IMPACT OF TAX REVENUE ON EXTERNAL PUBLIC DEBT IN NIGERIA (1998-2021).

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Abstract

The study examined the impact of tax revenue on external public debt in Nigeria. The specific objectives
were to evaluate the impact of petroleum profit tax, company income tax, custom and excise duty and valueadded tax on external public debt in Nigeria. Secondary data were obtained from Central Bank of Nigeria (CBN) and Federal Inland Revenue Service annual reports and accounts for the period of 23 years (1998-2021). The study made use of descriptive statistics so as to determine the characteristics of the modelvariables; while Ordinary Least Square (OLS) multiple regression was used to estimate the impact of the independent variables on external public debt in Nigeria at 0.05 level of significance. Resultsof the OLS regression analysis showed that Petroleum Profit Tax (PPT); Company Income Tax (CIT);Custom andExcise Duty (CED) had negative and significant impact on external public debt. However, the study alsodiscovered that value added tax had negative and no significant impact on external public debt in Nigeria.The overall implication of these findings is that tax revenue has contributed in reducing external public debt in Nigeria. In line with this, the study concluded that tax revenue had influenced the Nigeria's foreign debt for the period covered by the period. The study therefore, recommended that government can use tax revenues to pay public debt directly rather than investing it in unnecessary and poorly planned projects with no profit.

1.1 Introduction

Countries all over the world become indebted if revenue collected through taxes and other sources are not adequate to cover governance expenditure. In the words of Ezeabasili, Isu and Mojekwu (2011), borrowings by these countries occur as a result of their inability to generate adequate domestic savings needed to carry out productive activities that promote sustainable development. For instance, Nigeria like other developing countries had faced domestic financial constraints which has been worsened by the recent decline in world prices of crude oil. These constraints have made external borrowing an essential complement to domestic resources to bridge the gap in revenue deficit (Omolayo, John, Ekundayo and Doorasamy, 2021). Therefore, the use of public debt to address the challenges of economic development in Nigeria has become an issue of necessity that is difficult to avoid due largely to low domestic savings, low tax revenue and meager foreign exchange earnings (Onakoya and Ogundade, 2017).

To overcome these challenges however, there is a global paradigm shift to tax revenue as an alternative source of revenue generation. In line with this, Kundt, Misch and Nerre (2017) highlighted that the mobilization of domestic resources in developing countries, principally through transparent, fair and efficient tax system is regarded as the central means of achieving sustainable development goals (SDGs). This fact is buttressed further by Adegbie and Faboyede

(2014) who opined that taxation offers an antidote to aid dependence in the developing countries and provides fiscal reliance and sustainability that are needed to promote growth and development. The Nigerian economy has remained in a deep slumber with macroeconomic indicators showing our economy in crucial need for restoration and recovery from recession and indeed thorough reform. Hence, a good tax system offers itself as one of the most effective means of mobilizing a nation's internal resources and lends itself to creating enabling and conducive environment for the promotion of economic growth and development (Ogbonna and Ebimobowei, 2011).

The primary focus of a modern tax system is generation of revenue that helps the government to finance the ever-increasing public sector expenditure. In order to avoid multiple collections of taxes from the same payer in Nigeria, the federal taxes have been clearly defined by the Joint Tax Board as follows: petroleum profit tax, company income tax, value added tax, capital gains tax, education tax, custom and excise duty and personal income tax with respect to armed forces, polices, staff of Nigeria foreign service and individuals who are residents in Federal Capital Territory (Yusuf and Mohd, 2020). However, the role of taxation in promoting economic activities may not be felt if poorly administered. This calls for a need for proper examination of the impact of tax revenue on external public debt in Nigeria to enable proper policy formulation and strategy towards its effectiveness.

