Effect of Tax Revenues on the Economic Development of Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The main objective of this study is to examine empirically the effect of tax revenues on the economic development of Nigeria, judging its impact on the relationship between tax revenue and economic growth. Data was sourced from CBN statistical bulletin and the World Bank data. A multiple regression anal is was used for the analysis of the data which would consist of a fusion between the dimensions of time (time series). A quantitative research approach was used to analyze the regression results. Consequently, the findings from the study showed that custom and excise duties, companies income tax, petroleum profit tax, and value-added tax have a significant combined effect on gross domestics product in Nigeria. Similarly, results show that custom and excise duties (B = . 0.117, t=0.031948, p>0.05) and companies income tax (B = 0.539657, t = 2.2215895, p>0.05), petroleum profit tax (B = 0.103431, t = 2.370469, p>0.05), positive effect on GDP and have insignificant effect on gross domestics product, whereas cc (B=-0.452577, t=-0.836510, p>0.05) negative effect on gross domestics product but have insignificant effect on gross domestics product in Nigeria. It was concluded that tax revenue has an effect on the economic development in Nigeria. It was recommended that the government established a long-term goal through investment in infrastructural development.

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1. INTRODUCTION

The majority of developing countries are increasingly relying on mobilizing local resources for economic development. Previous growth analyses have shown that increasing domestic revenues is the most practical strategy to attain fiscal sustainability. Tanzi and Zee [1]. Strengthening domestic income bases is critical in this environment, particularly for developing nations in the West Africa Sub-region. Taxes are one of a country's most important sources of revenue, as they are collected from individuals, businesses, and investors in order to expand the economy. While it seems obvious that taxation should be the primary source of government revenue, this is not always the case in many West African countries. Nigeria, with a terrain of 923,768 square kilometers and a population of around 180 million people, is located in the West African Sub-region [2]. Nigeria is viewed around the world as a wealthy oil-producing country with a rising poverty rate [3].

However, Nigeria's low economic development is due to a lack of transparency and accountability, growing unemployment, poor health facilities, and insufficient electricity supply, to name a few economic issues. The United Kingdom (UK) has the world's fifth-largest national economy (and Europe's second-largest) by nominal GDP and the eighth-largest by purchasing power parity (PPP). England, Scotland, Wales, and Northern Ireland are all part of the UK economy. Tax income in the United Kingdom originate from a variety of places. The main sources of tax revenue are: income tax (20%), national insurance (20%), VAT (20%) for most goods and services (20%), corporation tax (21%), council tax (local government), business rates (20%), excise duties (20%) on alcohol and cigarettes (20%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), corporation tax (21%), Stamp duty, carbon tax, airport tax, inheritance tax, capital gains tax, and other taxes are among the others (Tejvan Pettinger, 2014). Nigeria is a developing country with crude oil as its primary export. Other natural resources include natural gas, coal, iron ore, tin, limestone, zinc, lead, and huge arable land [4].

Low-income countries (LICs), for example, must grow their domestic earnings by around 4% of their GDP to meet the Millennium Development Goals (MDGs). Furthermore, in order to reach the MDGs, OECD nations have been asked to increase their aid to LICs to around 0.7 percent of GDP [5], however, this cannot be compared to potential tax revenues if effectively harnessed. In order to reawaken the consciousness of the Nigerian government, whose level of development does not appear to justify the tax revenue generated by the country, and the need for Nigerian citizens to understand how efficiently and effectively taxation has been a major tool for the nation's economic development, this work becomes very relevant, especially when one considers the dwindling revenue from the major source, oil and gas, following the severe crash of oi, this work becomes very relevant.

There is little doubt that taxation has influenced the West African Sub-economic region's progress. As a result, efforts will be made in this study to see how far the sub-region has progressed in achieving its economic goals through tax policy and administration, using Nigeria as a case study. In order to determine the reasons of tax evasion and avoidance, the administrative involvement of the federal, state, and municipal governments must also be considered. Nigeria's GDP was recently rebased for 2013, going from around USD 270 billion to USD 510 billion. The 90 percent growth was attributed to new economic sectors such as telecommunications, entertainment, and others that had previously gone unnoticed or underreported. According to former Finance Minister Ngozi Okonjo-Iweala (2013), the Federal Inland Revenue Service (FIRS) was tasked with increasing the tax revenue to GDP ratio to at least 20%, resulting in a revenue target of about NGN 14 trillion (USD 87.5 billion) for the FIRS alone, up from the current NGN 6 trillion (about 37.5 billion). For 2011, 2012, and 2013, Nigeria's rebased GDP growth rates were 17 percent, 13 percent, and 13 percent, respectively [2]. The global economic and financial crisis continues to have far-reaching effects for the global economy, particularly for emerging and middle-income economies (IMF, 2014a). According to Soyode and Kajola [6], a tax is a coercive exaction of money by a public authority for a public purpose, and taxation is a

system of obtaining money for government purposes through individual or corporate contributions). The global economic and financial crisis continues to have far-reaching effects for the global economy, particularly for emerging and middle-income economies (IMF, 2014a). According to Soyode and Kajola [6], a tax is a coercive exaction of money by a public authority for a public purpose, and taxation is a system of obtaining money for government purposes through individual or corporate contributions. Nightingale [7] defined tax as a mandatory contribution imposed by the government, concluding that while taxpayers may receive nothing tangible in return for their contribution, they do benefit from living in a relatively educated, healthy, and safe society. It should be remembered that taxation is a function of government at all levels, whether municipal, state, or federal.

