IJAAR PUBLISHING®
DOI: 10.46654

International Journal of Research in Education and Sustainable Development | ISSN: **2782-7666**
Vol. 2, Issue 3 (March, 2022) | www.ijaar.org

TAX REVENUE AND ECONOMIC GROWTH: A STUDY OF NIGERIAN ECONOMY

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Abstract

This study ascertains the effect of Tax Revenue on Economic Growth of Nigeria. The specific objectives are to: ascertain the effect of Tax Revenue on Inflation Rate of Nigeria, and determine the effect of Tax Revenue on Interest Rate of Nigeria. Ex Post Facto research design was adopted. The data were sourced from the Central Bank of Nigeria (CBN), Statistical Bulletin and Annual Abstract of Statistics from the National Bureau of Statistics (NBS). Regression analysis: predicts the value of a variable based on the value of the other variable and explains the effect of changes in the values of variable on the values of the other variables with aid of E-view 9.0. The findings conclude that tax revenue has no significant effect on inflation rate and interest rate of Nigeria at 5% level of significance. The study recommended that, given the favorable link between petroleum profit taxes and economic development, the federal government should support public financial management, promote supervision and transparency measures, improve tax administration, and combat tax evasion.

Keywords: Tax Revenue, Economic Growth, Inflation rate and Interest rate

Introduction

Any nation's economic development is determined by the quantity of resources it generates and controls in order to pay its infrastructure needs and meet its day-to-day expenses. However, it is thought that the resources required would come from both external and internal sources, and will be collected through a well-structured tax system. Economic development is the progression of a nation's people's level of life from a low-income (poor) to a high-income (rich) economy. There is more economic development when the local quality of life is improved (Tomljanocich, 2014). The level and rate of economic growth in countries around the world are determined by taxation as a macroeconomic policy tool. A well-structured tax system allows the government to generate much-needed revenue to meet its ever-increasing demands. Tax is a veritable and sustainable source of revenue for government and a tool for fiscal policy and macro-economic management. Ezejiofor, Adigwe and Echekoba (2015) reported that Taxation as a fiscal policy instrument has a significant effect on the performance of Nigerian manufacturing companies, showing that the amount of tax to be paid depends on the companies' performances.

The Federal Inland Revenue Service (FIRS) manages federally collected taxes, while the board of state internal revenue service administers state government taxes and the revenue committee administers local government taxes and levies. Tax collection is critical for developing countries, particularly in economies like Nigeria, where reliance on a single source of revenue is high.

The goal of tax administration is to create enough income to improve the welfare of a nation's citizens, with an emphasis on fostering economic growth and development through the provision of basic amenities and improved public services through an effective administrative system and structures. Tax income is critical to the growth and development of economic activities. The importance of tax money in fostering economic activity and growth may be overlooked if it is mismanaged. Infrastructure amenities such as power, roads, telecommunications, water, and high-quality health and educational facilities are critical for businesses to thrive and compete globally, as they reduce business owners' overhead costs and allow for expansion, resulting in wealth for the prosperity of all citizens and boosting income per capital.

The challenges associated with Nigeria's major tax reforms might be linked to the country's inability to meet the goals it set for itself. Some of the issues identified include the Federal Government of Nigeria's increasing cost of tax administration in relation to tax revenue collections, as evidenced by scholars, which is a major indicator of the country's high level of inefficiency in tax operations, contrary to Adam Smith's tax canons. Furthermore, existing tax system distortions have threatened some of the objectives of Nigeria's tax reform strategy, resulting in an inefficient tax system. As a result of tax evasion and insufficient supervision, Nigeria's corporate income tax administration does not meet necessary requirements (Onakoya, Afintinni, & Ogundajo, 2017). Because of insufficient management, bad tax administration, poor tax education, contradictory government policies, a lack of adequate statistical data, and corruption among tax employees, noncompliance with tax rules and regulations by taxpayers is deep in the system. Fraud and financial misdeeds have a negative impact on Customs and Excise duties' contribution to Nigerian economic development. The Nigerian customs service has been chastised for incompetence and corruption, and its higher echelon is plagued by intrigue and infighting. All of this must alter if Nigeria's ambition of economic progress is to come true. The rate of value added tax in Nigeria is one of the

