found to be beneficial to growth. In the study, personal income tax and the custom and excise duties appear not have significant impact on economic growth.

Ofoegbu, Akwu and Olive (2016) studied empirical analysis of effects of tax revenue on economic development of Nigeria using annual time series data for the period 2005-2014. They discovered that here was a significant relationship between tax revenue and economic development. The results also revealed that, measuring the effects of tax revenue on economic development gave lower relationship than measuring the relationship with GDP which gives a painted picture of the relationship between tax revenue and economic development in Nigeria.
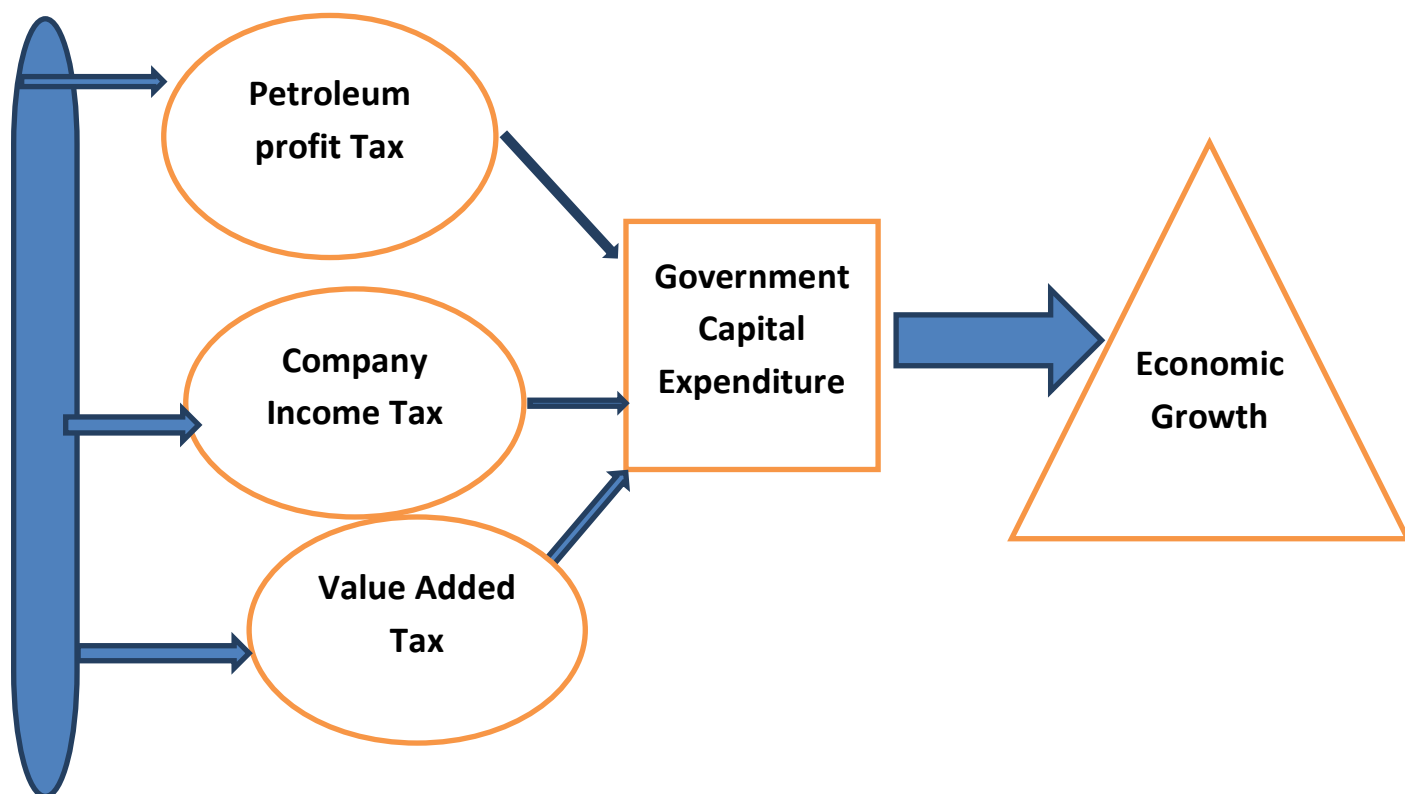
Levina (2016) investigated the relationship between personal income tax and economic growth in Germany. The GMM estimation of dynamic model showed that both of the variables foreign direct investment and economic freedom positively influence the economic growth. However, when employing the decomposed component of economic freedom index, two (namely Business and Monetary Freedoms) out of ten components were found to have had impact on the economic growth.