The justification for taxation in modern society is to meet the expectation of effective governance [8]. For both developed and developing countries, tax revenue is critical to their long-term viability. Because tax collection is necessary and consistent, taxation is the primary source of revenue for the central government, ensuring financial stability. The purpose of taxation is to provide public goods and services to meet social and public needs. Furthermore, the government requires tax revenue in order to develop armed forces and judicial institutions that will maintain the society's security and justice [9]. A robust public finance system in Africa and elsewhere is one of the prerequisites for rapid, equitable, and long-term economic progress.

The tax system, according to Bird [8], is one of the most essential instruments of development policy in any country. The necessity of increasing developing country income mobilization was emphasized at a meeting hosted by G9-20 leaders in November 2010. Many developing countries, particularly low-income countries, require an additional 4% of GDP to meet the United Nations Millennium Development Goals (MDGs) – as well as urgent infrastructure and climate change adaptation needs. In a similar vein, many rich economies' severe post-crisis budgetary positions are naturally concentrating attention on the scope and effectiveness of help they provide to developing countries, as well as ensuring that it promotes rather than discourages the latter's own revenue-raising activities. Sound fiscal management is essential for attaining macroeconomic stability and reaping the advantages of economic growth [10].

To pay essential services like security and elementary education, revenue must be accurate. Many developing countries are unable to implement ambitious spending plans due to a low tax revenue/GDP ratio. As a result, a policy goal is a quick increase in domestic revenue and equivalent increases in public services. However, the government must exercise caution when it comes to increased government expenditure and taxation, as distortionary taxes begin to slow growth once they are exceeded; tax bases are not handed to governments; they can be grown or destroyed [11].

Taxes, according to Nzotta [12], are important sources of revenue for the federation account, which is shared by the federal, state, and local governments. As a result, according to Odusola [13], the government's fiscal power in Nigeria is divided into a three-tiered tax structure involving the federal, state, and local governments, each of which has its own tax jurisdiction. Oil revenue dominates the system, which is unbalanced. He goes on to say that during the last decade, oil revenue has accounted for more than 70% of overall revenue, implying that traditional tax revenue has never played a significant part in the country's fiscal policy management. Rather than altering the existing revenue base, fiscal management has simply switched from one core product-based revenue to another, exposing the economy to global market swings.

Because of this uneven revenue structure, tax experts and scholars have declared unequivocally that Nigeria's tax system has to be overhauled in order to achieve long-term economic growth and development. A tax is a mandatory levy placed by the government on a person's property in order for the government to provide security and social amenities, as well as to establish circumstances for the society's economic well-being [14].

Taxes are applied, according to Anyanfo [15] and Anyanwu [15], to regulate the production of particular commodities and services, protect newborn industries, control business and inflation, minimize income inequities, and so on. According to Tosun & Abizadeh [16], taxes are employed as a proxy for fiscal policy. They suggested five different ways that taxes can influence economic growth. For starters, taxes

such as corporate tax, personal income tax, capital gain tax, and withholding tax, among others, might stifle investment rates.

Second, taxes can stifle labor supply growth by displacing labor leisure options in favor of leisure. Finally, tax policy can have an impact on productivity growth by discouraging investment in research and development. Finally, taxes can cause resources to move to other industries with lower productivity. Finally, Engen and Skinner [18,19] claim that endogenous growth models have been employed in a number of recent theoretical studies to estimate the impact of the fundamental tax change on economic growth. All of these studies conclude that eliminating the current tax structure's distortionary impacts would result in lasting growth.

2. STATEMENT OF THE PROBLEM

Infrastructure development necessitates a significant amount of resources and investment. Tax revenues account for roughly 30-40% of GDP in most developing economies [20]. With the exception of 2014, when the budget was $4.69 billion, Nigeria's budget has climbed from $4.2 billion in 2011, $4.75 billion in 2012, $4.98 billion in 2013, and $6.9 billion in 2015 [2]. One of the methods to fund budgets had been through tax receipts.

However, the contribution of tax income in Nigeria has been disappointing, resulting in the government's expectations not being reached. Over the years, it has been recognized that the Nigerian tax system has structural flaws. According to Odusola [21] the Nigerian tax system is focused on Petroleum Profit Tax (PPT) and Company Income Tax (CIT), with broad-based indirect taxes like VAT and Customs and Excise Duty (CED) consigned to the background. Furthermore, corruption, evasion, avoidance, tax authorities' collusion with taxpayers, and tax haven indicators are frequently cited as causes for Nigeria's low tax revenue (Attila, Chambas& Combes, 2008).