reasons contributing to the real economy's downfall. This is due to the fact that it disturbs the manufacturing sector by speeding stratospheric rates of change (Out & Adejumo, 2013).
As a result of the above, there is obvious evidence of a measurement gap in economic development; however, this study closed the gap by focusing entirely on economic development index using per capita income, whereas previous studies focused on Real Gross Domestic Product. Furthermore, in order to address the currency gap in information, the scope of this current study was extended over a period of twenty (20) years, from 2000 to 2019, in order to establish current empirical findings. The main objective of this study was to examine the effect of Tax Revenue on Economic Growth of Nigeria. The specific objectives are to:

i. *Ascertain the effect of Tax Revenue on Inflation Rate of Nigeria.*
ii. *Determine the effect of Tax Revenue on Interest Rate of Nigeria.*

Review of Related Literature

Tax Revenue

Revenues received from income and profit taxes, social security payments, taxes on goods and services, payroll taxes, taxes on the ownership and transfer of property, and other taxes are referred to as tax revenue (Sion, 2019). The income obtained by governments through taxing is referred to as tax revenue. A state's principal source of revenue is taxation. Individuals, public enterprises, commerce, royalties on natural resources, and/or foreign aid are all potential sources of revenue (Moss, 2016).

The Customs and Excise Act 91 of 1964 imposes customs duties. They are often computed as a percentage of the item's worth (set in the schedules to the Customs and Excise Act). Meat, fish, tea, certain textile products, and certain firearms, on the other hand, are subject to duty rates that are calculated as a percentage of the value or as cents per unit (for example, per kilogram or metre) (Odusola, 2006). In Nigeria, customs taxes are the earliest form of contemporary taxation. They were first introduced in 1860 and are known as import duties. They are taxes on imports into Nigeria that are levied either as a percentage of the value of the imports or as a fixed amount based on quantity. Import duties are the highest-yielding indirect or spending tax in the country. Prior to the implementation of the Structural Adjustment Programme (SAP) in the year 1986, customs duties were as high as 300percent but currently range between 2 percent and 75 percent. The Customs and Excise management Act of 1958 and its amendments provided the statutory backing for the implementation of the tax (Davis, 2019).

Excise duties, which were first imposed in 1962, are an ad valorem tax on the output of manufactured goods imposed by the Customs and Excise Acts of 1962 and 1965, as well as the Customs and Excise Tariff Decree of 1995. Part III section I of the Customs, Excise Tariff (Consolidation) Act 1995 states that items made in Nigeria and listed in the fifth schedule to the Act are subject to excise duties at the rates provided in the duty column of the schedule. The tax system is insecure, and it can be applied or cancelled at any time, as it was in 1998-2000. Most manufactured goods have been duty-free since 2001, with the exception of those that are considered dangerous, such as bleaching creams, alcohol, spirit, and cigarettes (Olaoye & Ayeni, 2019). Excise duty is used to deter people from consuming dangerous products (Samuel, 2013).

Collection of government revenue (customs and excise duties, import value added tax, and other levies), facilitation of legitimate imports and exports, protection of Nigerian society against cross-border crime, and combating unfair and harmful trade practices are all responsibilities of the customs and excise division. These are attained through the effective

and efficient implementation of the customs and excise duty act, as well as other pieces of legislation relating to import and export control, as well as the implementation of World Customs Organization conventions and other international trade instruments and standards applicable in the field of customs and trade, with the goal of simplifying and streamlining the process, harmonizing customs practices, combating fraud and corruption and, providing enhanced facilitation for operators that meet high standards of compliance (Siddharth, 2017).