1.2Statement of Problem

It is an acknowledged fact that most developing countries are faced with scarcity of funds to finance major infrastructural projects that promote sustainable development. Hence, they usually have to seek for borrowing funds from external source which had always served as a veritable financial platforms for many developing countries in running their economies (Aladejana, Okeowo, Oluwalana and Alabi, 2021). Therefore, since accumulating debt for the developing countries is a situation they must leave with to achieve sustainable economic development; most developing countries are now advocating for "favorable debt". A favourable debt is one in which the capital acquired has the potentials of high left over after deducting the cost of the loan. In this situation, the debt will be financing economic growth and expanding output of the debtor country (Pattilo, Ricci and Poirson, 2004).

Unfortunately, public debt has been a disaster in Nigeria due to its mismanagement and unproductive utilization. For instance, the Nigeria's debt relief provided by the Paris club in 2005 which was largely motivated by the need to free-up resources for investment and foster economic development led to a significant decline in the country's debt stock in 2006. But few years later, successive governments started another set of uncontrolled debt accumulation whose servicing cost consumes about 70% of Nigeria's tax revenue (Ntekpere and Olayinka, 2020). Worst still, the government needs to borrow more because of the sustained drop in world prices of crude oil.

The situation is worrisome and pointing towards another debt crises in Nigeria. Globally, there is paradigm shift to tax revenue as an alternative means of revenue generation needed for sustainable development. For instance, Okoror, Mainoma and Uwaleke (2019) have advised developing countries to have a long run aim of replacing foreign debt with tax revenue to ensure sustainable development of their economics. Similarly, Kundt, Misch and Nerre (2017) highlighted that the mobilization of domestic resources in developing countries principally through transparent, fair and efficient tax system is regarded as a central means of achieving sustainable development goals (SDGs). Hence, this study is designed to examine the influence of petroleum profit tax, company income tax, value added tax and custom and excise duty on Nigeria's foreign debt in order to guide policy formulation towards their efficiency and effectiveness in achieving sustainable development of the economy.

Currently in Nigeria, very few studies such as (Nwaobia, Ogundipe and Adejumo, 2021; Kaka, 2021 and Ntekperend Olayinka, 2020) have been carried out on this area. That is to say that there is dearth volume of empirical studies on tax revenue and public debt in Nigerian. Hence, the need for a study that will contribute to establish the influence tax revenue has had on Nigeria's indebtedness in recent times.

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2.1 **Review of Related Literature**

Tax Revenue

The overall focus and primary objectives of Nigeria tax system is to provide and contribute to the social
and economic wellbeing of Nigerian: This is to be done either directly by improving existing and formulating new tax policies, and indirectly to appropriately make optimum utilization of tax generated from revenue for the benefit and development of the citizen. In order to achieve these objectives through the revenue generated, therefore, the tax system was expected to minimize the economy distortion in the country. Some other expectations of the tax system of Nigerian in line with the presidential committee on National tax policy (2008) are as follows: To pursue equity distribution and fairness in the country; To provide economic growth and development evenly; To provide economic stabilization to the public; To correct market failure and other imperfections thereof; and To generate stable revenue and other resources required by government to accomplish public project and make beneficent investment for the public.

Taxation is also looked at by Afuberoh and Okoye (2014) as a compulsory levy by the government through
its agencies on the income, consumption and capital of its subjects. These levies are made on personal income, such as salaries, business profits, interest, dividends, discounts and royalties as well as company's profits, petroleum profits, capital gains. Taxcan further be defined as a compulsory levy enforced by tax authorities on income, expenditure, wealth or people, for which nothing is received by the taxpayers directly or specifically in return (Shang, 2016). Among the many ways that governments can generate revenues, tax revenue is recognized as the most important financial source for governmental public expenditures (Frecknall-Hughes, 2014). Taxation, apart from providing rapid economic growth, can also be used to encourage or discourage certain activities considered to be socially, friendly and unfriendly.