As a result, the higher the desire and chances for tax evasion, avoidance, and non-compliance with relevant tax regulations, the more residents lack knowledge or education about taxation in the country. The sharp drop in oil prices in recent years has reduced the amount of money available for distribution to the federal, state, and local governments. However, the necessity for state and municipal governments to produce

sufficient revenue from domestic sources has become a matter of critical urgency. This requirement highlights the eagerness of state and local governments, as well as the federal government, to seek new sources of money or to become more aggressive and imaginative in their collection methods.

Infrastructure development is essential for every country's economic development, and the importance of tax revenue in achieving economic growth and development in most developing nations cannot be overstated. Tax revenue has been quite low over the years, and physical development has been lacking, therefore the impact on the poor has been little. Inadequate tax personnel, tax collector fraud, a poor taxpayer database, a lack of modern tax collection facilities, a lack of understanding of the importance of paying taxes, and varying degrees of tax evasion and avoidance are some of the reasons for dwindling tax revenue in most developing economies [14].

There is no doubt that Nigeria is wealthy in oil and gas, as well as other mineral resources, but the country's fundamental difficulty is its over-reliance on oil money for economic development, which has left much to be desired [22]. Tax rates have been changed or fine-tuned to impact or achieve macroeconomic stability. The United Kingdom (UK), the United States of America (USA), the Netherlands, and Canada are all excellent examples of developed countries that have affected their economic development through tax income. The majority of them rely on VAT for a significant portion of their income (VAT).

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Those who operate in Nigeria's informal economy do not perceive the need to pay taxes, despite the fact that they control the economy.

Only civil servants should pay tax on their profits, according to them, and this amounts to whipping a willing horse. During the enforcement of tax rules, revenue collection officials appear to be lenient or even collude with those in the informal sector. All of the aforementioned factors result in significant income losses. There is little doubt that taxation has influenced Nigeria's economic development. The purpose of this study was to see how taxation has influenced Nigeria's economic progress in areas such as power, road construction, education, and health, among others, as measured by GDP.

Tax revenue and economic development have been studied by researchers from a variety of sectors. Poor tax administration, corruption, and inefficiencies of tax officials, an insufficient database of taxpayers, bad governance, a lack of understanding of the importance of tax payment by taxpayers, tax evasion and avoidance, poor record-keeping, and cash transactions, among other factors, were identified as factors responsible for low tax revenue in most developing economies Worlu and Emeka [23].

Furthermore, many leakages in our tax laws, as a result of tax reforms, have provided opportunities for taxpayers to exploit, reducing their responsibility and, as a result, reducing tax revenue. While the majority of these reforms centered on tax structure rather than tax administration, they were all aimed at increasing income from current tax sources [24]. As a result, the study aims to determine the contribution of tax revenue to the government's total income generation as well as its impact on Nigeria's economic development. This research also looked into the various taxes collected by Nigeria's federal government and compared them to the country's degree of development.

2.1 The Objective of the Study

The main objective of this study is to examine empirically the effect of tax revenues on the economic development of Nigeria, judging its impact on the relationship between tax revenue and economic growth.

2.2 Significance of the Study

This research is designed to help the government understand the many reasons for the low level of economic growth and development, which could be due to declining tax revenues. The findings and recommendations of this study are designed to aid governments at all levels in determining how to increase tax revenues and reduce overdependence on oil income by bringing the informal economy into the tax net, which now pays little or no tax.

This research is expected to help the government understand the numerous reasons for the low level of economic growth and development, which could be due to diminishing tax revenues. The study's findings and recommendations are likely to assist governments at all levels in determining how to increase tax revenues and reduce overdependence on oil income by bringing the informal economy into the tax net, which now pays little or no tax.

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2.3 Scope of the Study

For a ten-year period between 2006 and 2015, this study looked at taxes collected by the Federal Government of Nigeria, notably corporate income tax, petroleum profit tax, value added tax, and customs and excise duty. The period was chosen because of the various tax reform policies that were implemented during that time, as well as the researchers' belief that sufficient data were available for proper data analysis to measure and compare the level of economic development and the amount of tax revenue collected by the Nigerian government. The secondary data for the study was gathered from the Central Bank of Nigeria (CBN), the Federal Inland Revenue Service, and the National Bureau of Statistics.

3. REVIEW OF LITERATURE

3.1 Tax Revenue

According to the United Nations [3], tax money contributes significantly to development, and so a nation's tax system must be streamlined to assure the achievement of optimal tax revenue through equitable and fair distribution of the tax

burden. Revenues collected from income and profit taxes, social security payments, taxes on goods and services, payroll taxes, taxes on ownership and transfer of properties, and other taxes are referred to as tax revenue [25].

The share of a country's output collected by the government through taxes is expressed as total tax revenue as a percentage of GDP. It might be viewed as one indicator of the government's control over the economy's resources. The total revenue received as a percentage of GDP is used to calculate the tax burden. This metric is assessed in Naira per capita, percentage of GDP, and yearly growth rate and applies to all levels of government (federal, state, and local) [26].