Importers of certain commodities must pay customs duty, which is an important source of revenue for the federal government. One of the government's key concerns has been how to raise and boost revenue by guaranteeing that all revenue that may be collected is collected by Nigeria Customs Services. Over the years, the government has adopted the practice of setting annual income targets for the Nigeria Customs Service. Despite the fact that most of the factors that influence the final collectable revenue, such as the quantity/quality of imported goods, government fiscal policy measures, exemptions, and other incentives granted to importers in the manufacturing sectors, are completely beyond the service's control, efforts are always made to ensure that such targets are not only met but exceeded (Emmanuel, 2013). The aspiration of the government is to integrate the Nigeria economy into the global market through the establishment of a liberal market; promote and diversify exports in both traditional and non-traditional markets; and stimulate the transfer, acquisition and adoption of appropriate and sustainable technologies to nurture competitive export oriented industries (Umoru & Anyiwe, 2013).

A value-added tax (VAT) is a consumption tax levied on a product whenever it adds value at any point along the supply chain, from manufacture to sale. The amount of VAT that the consumer pays is based on the cost of the product, minus any already taxed costs of materials used in the product. VAT is a regressive tax that increases the economic burden on lower-income taxpayers while simultaneously adding administrative hurdles to businesses. Value-added taxes are levied on the basis of a taxpayer's consumption rather than their earnings. Unlike a progressive income tax, which imposes higher taxes on higher-income people, VAT applies to all purchases equally (Kagan, 2019). A value-added tax (VAT) is a consumption tax paid on items at every point of sale where value is added, from raw ingredients to final retail purchases. The VAT is ultimately paid by the consumer; customers at earlier stages of manufacturing are reimbursed for the VAT they paid previously. Nigeria's Value Added Tax (VAT) is a consumption tax enacted by the Value Added Tax Act of 1993. It is a federal tax administered by the Internal Revenue Service (FIRS). VAT is levied on the majority of goods and services provided in Nigeria, as well as commodities imported into the country. Businesses in Nigeria add VAT to the price of the goods or services they sell. They, like consumers, pay VAT on the goods and services they consume. Businesses can utilize some of the VAT they pay to offset VAT they collect before remitting it to the FIRS (Deloitte, 2019). According to Fasoranti (2013), development entails increasing economic activity. According to Salami, Apelogun, Omidiya, and Ojoye (2015), at the early stages of economic development, the rate of growth in public expenditure will be very high because the government supplies fundamental infrastructure and most of these projects are capital intensive. As a result, government spending and investment in education, health, roads, power, and water are essential for the economy to progress from a developing to a developing stage and establish an egalitarian society (Sekou, 2015).

Economic Growth

The goal of economic growth is to increase the size of the economy's gross domestic product (GDP). GDP is the total of a country's economic activity during a given time period. It is the total worth of all the goods and services produced by a country's economy. Economic

development, on the other hand, considers a far broader variety of data than just GDP and GDP per capita. GDP per capita is calculated by dividing the entire population by the GDP. Economic development examines how a country's population is influenced. It considers not only their living standards, but also the freedom people have to enjoy those standards (Agarwal, 2019). Average life expectancy, i.e., how long people people's lifespans are:

- Education standards.
- Literacy rates, i.e., what percentage of the population can read.
- Environmental standards.
- Availability of housing, plus the quality of housing.
- Access to healthcare. This takes into account the number of doctors per thousand people, access to affordable medicine, etc.
- Income per capita.

Inflation rate

There is a paucity of literature on the subject of taxation and inflation, both from Nigerian and international experts. However, researches that may or may not be related to the issue are brought to light in this area of the empirical review. In Nigeria, Atan (2013) conducted research on tax policy, inflation, and unemployment. Using the ordinary least square method, the analysis found that historical trends in inflation and unemployment showed no meaningful reaction to tax policy throughout the period 1970 to 2008. The study also discovered that reduced taxes resulted in lower inflation during some periods, while unemployment fluctuation was not based on whether taxes were raised or lowered. Olatunji (2013) conducted research into the impact of VAT on revenue generation in Nigeria, as well as citizen perceptions of VAT and inflation. For the study under consideration, he used the descriptive research method. The study found that the value added tax (VAT) had no impact on the rate of inflation in Nigeria over the study period. Following that, it was suggested that for any fiscal policy to succeed, it must be well-planned, the duration should be reasonable based on the country's stage of development, and good communication should be utilized to improve the quality of its implementation and increase revenue collected (Obaretin & Akhor, 2019).