Bingxin, Shenggen and Anuja (2016) examined the impact of taxation on capital expenditure and economic growth in China using dynamic GMM model and a panel data set for 44 developing countries between 1990 and 2014. They found that the various types of government spending have different impact on economic growth. In Africa, human capital spending contributes to economic growth whereas in Asia, capital formation, agriculture and education have strong growth promoting effect. In Latin America, none of government spending items has significant impact on economic growth

Szarouska (2016) undertook a research on the relationship between federally generated revenue through tax administration and economic growth in the Czech Republic involving data covering 2000 to 2013. The study examined the relationship between economic growth (proxied as GDP) and ten components of governments spending: general public services, defense, public order and safety, economic affairs, environmental protection, housing and commerce, health, recreation and culture, education and social protection. Cointegration and Error Correction Modelling (ECM) was used in the analysis of data generated. The results show the existence of cointegration relationship between GDP and total government spending, public order and safety, and economic affairs spending functions. However, the tests indicate the non-existence of co-integration relationship between GDP and the other components of government included in the model. He submitted that in the long run, increase in government spending on general public services, public order and safety, and economic affairs increases GDP and while such increases cannot be established in the case of increase in government spending on defense, environmental protection, housing and commerce, health, recreation and culture, education as well as social protection.

Jiranyakul and Brahmasrene (2017) conducted a study to identify whether the tax structure affects economic growth by showing empirical evidence from OECD countries. This study estimates the effect of changes in the structure of tax revenue neutral to the level of income per capita in the long run by using panel data for 17 OECD countries over the period 1980 to 2010. In contrast to studies done before, they did not find solid footing for the different types of tax terms' impact on growth. They also do not have clear evidence to explain the consumption tax on income tax or personal income tax demand on corporate personal tax. The only robust result appears to be that shifts in tax revenue towards property taxes are associated with a higher level of income per capita in the long run. This study used physical capital, human capital, population growth, tax revenue (GDP), personal income tax, corporate income tax, consumption tax and property tax as the variables. Based on the findings of the research, it shows that the shifts in the total tax revenue towards the property taxes may be associated with a higher steady-state level of the income per capita. In addition this result also remains robust after the authors used different sample, different regression and different specification of the time effects.

Figure 2.1: Conceptual Model showing Capital Expenditure and the Impact of Taxation on Economic Growth In Nigeria

Source: *Researcher's Conceptual Framework (2020)*

III. Methodology

3.1 Research Design

This study adopted ex-post facto research design in order to build strong conclusions about the relationship among taxation, government capital expenditure and economic growth. The study used tables and figures for data presentation while a combination of Autoregressive Distributed Lag (ADRL) co-integration and error correction model is used to analyze the data.

3.2 Sources of Data

The data used were obtained from relevant government agencies, Federal Inland Revenue Services (FIRS), National Bureau of Statistics (NBS), Central Bank of Nigeria(CBN) Statistic Bulletin and as well as the World Bank Development Indicator Database.

3.3 Model Specification

Guided by empirical finding reviewed in this study and sequel to its logical structure as observed in the theoretical framework, the model specification therefore followed the models of Akpan, (2015) with modification. Thus, the model of this study will be specified in functional and linear forms as shown below:

RGDP = f(GCE, PPT, CIT, VAT)t — 3.1

$RGDP = \beta_0 + \beta_1 GCE + \beta_2 PPT + \beta_3 CIT + \beta_4 VAT + \varepsilon_t$ — — — — — — — — — —3.2

Where:

β_0 =Intercept

GDP= Real Gross Domestic Product

GCE=Government Capital Expenditure

PPT= Petroleum Profit Tax

CIT= Company Income Tax

VAT=Value Added Tax

ε=Stochastic Error Term

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Equation 3.2 is written in an econometrics form as seen in equation 3.3 below:

$$RGDP_t = \beta_0 + \beta_1 GCE_t + \beta_2 PPT_t + \beta_3 CIT_t + \beta_4 VAT_t + \varepsilon_t -------3.3$$

For an appropriate coefficient for the RGDP with respect to the explanatory variables to be produce I would transform the model equation (2) on log-linear econometrics form as seen below. Variable with negative value cannot be log so RGDP was not log which made the model to be log-linear.

$$RGDP_t = \beta_0 + In\beta_1 GCE_t + In\beta_2 PPT_t + In\beta_3 CIT_t + In\beta_4 VAT_t + \varepsilon_t ----3.4$$

3.4 Method of Data Analysis

This study used descriptive statistics to show the mean, the standard deviation, minimum and maximum values, skewness, Kurtosis and Normality of variables is used in the study, followed by correlation analysis, unit root analysis, co-integration analysis and error correction model estimation. Notably Unit root test is important as it shows the number of time the variables have to be differentiated to clear the unit root and make the data stationary.