To Udabah (2002), tax is evil necessary to meet the cost of those services a society wishes its government
to provide. He sees it as an obligatory transfer from taxpayers to the public authority. According to Ogbonna and Appah (2016), tax is a major source of government revenue all over the world. Azubuike such as the provision of public goods. Maintenance of law and order, defense against external aggression, regulation of trade and business to ensure social economic maintenance. Musgrave and Musgrave (2004) observed that the economic effects of tax include micro effects on the distribution of income and efficiency of resource use as well as macro effect on the level of capacity output, employment, prices and growth. Ebimobowei (2010) stated that a tax is a compulsory payment imposed on income, profit, wealth, estate, property, goods and services of individuals and corporate bodies by the government for the sustenance of the government and for which there is no guaranteed direct benefit. Taxes represent potent instrument of fiscal policy used by government to manage the economic development of the nation.

Petroleum Profit Tax

According to Offiong (2016), the Petroleum Profit Tax was introduced in Nigeria as early as 1959 under

the Petroleum Profit Tax Act of 1959 (No. 15) for taxation of oil companies engaged in upstream operations. Since its introduction, this act has been severally amended to keep it in tune with Nigerian government requirement of raising sufficient revenue for the government. It was first amended in 1967, then in 1970 and 1973, and subsequently in 1979. It relates to rents, royalties, margins and profit-sharing elements from oil mining, prospecting, and exploration leases. It covers oil and gas exploration and is complemented by two contractual agreements in operation, the Joint Operating Agreement and the production sharing contracts, between international oil companies and the Nigerian National Petroleum Company. To control the growth of the oil and gas sector and thus boost future revenue streams, the Federal Government introduced incentives in the taxation for gas exploitation, gas development, and gas utilization activities (CITN,2014). While, gas exploitation and development activities are taxed under the Petroleum Profit Tax Act, gas utilization activities are taxed under the provision of Company income Tax Act.

Company Income Tax

Festus and Samuel (2007) opined that the relationship between company income tax and Nigerian economic

growth, the role of tax revenue in promoting economic activities and growth is not felt primarily because of its poor administration, perception and often an undesirable imposition which bears no relation to the responsibilities of citizenship or to the service provided by the government. Their study further revealed that efficient and effective tax administration results in increased revenue yield, but this is not possible because of the presence of evasion and avoidance due to loopholes in the tax laws. On the other hand, Adedeji and Oboh (2010) stated that people expect that by sacrificing their private resources to the state in the form of taxes, the government is expected to reciprocate by spending public revenue in a way that will enhance their welfare. However, government and tax collectors have been dubiously mismanaging the public treasury. There is a high level of manipulation and diversion of tax revenue by the collectors. The dwindling tax revenue as presently witnessed results from lack of encouragement to the taxpayer, due to the fact that there is very little evidence to show for taxes collected. For these reasons, there are increased cases of tax evasion.

In line with Usman (2018), CIT and other taxes in Nigeria are not at their ideal levels since many businesses underreport their income and take use of tax loopholes to pay the bare minimum of taxes. The introduction of the Education Tax at 2% (percent) on assessable profit of companies in 1993 effectively increased the rate of Company Income Tax, though the tax is computed separately and on a different basis. This tax has been part of the multiple taxes being frowned at by investors, because it has increased their burden and has been a disincentive to investment effort (Somorin, 2015).

Custom and Excise Duty

Customs duties in Nigeria are the oldest form of modern tax revenue. Their introduction dates back to 1860 known as import duties, which represents taxes on imports into Nigeria, charged either as a percentage of the value of imports or as a fixed amount of contingent on quantity (Buba 2007). Customs duty is a major source of revenue for the Federal Government which is payable by importers of specified goods (Buyonge 2008). According to Buba (2007), excise duties were also introduced on several goods to broaden then revenue base in Nigeria in 1962. Customs and excise duties is an important component of the non-oil revenue and has remained an important source of revenue before and after discovering of oil in Nigeria and over the years contributed significantly to national development.