Interest Rate

Interest rate, according to Adebiyi (2002), is the return or yield on equity or opportunity cost of delaying current spending into the future. The saving rate, lending rate, and discount rate are all examples of interest rates. Interest is also described as a price that equals the supply of 'Credit' or savings plus the net rise in the quantity of money in a given period to the demand for credit or investment plus net 'hoarding' in the same period (Jhingan 2003). Investment is influenced by the rate of interest charged when borrowing money from the market, whereas economic growth is influenced to a considerable part by the quantity of debt (Obute, Adyorough & Itodo, 2012). If interest rate is high, investment is at low level and when interest rate falls, investment will rise. There is therefore a need to promote an interest rate regime that will ensure "inexpensive" spending for investment and consequently enhancing economic growth at low financial cost (Jhingan 2003). According to Chris and Anyingang (2012), in Nigeria, interest rate is determined by the following factors:

The investment demand: The higher the level of investment demand the higher the level of interest rates. On the other hand, the lower the investments demand, the lower the level of interest rates.

i. The level of savings (or conversely the level of consumption): The higher the level of savings the lower the interest rate while, the lower the level of savings, the higher the level of interest rates,

ii. Money demand or liquidity preference: A higher money demand means a lower interest rate, while a lower money demand means a higher interest rate.
ii. Money quantity or money supply: In Keynesian terms, when money supply increases, the interest rate decreases.

Empirical Review

The following is a discussion of the existing reviewed literatures from both developed and developing economies that are relevant to the issue of this study: Dackehag and Hansson (2012) looked at how income taxation affects economic growth. Specifically, the study used panel data from 1975 to 2010 for 25 rich OECD nations to examine how statutory tax rates on company and personal income effect economic development. The Augmented Dickey Fuller Test, Johansen Co-integration analysis, and Ordinary Least Square regression analysis were used to examine the time series data. The study discovered that both company and personal income taxes have a detrimental impact on economic growth. Okoye and Ezejiofor (2014) investigate whether e-taxation can alleviate the problem of tax evasion and prevent tax officers in Nigeria from engaging in corrupt practices. The Z-test statistical tool was used to test the data. E-taxation, according to the findings, can prohibit tax officers from engaging in corrupt behavior. As a result, the level to which the government has gone in establishing its e-tax administration is still minimal, and some tax administrators and taxpayers are still unaware of Nigeria's online tax assessment and collection. Feng and Eko (2014) used the simple and revised tax multiplier effect theory and the polynomial distributed lag (PDL) model to examine the link between tax revenue and economic growth in Hebei Province from 1978 to 2011. The findings revealed that the negative impact of increased tax revenue on economic growth may not be as severe as one may believe, and that tax cuts in Hebei Province might have a greater beneficial impact. Furthermore, the harmful effect is trailing and becoming increasingly visible. The current tax structure should be evaluated and reforms enacted. Oriakhi and Ahuru (2014) ascertained the impact of tax reforms on tax revenue generation in Nigeria. Specifically, an attempt was made to verify the relationship between federally collected revenue and specific tax revenue generation sources. Data from annual time series spanning the years was used in the study (1981-2011). As a proxy for tax reform, several income taxes were utilized. The Johansen co-integration test revealed that in Nigeria, there is a long-run relationship between tax reform and federally collected revenue. Customs and excise charges, as well as the value-added tax, are granger causes of federally collected money, according to the Granger causality. Overall, the study found that tax reform improves the government's ability to produce more income through improving the tax system and lowering the tax burden. The analysis concluded that VAT and Customs and Excise Duties (CED) offer the government with a good tax handle for maximizing income. Maina (2014) presented empirical evidence on the link between Kenya's income tax and economic performance. For the period 1970 to 2012, the researchers used an endogenous growth model to investigate the relationship between income tax and economic performance in Kenya. Consumption tax, foreign trade, government consumption, and population growth rate are among the other variables under control. OLS and VECM were used to generate the regression model. Both the OLS model and the VECM found a negative association between income tax and economic performance, but it was not statistically significant. The economic performance is unaffected by consumption taxes, foreign trade, or population growth rates. From 1980 to 2010, Edame and Okoi (2014) investigated the impact of taxation on investment and economic growth in Nigeria. The data was analyzed using the traditional least square approach of multiple regression analysis. Because the parameter estimates of corporate income tax (CIT) and personal income tax (PIT) appear with negative signs, the analysis resulted in line with a priori expectations, implying that there is an inverse link