The income obtained by the government through taxing is referred to as tax revenue. Tax income is collected in a variety of ways, and the organization that collects the tax may not be part of the federal government, but rather a third-party licensed tax collector that they will utilize. The Driver and Vehicle Licensing Agency (DVLA) in the United Kingdom, for example, collects vehicle excise duty, which is then passed on to HM Treasury. Tejvan (2014). Purchase tax revenues can come in two forms: the 'tax' itself, which is a percentage of the purchase price (such as sales tax in the US or VAT in the UK), and duties, which are set sums added to the purchase price (for instance, for cigarettes). To determine the total tax income earned from these sales, we must first determine the effective tax rate and multiply it by the quantity of products sold. Tax revenues are the most basic source of domestic revenue, and their importance grows as a country develops.

Strengthening domestic resource mobilization is thus about developing a tax system that promotes inclusion, stimulates good governance, answers to society's concerns about income and wealth imbalances, and promotes social justice, as well as raising money [27]. Fundamentally, taxation's importance in the exercise of state power means that more efficient, transparent, and fair tax systems, as well as fewer corrupt tax administrators, can help to improve broader governance difficulties.

According to Guilia, Mick, and Rhiannon [28], taxes are a good approach to fund the expenses of public goods, which are a special class of items for which one person's consumption does not reduce the consumption of others and for

which it is costly or impossible to restrict consumption (e.g. street lightening). Normal pricing for these items would result in a price of zero, providing no incentive to supply. Similarly, if the private sector does not supply enough goods and services with high positive externalities, it is typical to fund them with taxes. Taxes are statutory payments that must be made.

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They can cover the costs of irresponsible spending, particularly the political and economic consequences. Appah & Oyandonghan [14] believe that taxes contribute to the repayment of accumulated public debt (principal) and the interest associated with it. However, if the share committed to such aims gets too big, the amount, coverage, and quality of public expenditures are compressed, and most voters believe they are receiving less than they pay in taxes.

3.2 Economic Development

Economic growth, according to Dwievi [29], as referenced in Akintoye& Dada [30,31], is a long-term increase in per-capital national output or net national product. It means that the rate of increase in total output must be higher than the rate of increase in population. It should also be emphasized that national output should be made up of commodities and services that meet the greatest number of people's needs. Human resources, national resources, capital formation, and technical advancement are four significant determinants of economic growth.

Economic development can be defined as the ongoing, concerted efforts of policymakers and communities to improve a region's standard of living and economic health [30,31].

Economic development can also be defined as changes in the economy's quantitative and qualitative characteristics. Human capital development, vital infrastructure, regional competitiveness, environmental sustainability, social inclusion, health and safety, and other efforts are examples of possible activities. There is a distinction to be made between economic development and economic growth. Economic development comprises policy intervention aimed at improving people's economic and social well-being, whereas economic growth is a phenomenon of increased market productivity and GDP.

Economic development refers to the process and strategies that a country uses to better its citizens' economic, political, and social well-being. In economic terms, development refers to a country's ability to achieve and sustain a 5% yearly rise in its gross domestic product (GDP) [10]. Traditional economic indicators include: GDP is the market worth of all final products and services produced in a certain period of time inside a country.

The market value of all final goods and services generated by permanent residents of a country in a specific period of time is known as the Gross National Product (GNP). The rate of growth of income per capital or per capita GNP is a common alternative index. capital per capita GNP: Gross National Product (GNP) is the per-capita value of final products and services generated by permanent residents of a country over a certain time period [10].

In its World Development Report of 1991, the World Bank stated that the "challenge of development is to increase the quality of life."

Higher earnings, better education, higher standards of health and nutrition, less poverty, a cleaner environment, more equal opportunities, greater individual freedom, and a richer cultural life are all examples of increased Quality of Lives (QOL), according to a World Bank Report [32].

4. THEORETICAL FRAMEWORK

4.1 Theories of Economic Development

Since 1945, there have been numerous key periods of development theory. Following the premise of modernization theory, the state played a big role in encouraging industrialization in emerging countries from the 1940s through the 1960s. In the 1970s, there was a brief era of basic needs development that focused on human capital development and redistribution. In the 1980s, neoliberalism arose, promoting free trade and the elimination of Import Substitution Industrialization strategies [33].

The study of economic development began as an extension of classical economics, which focused solely on products, or the total output of goods and services. Economic development was concerned with people's entitlements and capabilities, as well as morbidity, nutrition, literacy, education, and other socio-economic indices. With the rise of high-growth countries (Singapore, South Korea, Hong Kong) and planned governments (Argentina, Chile, Sudan, Uganda), economic development, or more broadly development economics, emerged amidst these mid-twentieth-century theoretical interpretations of how economies prosper.

Hirschman [34], a prominent contributor to development economics, claimed that economic development had shifted to focus on the world's poorest countries, especially Africa, Asia, and Latin America, rather than on the dissemination of fundamental concepts and models.

The benefit received theory was used for the purposes of this investigation. This was due to the fact that, in order for a government to generate revenue through taxation, it must be able to provide necessary facilities to its citizens, such as good roads, reliable electricity, functional health facilities, high-quality education, and adequate security, among other things, so that the citizens can fulfill their civic responsibilities of timely tax payment.