Value Added Tax

Value added tax (VAT) was introduced in 1994 to replace the sales tax. This is a type of consumption tax that is placed on a product whenever value is added at a stage of production and at final sale. The collection of value-added tax (VAT) in Nigeria is regulated by Value-added tax Act, 1993 as amended to date, and levied originally on 17 categories of goods and 24 categories of services. Value added tax (VAT) has been designed to resolve the problems associated with the former Sales Tax system, such as narrow tax base, cascading and increased rate of evasion. VAT has been excluded from Federal jurisdiction by the 1999 constitution, though it is enforced by Federal legislation. It is a consumption tax levied at the rate of 5 percent, up to January 31, 2020 and 7.5 percent (Finance Act 2020) effective February 1st 2020, on cost price of taxable persons, who are expected to add this amount to the price they will charge their customers, for collection and further remittance to relevant tax authorities on monthly basis. It adopts input-output tax mechanism, and is a multi-stage tax.

External Public Debt

It has been long recognized that borrowing is a catalyst for development. Foreign capital has the effect of transferring real resources to the developing countries and thereby, helping to bridge a number of gaps such as savings, foreign exchange and technology that constrain development in these countries. In this way, borrowing plays a crucial role in the perspective, a number of economists have called for more assistance to the developing countries to speed up their development process. Higgins (1959), Pearson (1969), and Symonds (1970), posited that indebtedness through external borrowing by less developing countries (LDCs) would help transform their economies, characterized as they are by low or zero growth rates into economies capable of adequate sustained growth. To them, external borrowing by less developing countries (LDCs) is necessary and serves to supplement domestic resource gaps with positive effects.

External debt is the portion of a country's debt that is acquired from foreign sources both at bilateral and multilateral levels such as foreign corporations, government or financial institutions. The debtors can be the government, corporations or private households (Amassoma, 2016). Purwanto and Mangeswuri, 2011) posited that foreign loans or foreign debt are a portion of a country's total debt obtained from creditors from outside the country.his form of debt can be in the form f money obtained from private banks, government of other countries, or international financial institutions such as the IMF and the World Bank, or a number of funds borrowed and obtained from other countries. SimilarlyKiminyei (2018), posits that debts are incurred by government through borrowing in the domestic and international markets to finance domestic investment in infrastructural and industrial development, social services and general development of a nation's economy. Similarly, Ateyah (2017) asserted that debt results from funds borrowed either from the local banks/country (internally) which is known as domestic debt or foreign debt or loan sourced from international market.

2.2 Empirical Review

Nwaobia, Ogundipe and Adejumo (2021) examined the effect of tax revenue on foreign debt in Nigeria.

The specific objectives of the study were determine the effect of oil tax revenue and non-oil tax revenue on external debt in Nigeria. The study adopted ex post facto research design which enabled. Secondary data to be collected from Central Bank of Nigeria Statistic Bulletin for the period of 39years spanning from 1981-2619. Analysis of data was performed using both descriptive and inferential Statistics.

Ordinary Least Square regression analysis was adopted to estimate the relationship between oil-tax revenue, non-oil tax revenue and foreign debt in Nigeria. Result of the analysis indicated that oil tax and non-oil tax revenues affected foreign debt in Nigeria.

Kaka (2021) assessed the impact of government tax revenue on Nigeria's public debt. The specific objectives of the study were to determine the impact of tax revenue and non-tax revenue on public debt in Nigeria. Secondary was collected from Debt Management Office, National Bureau of Statistics and Central Bank of Nigeria Statistical Bulletin beggaring from 2010-2019. Data was analyzed using descriptive Statistic to ascertain the characteristics of the model variables. Presence of multicollinearity was also checked using variance Inflation Factor (VIF) was found to be less than 10 which is within acceptable range. Ordinary in Least Square (OLS) multiple regression model was used to estimate the Statistical relationship between the dependent and independent variables. The study found that tax revenue and non-tax revenue have both negative and insignificant impact on public debt in Nigeria.

Atolagbe and Abiodum (2021) studied the impact of macroeconomic variables on tax revenues in Nigeria.