between taxes and investment. For the years 1994 to 2012, Chigbu and Njoku (2015) evaluated the influence of taxation on the Nigerian economy. The model's dependent variables are as follows: The Gross Domestic Product (GDP) is a unit of measurement for economic growth, inflation, and unemployment. The data set was gathered from the Central Bank of Nigeria statistical bulletin and the Federal Inland Revenue Service, and the variables were found to be stationary using the Augmented Dickey Fuller Unit Root test. The cointegration test also demonstrated that the variables are cointegrated and that there are long-run correlations between them. The statistical analysis demonstrated that the explanatory factors (Customs and Excise Duties, Company Income Tax, Personal Income Tax, Petroleum Profit Tax, and Value Added Tax) have positive associations with the dependent variables (Gross Domestic Product, Unemployment). The effect of the Tertiary Education Tax Fund (TETFUND) on management in Nigerian tertiary education was investigated by Oraka, Ogbodo, and Ezejiofor (2017). Financial ratios were used to gather data from the National Bureau of Statistics, and regression analysis with the SPSS statistical software version 20.0 was used to test the results. According to the findings, ETF fund allocations to Nigerian Tertiary Institutions have no relationship with their enrollment ratio. Using chosen manufacturing enterprises listed on the Nigerian Stock Exchange, Erhirhie, Oraka, and Ezejiofor (2018) looked at the effects of corporate tax on financing decisions of manufacturing firms (NSE). Data were taken from the annual reports and accounts of three selected manufacturing enterprises and evaluated using the linear regression model in an ex post facto study methodology. Our findings revealed that there is no substantial association between corporation tax and dividends paid by Nigerian Breweries Plc, Dangote Cement Plc, and PZ Cussons Plc, as well as new ordinary share issuance, retained earnings, and long-term debt. The role and influence of tax on economic growth were recognized by Nur-Arifah, Abdul, and Sahibzada (2016). The study looked at 27 Asian countries during a five-year period (2011-2015). GDP per capita, FDI rate, corporation tax, individual income tax, and consumption tax were used to compile the data. To do descriptive correlation and regression analysis, E-Views software was used. GDP per capita, FDI rate, corporation tax, individual income tax, and consumption tax all have a significant positive association. For the period 1993 to 2013, Akhor and Ekundayo (2016) looked at the impact of indirect tax collection on Nigerian economic growth. The data were evaluated using descriptive statistics, correlation, unit root test, co-integration test, and error correction model regression in a time series study design. Value added tax has a negative and considerable impact on real gross domestic product, according to the findings. From 1986 to 2012, Gylych, Abdulrahman, and Abdurrahman (2016) investigated the influence of tax revisions on Nigerian economic growth. The OLS regression results using the E-views Windows showed that tax reforms are positively and strongly connected to economic growth, indicating that tax reforms actually affect economic growth. The study concluded that favorable tax reforms boost the government's revenue-generating capabilities, allowing it to engage in socially acceptable activities that lead to economic development in real output and per capita. From its start through 2014, Nasiru, Haruna, and Abdullahi (2016) investigated the influence of VAT on the level of economic activity in Nigeria. The study relied on secondary data, which was examined using the co-integration technique developed by Johansen (1988). The data was collected on a quarterly basis from 1994 to 2014. The study discovered that VAT has a strong positive impact on economic growth. The impact of the value added tax on the Nigerian economy was investigated by Oraka, Okegbe, and Ezejiofor (2017). This study used an ex post facto research design. The study used Gross Domestic Product (GDP), Per Capital Income (PCI), and Total Revenue (TR) to measure the Nigerian economy from 2003 to 2015. In order to acquire statistics on value added tax, gross domestic product, per capita income, and total revenue, the secondary data approach was used. These figures came from the CBN