The availability of the aforementioned facilities will dramatically reduce the incidence of tax evasion and avoidance to the bare minimum, allowing the government to generate more income through taxation.

4.2 Theories of Taxation

In public economics, there are several taxation theories. To fund public-sector spending, governments at all levels (national, state, and local) must obtain revenue from a number of sources. Two major concepts determine the intricacies of taxation: who will benefit and who can pay. There are two ideas in public finance literature: the benefit hypothesis, founded by Montessquieu in 1748, establishes a relationship

between riches enjoyment and government security.

According to this notion, the state's revenues represent a fraction of what each person pays of his good in exchange for the security or comfortable enjoyment of the rest (Dodge, 2005). Benefit theory, also known as voluntary exchange theory, is based on a political readiness to pay for advantages obtained in exchange for a tax to pay for public goods [35].

To the benefit received theory, there are basically two schools of teaching: the old school of taught and the new school of taught. According to Dodge (2005), the old idea stems from the enlightenment period of intellectual history, and it holds that people's contributions to government spending should be proportional to the advantages they receive [36].

However, this idea was heavily attacked because it would be nearly hard to evaluate the advantages received by individual taxpayers from the government, as well as the inconsistency of sustaining this approach in a welfare state. A new principle of benefit received theory was created to address this problem. According to the notion, the appropriate index and basis for calculating an individual's government benefits is to tax the payer's economic well-being (Dodge, 2005).

This means that taxpayers' well-being is a function of social amenities such as adequate roads, health facilities, education, security, and public infrastructures, among other things, which will eventually convert to market economy. The "voluntary exchange" notion is a modern variation of the benefit theory.

4.3 Empirical Review

Adegbie and Fakile [37] conducted research and focused on corporate income tax and Nigeria's economic development. They came to the conclusion that there is a strong link between corporate income tax and Nigeria's economic progress. And that tax evasion and avoidance are significant impediments to revenue collection. According to their study, Tax Revenue and Economic Development in Nigeria: A Microeconomic Approach, the influence on infrastructure from 1980 to 2007 was significant. Worlu&Emeka (2012) used the three-stage least square estimation method. The conclusion demonstrates that tax income has no

independent effect on growth via infrastructural development and foreign direct investment, but rather permits infrastructural development and foreign direct investment to respond positively to an increase in output. According to their own research, Owolabi & Okwu [38] conducted a study on the impact of Value Added Tax (VAT) on the development of the Lagos State Economy, utilizing simple regression models as abstractions of the various sectors studied. As dependent variables, a vector of development indicators was regressed on VAT income receipts to Lagos State for the time under study. Infrastructure development, environmental management, educational development, health and agricultural development, and transportation development are among the areas of development studied. The outcome of the study showed that VAT revenue contributed positively to the development of the respective sectors. Owolabi & Okwu [38] examined the contribution of VAT to the development of Lagos State Economy, using simple regression models as abstractions of the respective sectors considered In the study. The study considered a vector of development indicators as dependent variables and regressed each on VAT revenue proceeds to Lagos state for the study period. Various aspects considered included, infrastructural development, environmental management, education sector, youth and social development, transportation and health sector. The result shows that VAT revenue contributed positively to the development of the respective sector. However, the positive contribution was statistically significant only in the agricultural sector. On the aggregate, the analysis showed that VAT revenue made a considerable contribution to the development of Lagos State Economy for the period considered [38]. However, the positive contribution was statistically significant only in the development of agricultural sector. On the aggregate, the analysis showed that VAT revenue had a considerable contribution to the development of the economy of Lagos State during the period of study. Lee & Gordon, [39] in their paper, Tax structure and economic growth, explore how tax policy affects a country's growth rate using cross-country data during the period 1970-1997. Their findings revealed that statutory corporate tax rate are significantly negatively correlated with cross sectional differences in average economic growth rates, controlling for various other determinants of economic growth, and other standard tax variables and also, that in fixed-effect regressions increases in corporate

tax rates lead to lower future growth rates within countries. IN another study carried out by Unegbu&Irefin (2011), the impact of value added tax (VAT) on economic and human development of emerging nations from 2001-2009, using regression, discriminatory analysis and ANOVA, they found out that VAT allocations have a very significant impact on the expenditure pattern of the Adamawa state during the period covered by the study.Also, it was observed that, the perceptions by the citizenry across the administrative areas of the state suggests that VAT has minimum impact level on the economic and human developments in the state from 2001-2009.

5. METHODOLOGY

5.1 Research Design

A survey design that is empirical in nature would be employed in this study. The ex-post facto design will be adopted since the study intends to examine the relationship between Tax revenue and economic growth using existing (past) data in order to determine the current effect as well as to predict future occurrences.

5.2 Population

Thus, for the purpose of this study, the population in order to test the implications of the model would be collected from aggregate data on variables of interest in Nigeria. The entire data set of Nigeria for which all relevant variables are reported over a thirty-five-yearned (2006–2019).