Thus, the standard augmented Dickey-Fuller test was performed to determine the presence of unit root in the data and to establish the properties of individual series. After performing the Unit Root test. Co-integration test is conducted to know the nature of relationship between the variables in the long run. And thereafter the error correction model (ECM) is developed to know the rate of adjustment of short run disequilibrium and how the short run inconsistencies will be incorporated into the long equilibrium dynamics over time.

IV. Results and Findings

The time series data obtained for the purpose of this research work is used to empirically investigate capital expenditure, taxation and economic growth in Nigeria. The independent variable is real Gross Domestic Product (GDP) while the explanatory variables are Government Capital Expenditure, Company Income Tax, Petroleum Profit Tax and Value Added Tax. The data were analyzed with Econometric Views Statistical Package. Thus, individual samples were used to obtain the descriptive statistics and number of years used for the regression analyses were based on the available data.

4.1.1 Descriptive Statistics

Descriptive statistics shows the qualities of the data that are been used for estimation, the knowledge of which allow us to define the appropriate methodology for estimation. The table below summarizes the descriptive statistics.

Table 4.1: Result of the Descriptive Summary of the Variables

	Log(CIT)	GDPGR	Log(PPT)	Log(GCE)	Log(VAT)
Mean	4.576595	4.455806	6.140652	5.808658	4.468574
Median	4.868303	4.630000	7.076231	6.210660	4.915592
Maximum	6.905753	15.33000	8.214630	7.593349	7.044015
Minimum	-0.673345	-2.040000	1.919859	2.710048	0.900161
Std. Dev.	2.185391	3.952467	1.989206	1.318891	2.009826
Skewness	-0.717966	0.484453	-0.626396	-0.899345	-0.443723
Kurtosis	2.576058	3.364503	1.957083	2.793242	1.842932
Jarque-Bera	2.895436	1.384204	3.432169	4.234124	2.746558
Probability	0.235106	0.500523	0.179769	0.120385	0.253275
Sum	141.8745	138.1300	190.3602	180.0684	138.5258
Sum Sq. Dev.	143.2781	468.6598	118.7082	52.18417	121.1820
Observations	31	31	31	31	31

Source: Researcher's computation (2020)

Table 4.1 shows that the estimated mean value used to examine the pattern of distribution recorded highest mean value for petroleum profit tax with 6.140652 and the minimum mean value was recorded by GDP growth rate with 4.455806. The standard deviation showed that gross domestic product growth rate (3.952467), company income tax (2.185391), and value added tax (2.009826) demonstrate high variability within the country while petroleum profit tax (1.989206) and government capital expenditure (1.318891) showed low variability within the country. In summary, all the variables

under this study are widely dispersed around their means indicating that they are grossly affected by their extreme value.

Skewness which is used to measure the asymmetry of the distribution of the series around its means revealed that only gross domestic product growth rate has positive skewness i.e. the variable distribution has a long right tail while other varibles had negative skewnessi.e their distribution have long left tail. Kurtosis shows the flatness or peakness of the normal curve. It measures of the "tailedness" of the probability distribution of a real-valued random variable. It is normal distribution and mesokurtic if kurtosis equal 3, platykurtic if kurtosis less than 3 and leptokurtic if kurtosis greater than 3. From table 4.1 gross domestic product is leptokurtic while other variables are platykurtic.

Jarque-Bera is a test statistic for testing whether the series is normally distributed. The test statistic measures the difference of the skewness and kurtosis of the series with those from the normal distribution. Table 4.1 reveals that all the variables are not significant at 5per cent level when compared with their probabilities i.e. statistic for normality in their distribution is consistent with the null assumption of normality in their distribution and that the variables are symmetrical at 5per cent level when compare with their probabilities.

4.1.2 Tests for statistical Properties of the Variables

Table 4.2 Augmented Dickey Fuller Unit Root Test

Variable	At Levels		1st difference		Level of Integration
	ADF-Test	5per cent C.V	ADF-Test	5per cent C.V	
Log(CIT)	-1.813642	-2.9639	-8.461373	-2.9678	I(1)
Log(PPT)	-2.233334	-2.9639	-5.193577	-2.9678	I(1)
Log(TCE)	-2.285028	-2.9639	-6.220120	-2.9678	I(1)
Log(VAT)	-1.621262	-2.9639	-4.199367	2.9678	I(1)
RGDP	-3.477603	-2.9439	-10.08100	-2.9678	I(0)

Source: Researcher's computation (2020)