statistical bulletin, the federal ministry of finance's Federal Inland Revenue Service, and periodicals. Simple regression analysis was used to analyze the data. It was revealed that VAT and per capita income have a negative association. Utilizing secondary data and a multiple variable regression model using the OLS approach, Neway, Kenenisa, and Woldemicael (2018) identified predictors of tax revenue in Ethiopia. On a time series data set spanning the years 1999/00 to 2015/16, a quantitative research method was used. To evaluate and display the data received from concerned bodies, descriptive statistics and econometric methods were used. The findings revealed that, as measured by share of export and import to GDP, industry sector share of GDP, per capita income, and trade openness have significant positive effects on tax revenue, whereas agriculture sector share of GDP and annual rate of inflation have significant negative effects on tax revenue as measured by share of tax revenue to GDP. In Nigerian deposit money banks, Udeh and Ezejiofor (2018) looked at the impact of accounting information on deferred taxation. The particular objectives are to determine whether earnings per share had an influence on Nigerian deposit money bank deferred tax items and how cash flow affected deferred tax items. The data was acquired from yearly reports and accounts of Nigerian deposit money institutions using an ex post facto research design. To evaluate the hypotheses, a pooled multiple regression analysis was used. According to the findings, earnings per share (EPS) and cash flow (CASHFL) have a negative impact on our dependent variable, deferred tax, but book value of equity has a statistically significant impact, but earnings per share (EPS) and cash flow (CASHFL) were not statistically significant The relationship between tax revenue and economic growth in Nigeria was investigated by Asaolu, Olabisi, Akinbode, and Alebiosu (2018). The study used a descriptive and historical research approach, with secondary data acquired from various issues of the Central Bank of Nigeria (CBN) statistical bulletin and annual reports for a period of twenty-two years (1994-2015). To determine the existence of a relationship between the variables, regression and other post estimations (Jarque-Bera test; Breusch-Godfrey LM and Ramsey Reset Test) are used. VAT and CED had significant positive connections with economic growth (p0.05), whereas CIT had a negative significant relationship with economic growth (p0.05). PPT, on the other hand, exhibited no correlation with economic development. The study concluded that taxation plays an essential role in nation-building. Omondi (2019) analyzed the effect of custom and excise duties on economic growth in Kenya for the period 1973 to 2010. The study adopted a correlation research design based on its ability determine the strength and direction of relationships between variables while the theoretical framework was anchored on endogenous growth model. The influence of tax planning on company value in listed consumer products manufacturing firms in Nigeria was studied by Umeh, Okegbe, and Ezejiofor (2020). With the help of E-View 9.0, the three hypotheses were tested using ordinary lease square regression. The effect of the effective tax rate (ETR) on business value was shown to be negative in this study, however the effect was statistically significant. However, the analysis discovered that while book tax difference (BTD) has a favorable impact on business value, it is not statistically significant. The impact of CEO duality on the effective tax rate of listed food and beverage companies is studied by Ezejiofor and Ezenwafor (2020). The study used an ex-post facto methodology. During the data gathering phase, we used a purposive sample strategy to choose nine (9) organizations. From 2013 to 2019, data was gathered from the sampled companies' annual reports and financial statements. The study's data was examined using descriptive statistics, and regression was employed with the use of the e-view, which provided 95 percent confidence at five degrees of freedom (df). The findings suggest that CEO duality was considerable and had a positive coefficient on food and beverage companies' tax planning in Nigeria. Tax Revenue on Nigerian Per Capita Income was assessed by Ezejiofor, Oranefo, and Ndum (2021). The study used an ex-post facto research design. The Nigerian economy