5.3 Sources of Data

As regards this research work, secondary data will be used. Data would be sourced from CBN statistical bulletin and the World Bank data. Multiple regression analysis would be used for the analysis of the data which would consist of a fusion between the dimensions of time (time series). A quantitative research approach would be used to analyze the regression results.

5.4 Method of Data Analysis

Multiple regression analysis was employed for the analysis of secondary data gathered for the study. Regression analysis is a statistical process for estimating the relationship among variables. It includes many techniques for modeling and analyzing several variables, especially when the focus is of the relationship between a dependent variable and one or more independent variables.

In this study, the annual time series method of analysis was employed to develop a small macro-econometrics model that captured the relationship between economic growth and development gave tax revenue available to the government.

The secondary data collected include; Value Added Tax (VAT), Gross Domestic Product (GDP), Petroleum Profit Tax (PPT), Customs and Excise Duties (CED), Companies Income Tax (CIT). The justification for this is that the number of both dependent and independent variables being considered is more than two while our population will be the total collectible taxes by the Federal government of Nigeria.

The essence of the analysis is to enable the researcher to obtain stronger empirical evidence to support the study.

5.5 Pre Estimation Tests

5.5.1 Normality tests and descriptive statistics

Firstly, to estimate the normality of the distribution of the variables to be used in the study, normality tests will be carried out variables to ensure that the variables are standardized normal variables and do not violate the properties of a standardized normal distribution. For this purpose, the mean, standard deviation, and skewness of the variables to be used in the study would be provided in a descriptive manner. Also, kurtosis which measures the peakedness of the distribution of the variables would be shown in a descriptive form as well as the Jarque-Bera and its probability value which would be used to indicate the statistical significance of the variables [40].

5.5.2 Stationarity tests (ADF & PP)

Although time series data are used in many econometric studies, they present some special problems for econometricians. Most of the empirical work based on time series data assumes that the underlying time series are stationary and thus exposed to the problem of the random walk which poses serious challenges to the reliability of the result obtained from the analysis. Any time series can be thought of as

being generated by a stochastic or random process. A stochastic process is said to be stationary if its mean and variance are constant over time and the value of covariance between two time periods depends only on the distance or lag between two time periods and not on the actual time at which the covariance is computed. Some of the most efficient ways of testing for the presence of Stationarity in relation to time series model is the application of the Augmented Dickey Fuller (ADF) and Phillip-Perron (PP) test.

The ADF and PP will be used to avoid spurious regression thereby subjecting each of the variables used to unit root test so as to determine their orders of integration since unit root problem is a common feature of most time series data. Augmented Dickey Fuller ADF) and Phillip Perron (PP) tests the null hypothesis to know if there is absence of random walk in the model. The decision rule is based on failure to reject the null hypothesis of no random walk when all variables are stationary of the order Level, otherwise, we fail to reject the null hypothesis, which thus leads to the test for co integration.

5.6 Post Estimation Tests

5.6.1 Autocorrelation test

One of the major violations of the basic Least Square rule is when the error terms of successive periods are correlated with each other. The violation of this rule results in lower than acceptable range for the standard errors of the coefficient variables which thus renders them inefficient in the estimation process. It is paramount to carry out this test to determine the level of reliability of the model.

5.6.2 Heteroskedasticity test

The test for Heteroskedasticity will be carried out to determine if the error terms are constant over time, and to be sure that the error terms are not somewhat related or correlated with the explanatory variables. The presence of Heteroskedasticity violates the basic Least Square assumptions and renders the standard error of the variables too low and consequently can lead to Type 1 error.

5.6.3 Multicollinearity test

It has often been argued that multicollinearity is a must have in time series variables which is the

situation presented in this work, and thus the focus is not the elimination of the presence of multicollinearity in the model, but rather to minimize the effect of multicollinearity so as to ensure the consistency of the model estimation.

5.7 Ethical Consideration

In conducting a research work, respect for expertise and diligence is not only required, but also the honesty and integrity of the researcher. This is done so as to recognize researchers and works which have previously carried out studies in relevant and related areas. Materials and journals used for the research work are appropriately referenced and cited correctly. Also, the data which would be used in interpreting the results will not be in anyway falsified and appropriate effort would be made to ensure that the presentation and interpretation of data is done in a way that it would be free from any form of bias.

5.8 Analysis

According to the results in Table 1, the R value for the overall relationship of custom and excise duties, companies' income tax, petroleum profit tax, and value added tax and gross domestic's product was .951 meaning that there is a strong positive relationship between tax revenue and economic development in Nigeria. Furthermore, the value of coefficient of determination (R^2) was 0.8908, implies that 89% variation of the gross domestic product was due to the variations in tax revenue (custom and excise duties, companies income tax, petroleum profit tax, value added tax) while the remaining 11% is caused by other extraneous variable to our model. Also, the value of F-statistic was 12.53622 with $p < 0.05$. This shows that the overall model was statistically significant. The result implies that custom and excise duties, companies income tax, petroleum profit tax, value added tax have significant combined effect on tax revenue in Nigeria. Based on these findings, the null hypothesis (H_{01}) which states that there is no combine effect of proxies has any significant effect on the GDP of Nigeria is hereby rejected. Therefore, it can be concluded that custom and excise duties, companies income tax, petroleum profit tax, value added tax have significant combine effect on gross domestics product in Nigeria.