Table 4.2 above examines the statistical properties of all the variables. The ADF tests for unit root were conducted for the variables in the model. The results of the test at levels and first difference are presented above. The null hypothesis states that there is a unit root in each of the series that is each variable is non-stationary. The rule of thumb is that the null hypothesis should be accepted if the ADF statistic is less negative, that is greater than the critical value at any chosen level of significance. The ADF result in Table 4.2 indicates that all the variables are integrated of order one, I(1) except RGDP which is stationary at level. Based on the ADF test the condition for Johansen co-integration test is not met. This kind of conflict between the outcomes of the two tests is common in practice (Rahman, 2012). To be on the safer side we employ the ARDL – Bound testing method of co-integration analysis rather than the Johansen method.

4.1.3 Co-integration Test

Given the unit root test result above, the most appropriate co-integration test is the Pesaran Bounds test since the test allows combination of fractionally integrated variables i.e. combines variables of different orders of integration. If the computed F-statistics falls below the lower bound I (0), we would conclude that the variables do not co-integrate. If the F-statistics exceeds the upper bounds I (1), we conclude that we have co-integration among the variables. Finally if F-statistics falls between the bounds, the test is inconclusive we therefore rely on the result of the short-run analysis. The Bounds Co-integration test result is provided thus:

Table 4.3: ARDL Bounds Test

Test Statistic	Value	k
F-statistic	3.782426	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10per cent	2.08	3
5per cent	2.39	3.38

Source: Researcher's computation (2020)

The value of the F-statistics is 3.782426 and the critical lower and upper bound test is presented in table 4.4. The result revealed that the F-statistics exceed the upper bound at both 10per cent and 5per cent significant level, we can therefore reject the null hypothesis and accept that alternative hypothesis thereby concluding that there is evidence of co-integration relationship between gross domestic product growth rate and total capital expenditure, petroleum profit tax, company income tax and value added tax. We can therefore proceed to estimate the long-run analysis.

4.1.4 Autoregressive Distributed Lag (ARDL) Test
Table 4.4 Results of Autoregressive Distributed Lag Analysis (ARDL)

Variables	Coefficient	Std. Error	t-Statistic	Prob.*
Log(CIT)	-0.771494	3.652761	-0.211208	0.8354
Log(PPT)	5.836899	2.281449	2.558417	0.0210
Log(GCE)	5.905093	5.478006	-0.981763	0.3408
Log(VAT)	-5.76629	5.873545	-0.981763	0.3408
C	-26.82433	27.57424	-0.972804	0.3451

Source: Researcher's computation (2020)

This table presents the result obtained from estimating the ARDL unrestricted error correction (short run or dynamic) model and the ARDL long-run (static) model in equation. long run multiplier coefficient of ARDL.It is confirmed from the results that company income tax and value added tax had negative impact on economic growth, while, petroleum profit tax and government capital expenditure had positive impact on economic growth in Nigeria. The co integration equation is:

$$GDPGR_t = -26.82433 - 0.7715log(CIT)_t + 5.8369log(PPT)_t + 5.9051log(GCE)_t - 5.7664log(VAT)_t$$

In the long run petroleum profit tax had a positive and significant impact on economic growth which conform with the Friedman Tax Revenue Theory (1978) and in tandem with the works of Onakoya and Afintinni (2016), Oladipupo and Ibadin (2015). There is need to emphasize here that the result discussed above do not analyze the short-run relationship of the respective variables. When co integration exists, the Engle-Granger Theorem establishes the encompassing power of the error correction mechanism over other forms of dynamic specifications. The next section reports the results of the Error Correction Mechanism

4.2   Testing of Hypotheses
From the regression analysis results, it was revealed that company income tax have a negative impact on economic growth rate at 5per cent significant level. This implies that company income tax does not have influence on Nigeria economic growth. Also, petroleum profit tax was found to have a positive significant relationship with economic growth. This implies that as more petroleum profit tax is been paid the economic growth rises.
However, government capital expenditure has a positive relationship with on economic growth at 5per cent significant level. This implies that government capital expenditure does have influence on Nigeria economic growth. Lastly, value added tax was found to have a negative significant relationship with economic growth. This implies that as more value added tax is been paid the economic growth declines. The result further shows that a 1per cent increase (increase) in value added tax on average leads to about 4.02577 per cent increase (decrease) on economic growth.