was made up of the population, and data for this study came from the Statistical Bulletin of the Central Bank of Nigeria (CBN) and the Federal Inland Revenue Service (FIRS). Per Capita Income (PCI), as well as customs and excise charges, were retrieved as variables. This study's data analysis was based on information gathered from CBN, FIRS, and NBS publications and statistical bulletins. The hypothesis was tested using correlation and Ordinary Least Square (OLS) regressions. Customs and excise fees have a non-significant positive influence on Nigeria's per capita income, according to data analysis. Nweze, Ogbodo, and Ezejiofor (2021) investigated the impact of tax revenue on Nigeria's per capita income from 2000 to 2019. Ex-post facto research design was used in this study, which used time series data. The study discovered that tax collection had a strong positive impact on Nigeria's per capita income.

Customs and excise duties are positively connected with economic growth in Kenya, according to the empirical findings. As a result of the above, there is obvious evidence of a measurement gap in economic development; however, this study closed the gap by focusing entirely on economic development index using per capita income, whereas previous studies focused on Real Gross Domestic Product. Furthermore, in order to address the currency gap in information, the scope of this current study was extended over a period of twenty (20) years, from 2000 to 2019, in order to establish current empirical findings.

Methodology

Ex-post Facto research design was adopted. An *ex-post facto* investigation seeks to reveal possible relationships by observing an existing condition or state of affairs and searching back in time for plausible contributing factors. The thirty-six (36) states of the Federal Republic of Nigeria including the Federal Capital Territory, Abuja, constituted the population of this study.

The nature of data for this study was essentially secondary data and is time series in nature. The data were sourced from the Central Bank of Nigeria (CBN), Statistical Bulletin and Annual Abstract of Statistics from the National Bureau of Statistics (NBS).

Method of Data Analysis

Regression analysis: predicts the value of a variable based on the value of the other variable and explains the effect of changes in the values of variable on the values of the other variables. Ordinary Least Square (OLS) regression analysis would be used for this study.

Model Specification

Expressing the relationship in linear form using the variables, the following estimating equations were arrived at:

$IFR_t = \beta_o + \beta_1 CED_t + \beta_2 VAT_t + \mu_t$ - - - - - i

$ITR_t = \beta_o + \beta_1 VAT_t + \beta_1 CED_t + \mu_t$- - - - - - ii

Where:

β_o = Intercept
β_1 = Coefficient of Tax Revenue
IFRt = Inflation Rate for period t
INRt = Interest Rate t
CED_t = Custom and Excise Duties for period t
VAT_t = Value Added Tax for period t
μ_t = error term for period t
t denotes the annual time-period

Decision Rule

Accept the alternative hypothesis, if the P-value of the test is less than 0.05. Otherwise reject.

Data Analysis

Test of Hypothesis One

Ho_1: Tax revenue has no significant effect on Inflation rate of Nigeria.
H_1: Tax revenue has significant effect on Inflation rate of Nigeria.

Table 1: Ordinary Least Square regression analysis testing the relationship between (CED, VAT and IFR)

Dependent Variable: IFR
Method: Least Squares
Date: 06/27/21 Time: 11:04
Sample: 2000 2019
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.06369	1.811862	7.210091	0.0000
CED	1.25E-12	1.03E-11	0.121352	0.9050
VAT	9.77E-12	1.77E-11	0.552165	0.5890

R-squared	0.131186	Mean dependent var	12.06750
Adjusted R-squared	-0.100498	S.D. dependent var	3.663389
S.E. of regression	3.843065	Akaike info criterion	5.742736
Sum squared resid	221.5372	Schwarz criterion	5.991669
Log likelihood	-52.42736	Hannan-Quinn criter.	5.791330
F-statistic	0.566226	Durbin-Watson stat	1.841027
Prob(F-statistic)	0.690988		

Source: E-Views 9 Regression Output, 2021

Using the above model, it is possible to determine the relationship between (CED, VAT and IFR). Holding all other factors constant, an increase in the unit of the independent variables (CED, and VAT) results into a corresponding decrease in one unit of IFR, this means that a negative effect exists between the explanatory variables CED, and VAT have positive effect on IFR. The slope coefficient shows that the probability value: P(x_1= 0.905, 0.589>0.05) is greater than the critical P-value of 0.05. This implies that CED has statistically insignificant effect with IFR at 5% significant level. However, VAT has positive significant effect on inflation rate (IFR). Results in table 1 also indicated that the R-squared for the model is 0.131, meaning that the regression model used for this study is a good predictor. The independent variables explained 13% of the variation in IFR. Only 87% of variation in IFR is not explained by the regression model. The Durbin-Watson value of 0.841 indicates the absence of serial correlation in the model.