Consequently, in Table 1, the beta coefficients indicated that how and to what extent tax revenue that is, custom and excise duties,

Table 1. Regression analysis

	Coefficient	Std- Error	t-Stat.	Prob.
C	40.43340	152.3167	0.265456	0.8038
CET	0.117593	3.680734	0.031948	0.9760
CIT	0.539657	0.243539	2.2215895	0.0910
PPT	0.103431	0.043633	2.370469	0.0768
VAT	-0.452577	0.541029	-0.836510	0.4499
Correlation (R)	0.951			
R-Squared (R^2)	0.890848			
Adj. R^2	0.781697			
	Statistics		**Probability**	
Test for Autocorrelation	0.319975		0.3359	
Heteroskedasticity test	0.433771		0.9402	
Residual Normality Test	3.071693		0.215273	
ANOVAs F-calculated	12.53622		0.00062	

*Dependent Variable: Gross Domestic Product *significance at 5%*

companies' income tax, petroleum profit tax, and value added tax revenue affect gross domestic's product in Nigeria. The results show that custom and excise duties (B = . 0.117, t=0.031948, p>0.05) and companies income tax (B = 0.539657, t = 2.2215895, p>0.05), petroleum profit tax (B = 0.103431, t = 2.370469, p>0.05), positive effect on GDP and have insignificant effect on gross domestics product, whereas value added tax (B=-0.452577, t=-0.836510, p>0.05) negative effect on gross domestics product but have insignificant effect on gross domestics product in Nigeria.

The test for autocorrelation (t_{cal}=0.3199, p>0.05) since the p-value is greater than 5 percent (p>0.05), we cannot reject null hypothesis meaning that residuals (u) is not serially correlated which is desirable. Meaning that there is no serial correlation in the residual. The Heteroskedasticity test revealed that p-value (i.e 0.9402) is greater than 0.05, shows that we cannot reject null. So residuals do have constant variance which is desirable meaning that residuals are Homoscedastic. This implies that the residual have equal variance. The normality test also revealed that Jarque Berra statistics is 3.0715 and the corresponding p value is 0.2152. Since p vaue is more than 5 percent we accept null hypothesis meaning that sample residual (u) is normally distributed which fulfills the assumption of a good regression line.

6. DISCUSSION OF FINDINGS

Based on the researcher's computation as shown above and tested hypotheses. It can be

observed that CIT, PPT and CED are positively related to GDP on the other hand VAT is negatively related to economic growth which is measured by natural logarithm of GDP. This relationship is indicated by respective signs of the co-efficient.

From Table 1, which tested the relationship between Company income tax and Gross domestic product, it is empirically clear that CIT is positively related to economic growth proxied by GDP. This is indicated by the positive sign of the co-efficient. The co-efficient of 0.3679 indicates that for every 1% change in CIT will lead to 36.79% change in GDP implying that if GDP increases by #1, GDP will automatically rise by 36 kobo. The relationship when evaluated by t-statistics suggests the observed relationship is statistically significant at 10%.

Also, the R-square of 0.7527 implies 75.27% of the changes in the value of GDP is induced by changes in CIT, while the remaining 24.73% is caused by other factors/variables.

On the basis of the above statistics, we are expected to reject our null hypothesis 1 which states that CIT does not have significant influence on GDP and accept the alternative hypothesis 1. Hence Research question 1answered and research objective 1 achieved. This gives support to existing body of knowledge as stated by Afuberoh and Okoye [41] and Adegbie and Fakile [37] they concluded that taxation has positive and significant contribution to both total revenue and GDP.

From Table 1above, it can also be observed that CIT, PPT and CED are [positively related to GDP while VAT is negatively related to economic growth measured by the natural logarithm GDP. This relationship is indicated by the respective signs of the co-efficient. While PPT and CIT are statistically significant at 5% and 10% respectively, the contribution of CED and VAT are statistically insignificant on GDP with P-value of t-statistics of 0.0464, 0.0505, 0.9093, 0.4073 for PPT, CIT, CED and VAT respectively.

The positive co-efficient of 0.1022 for PPT indicates that 1% change in the value of PPT will lead to 10.22% increase in GDP and vice versa. The 0.5220 co-efficient for CIT inferred that the influence of CIT on GDP is stronger than that of PPT, this implies that 1% increase in the value of CIT will induce 52.22% increase in the value of GDP.

The adjusted $R^{2,}$ which is the model explanatory power of 0.9045 or 90.45% indicates that 90.45% of the changes in the value of GDP is attributable to the four independent variables (CIT, PPT, CED and VAT), while the remaining 9.555 is caused by other extraneous variables to our model.

Also the P-value of the F-statistics of 0.009 indicates the combined influence of all the explanatory variables on GDP is statistically significant at 1%. The Durbin –Watson stat of 2.2789 suggests that there is no serious evidence of negative correlation.