4.3   Discussion of Findings
From the results, the ECM term is well defined, that is negative and statistically significant at 5per cent level. The coefficient is -0.612168which indicates approximately 61.2168 percent of the previous year's disequilibrium in economic growth is been corrected by company income tax, petroleum income tax, government capital expenditure and value added tax. This also shows the speed at which the model converges to equilibrium. The magnitude of this coefficient implies that nearly 61.2168 percent of any disequilibrium in economic growth is corrected by some of the selected variable within one period (one year). The implication is that the present value of economic growth will adjust to changes in company income tax, petroleum income tax, government capital expenditure and value added tax.
The results further showed that company income tax has a negative insignificant impact on economic growth rate at 5per cent significant level. This implies that company income tax does not have influence on Nigeria economic growth. This work isnot consistent with Friedman Tax Revenue Theory (1978). The result further shows that a 1per cent increase (decrease) in company income tax on average leads to about 4.6099 per cent decrease (increase) on economic growth. This contradicts the Friedman Tax Revenue Theory (1978) but conform to the work of Edame and Okoi (2014).

However, government capital expenditure has a positive significant impact on economic growth at 5per cent significant level. This implies that government capital expenditure does have influence on Nigeria economic growth. The result of the analysis showed that government capital expenditure had significant positive effect on the economic growth. This conforms to the Wagner Law of Ever-Increasing State Activities (1883) and Emori, Duke and Nneji (2015). Value added tax was found to have a negative significant relationship with economic growth. This implies that as more value added tax is been paid the economic growth declines. The result further shows that a 1per cent increase (decrease) in value added tax on average leads to about 4.02577 per cent decrease (increase) on economic growth. This contradicts the Friedman Tax Revenue Theory (1978) and Ihenyen and Mieseigha (2014).

V.   Summary, Conclusion and Recommendations

5.1 Summary

The study examined the capital expenditure, taxation and economic growth in Nigeria, using annual time series data spanning from 1989 to 2019, through the following objectives; it analyzed the trends of company income tax, GDP growth rate, petroleum income tax, government capital expenditure and value added tax. With the aim of ascertaining both short-run and long-run relationship company income tax, petroleum income tax, government capital expenditure and value added tax on one hand and real GDP on the other hand to know the policies that can be best suggested, so as to ensure that tax and capital expenditure have positive impact on economic growth.

The conceptual framework and literature review highlighted details about tax and its types, government capital expenditure and gross domestic product. From the literature reviewed it was revealed that there is no consensus on the long run relationship among capital expenditure, taxation and economic growth. The study combined the use of descriptive statistical analysis, autoregressive distribution lag co-integration and error correction techniques. It tested for time series properties of each variable using Augmented Dickey Fuller (ADF) unit root test approach at 1 per cent and 5 per cent Mackinnon critical value. The unit root test revealed that real GDP was stationary at a level while company income tax, petroleum income tax, government capital expenditure and value added tax were non-stationary at first difference.

The study made use of ARDL and ECM approach to examine the long-run equilibrium between company income tax, petroleum income tax, capital expenditure, value added tax and real GDP as a proxy for economic growth. The result confirmed the existence of long-run relationship amongst company income tax, petroleum income tax, government capital expenditure, value added tax and real gross domestic products.

5.2 Conclusion

Having examined the capital expenditure, taxation and economic growth in Nigeria, it is broadly concluded based on the results and findings that there existed long-run relationship between company income tax, petroleum income tax, government capital expenditure and value added tax and economic growth in Nigeria. It is also concluded from the result that in the long run petroleum profit tax had a positive and significant impact on economic growth. Also, CBN data on government capital expenditure and World Bank Development Indicator data on real GDP exhibit increasing trend that supports the ever increasing State Activities. Consequently, this study supports growing evidence that government expenditure has a relationship and significant effect on economic growth.

5.3 Recommendations

Having done the analysis and obtained the results as presented and discussed in the previous chapter, we recommend the following policies as revealed in this study..

- The findings revealed that revenue generated through taxation has a significant influence on economic growth in Nigeria; therefore, the agency in charge of tax collection should pay more attention to tax administration with a view to bringing more individuals and corporate bodies to the tax as to generate more revenue for the government. In addition, regulatory authorities charged with collecting tax should further be strengthened to enforce compliance by tax payers.
- Government authorities should adjust government capital expenditure to the level of the tax revenues. The trendy yearly increase in recurrent expenditure vis-à-vis reduction in capital expenditure should be discouraged to engender economic growth.
- Government should ensure and enhance fiscal synchronization, which implies that the government decisions about capital expenditure and taxation are made simultaneously (or jointly). Hence, the two macroeconomic variables should mutually reinforce each other.

- Lastly, government should review her capital expenditure pattern to ensure that they are not embarking on white elephant projects or projects that have no significant impact on the citizens and the economy. Accountable and productive capital expenditure should be encouraged and enhanced.

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