Decision:

The p-value of the test Prob (F-statistic) = 0.691 is greater than the α-value of 0.05; therefore H_1 is rejected and Ho is accepted. Since the p-value of the test is less than 0.05, then there exists enough evidence to accept the null hypothesis and conclude that tax revenue has no significant effect on inflation rate of Nigeria at 5% level of significance.

Test of Hypothesis Two

Ho_2: Tax Revenue has no significant effect on Interest Rate of Nigeria.
H_2: Tax Revenue has significant effect on Interest Rate of Nigeria.

Table 2: Ordinary Least Square regression analysis testing the effect of between (CED, and VAT on ITR)

Dependent Variable: ITR
Method: Least Squares
Date: 06/27/21 Time: 11:37
Sample: 2000 2019
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.358812	2.016524	3.153353	0.0066
CED	1.55E-11	1.14E-11	1.355574	0.1953
VAT	-2.30E-11	1.97E-11	-1.167770	0.2611

R-squared	0.352657	Mean dependent var	7.000500
Adjusted R-squared	0.180032	S.D. dependent var	4.723430
S.E. of regression	4.277165	Akaike info criterion	5.956776
Sum squared resid	274.4121	Schwarz criterion	6.205709
Log likelihood	-54.56776	Hannan-Quinn criter.	6.005370
F-statistic	2.042909	Durbin-Watson stat	2.674174
Prob(F-statistic)	0.139701		

Source: E-Views 9.0 Regression Output, 2021

Interpretation of Regressed Result

Using the above model, it is possible to determine the relationship between (CED, VAT and ITR). Holding all other factors constant, an increase in the unit of the independent variable CED, results into a corresponding increase in one unit of ITR, while an increase in the unit of the independent variable (VAT) results into a corresponding decrease in one unit of ITR. The slope coefficient shows that the probability value of (CED and VAT) = 0.195 and 0.261 >0.05 is greater than the critical p-value of 0.05, showing that tax revenue has no significant effect on Interest rate (ITR). Results in table 2 also indicated that the R-squared for the model is 0.353, meaning that the regression model used for this study is a good predictor. Only 65% of variation in ITR is not explained by the regression model. The Durbin-Watson value of 2.674 indicates the absence of serial correlation in the model.

Decision:

The p-value of the test Prob (F-statistic) = 0.140 is greater than the α-value of 0.05; therefore H_1 is rejected and Ho is accepted. Since the p-value of the test is less than 0.05, then there exists enough evidence to accept the null hypothesis and conclude that tax revenue has no significant effect on interest rate of Nigeria at 5% level of significance.

Discussion of Result and Recommendations

The findings in hypothesis one demonstrated since the p-value of the test is less than 0.05, then there exists enough evidence to accept the null hypothesis and conclude that tax revenue has no significant effect on inflation rate of Nigeria at 5% level of significance. The regressed coefficient correlation result for hypothesis two showed that the p-value is greater than the α-value of 0.05; there exists enough evidence to reject the null hypothesis and conclude that tax revenue has no significant effect on interest rate of Nigeria at 5% level of significance. The study concludes that increase in one unit of tax revenue will lead to decrease in inflation rate and interest rate in economy.

The following recommendations were made based on the study's conclusion and findings:

i. Given the favorable link between petroleum profit taxes and economic development, the federal government should support public financial management, promote supervision and transparency measures, improve tax administration, and combat tax evasion.

ii. The federal government should improve efficiency in the allocation of developmental resources through efficient tax policy in order to reverse the inverse link between value added tax and per capita income.

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