The above analysis has also been corroborated by the submission Owolabi and Okwu [38] when the contribution of Value Added Tax to the development of Lagos State Economy was examined, using simple regression models as abstractions of the respective sectors considered in the study. The study considered a vector of development indicators as dependent variables and regressed each on VAT revenue proceeds of Lagos State .the result showed that VAT revenue contributed positively to the development of the respective sectors of Lagos State.

Also, Unegbu and Irefin (2001) in their paper, the impact of VAT on economic and human developments of emerging Nations, using regression, descriptive analysis and ANOVA, found out that VAT allocation have a very significant impact on the expenditure pattern of the state during the period. Ogbonna and Ebimobowei [42-44] did a compressive assessment on the impact of tax revenue on the economic growth and development of Nigeria was carried out and concluded that it has a significantly positive correlation on the GDP.

The negative correlation between VAT and GDP could be attributed to so many factors which include economic recession, tax evasion and avoidance and corrupt practices by the tax officials.

Whenever a country is experiencing a recession, government will attempt to recover from the recession either through monetary or fiscal policy, such at increase in tax rate for goods and services so as to reduce consumption thereby reducing tax revenue from VAT.

In addition government could also introduce a policy so as to reduce level of importation thereby making revenue on customs and excise duties relatively low thereby reducing revenue on CED.

7. CONCLUSION

The research work which was based on tax revenue and economic development in Nigeria. The study revealed clearly that there exists a positive relationship between tax revenue and economic development. The findings highlighted the channels through which tax revenue influences economic development as measured by GDP. Attentions were focused mainly on four major taxes collectible by Federal government, which include: Company income tax, Petroleum profit tax, Customs and excise duties and Value added tax. A pragmatic way to boost the tax revenue ration to GDP is through improvement in the fiscal system. It has been observed that Nigeria's tax collection system is unnecessarily too cumbersome and notoriously unfriendly to so many taxpayers, clearly a lot still required to be done to make tax compliance less onerous for an average taxpayer. Tax collection is particularly difficult in developing countries with large informal sector, low levels of literacy and public morality, poor salary structure for public servants, poor communications, malfunctioning judicial systems and entrenched interests against radical reform.

8. RECOMMENDATION

Based on the findings and conclusions drawn from the study, we hereby make the following

recommendations: IN order to increase the tax revenue of government and for the realization of its full potentials on the economy, frequent review of tax laws and new legislations should be carried out including strengthening the existing ones in line with macro-economic objectives, which will eventually checkmate tax offenders and minimize corruption, tax evasion and avoidance and improve the tax administration machinery thereby increasing tax revenue of government.

In order to encourage voluntary compliance, tax policy formulation should be after due consultation with all the stakeholders. Currently, the gap between government and citizens is so wide that policies are made and forced down on the taxpayers without due consultation the major stakeholders.

Just like in every other profit oriented organizations, the structure of tax administration should be "customer oriented". Measures to assessing customer's satisfaction, employees' satisfaction and business oriented result should be put in place (Rainey and Thomson 2006). Satisfactory services by government to the taxpayers would encourage voluntary compliance. Efforts should be intensified to ensure that tax refunds are made easier to voluntary taxpayers. Government of developing countries should take significant steps to strengthen the framework for sound fiscal policies particularly on tax reforms which constitute the major policy instrument needed to accelerate growth and eliminate poverty and promoting a better tax system to mobilize more revenue. Once the critical institutional infrastructure has been upgraded, the tax managers actually can do their jobs efficiently and let alone suggest how to improve it within which it has been equipped. The only way to secure that taxpayers receive real value for their money is when the government established a long term goal through investment in infrastructural development. (Atuokwu, 2009).

9. LIMITATION OF THE STUDY

The research work carried out has been limited in scope of a period of ten years (2006 – 2019) using secondary data only. This is largely due to the constrain of obtaining the actual revenue from the independent variables of Companies income tax, Petroleum profit tax, customs and excise duty and Value added tax by using primary data which are not readily available at source. In addition, it is the belief of the researcher that the inclusion of additional explanatory variables would have consumed our degree of freedom as a result of number of data points available.

10. CONTRIBUTION TO KNOWLEDGE

It is the view of the researchers that this study will be of immense benefit to the policy makers, tax consultants, taxpayers and the entire populace, this is because the study bring out reasons for the envisaged decline in tax revenue of Government and efforts that should be made to seriously address the issue in view of the vastly dwindling revenue from hitherto oil proceed as a result of the crash in international oil price.

11. SUGGESTION FOR FURTHER STUDY

The researchers decision to limit the number of the independent variables to four- companies income tax (CIT), petroleum profit tax (PPT), customs and excise duty CED) and value added tax (VAT) was borne out of our conviction that those taxes would eventually lead to arriving at our conclusion about the effect of tax revenue on the economic development of Nigeria.

However, further studies could still be carried out to incorporate other taxes such as TETFUND, capital gain tax, stamp duty so as to determine their effect on the general economic development of Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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