The objective of the study was to ascertain the effect of trade liberalization and six (6) macroeconomic variables on tax revenue in Nigeria for the period 1981-2019. The independent was trade liberalization proxied (b) trade openness. The control variables were exchange rate, inflation rate, per capita income, foreign direct investment, share of agriculture in GDP, share of petroleum in GDP and share of mining in GDP. Specifically, the study sought to determine the effect of total tax revenue on trade openness with other control variables; the relationship between domestic tax revenue and trade openness with other control variables and the effect of external tax revenue on trade openness alongside other macroeconomic variables. Data was collected from secondary source covering the period 1981-2019 from central Bank of Nigeria. Autoregressive Distributed Lag (ARDL) and Error correction model (ECM) were employed to analyze the time series data. It was observed that a unit increase in total tax revenue and domestic tax revenues when other variables in the model were held constant. The result also showed that the macroeconomic control variables observed to be the predictors of domestic and external tax revenues were share of petroleum and mining in GDP; foreign direct investment, share of agriculture in GDP; per capital income; exchange rate and inflationary rate.

Amah (2021) studied the relationship between taxation and Nigerian economy. The specific objectives of the study were to ascertain the effect of value added tax (VAT) petroleum profit tax (PPT), and effect of company income tax (CIT) on economic growth of Nigeria. The economic growth of Nigeria was proxied by gross domestic product (GDP). The study was rooted on benefit received theory. Ex-post facto research design was adopted while time series data were gathered from Federal Inland Revenue service and Central Bank of Nigeria for the years 1999-2017. Formulated hypotheses were tested using ordinary least square multiple regression approach at 5% level of significance. Results of the OLS tests indicated that PPT and CIT have positive and significant relationship with GDP; while VAT had negative relationship with GDP in Nigeria.

Odogu, Obalakumo, Odoko and Dadowei (2021) examined the effect of tax revenue on human development index in Nigeria. Specifically, the study sought to determine the effect of person income tax on human development index; the effect of petroleum profit tax on human development index and effect of company income tax human development index in Nigeria. The data needed for the analysis of the study was obtained from the official publication of Federal Inland Revenue Services and Central Bank of Nigeria for the period 2005 - 2017. Granger causality Test was employed to test the statistical relationship between the research variables. Findings revealed that the components of tax revenues employed in this study have positive and significant effect on human development index in Nigeria.

Efanga, Umoh and Etim (2020) investigated the empirical relationship between tax revenue and economic development in Nigeria using Autoregressive Distributed Lag (ARDL) approach. Specifically, the study sought to evaluate the impact of company income tax (CIT), Petroleum Profit tax (PPT) and impact of custom and excise duty on economic development in Nigeria. The study employed fixed capital formation as proxy for economic development. The time series data was collected from World Bank and Federal Inland Revenue Publications for the period 1981 - 2019. Autoregressive Distributed Lag was used in data analysis. Diagnostic tests such as unit root test, stability test, Normality test, Auto-correlation test, Heteroskeaticity test and Breusch-Godfry Serial correlation test were also performed to validate and ensure reliability of the empirical results. The outcome of the analysis showed that CIT and PPT had positive and significant impact on fixed capital formation in Nigeria. However, custom and excise duty indicated negative and significant impact on gross fixed capital formation in Nigeria.

Ntekpere and Olayinka (2020) examined the affect of tax revenue on public debt and capital expenditure in Nigeria. The study specifically sought to find the effect of value added tax income tax, petroleum profit Company Custom and excise duty on tax and public debt and capital expenditure in Nigeria. The data for the study was obtained from the Central Bank of Nigeria Statistical Bulletin for the period, 1999 to 2018. Analysis of data was performed using the following techniques namely: descriptive statistics, unit root test, co-integration test using Bounds Test and Vector Error correction model. The study found that value added tax had negative and significant impact on external debt; company income tax had positive and significant impact on external debt; petroleum profit tax had positive and significant effect on external debt and custom and excise duty was found to have negative and significant effect on Nigeria's public external debt. It was recommended that fiscal authorities should improve the effectiveness of Nigeria's tax system by sealing loopholes and enforcing compliance in order to reduce public debt.

Kaka and Ado (2020) investigated the link between indirect tax, oil receipt and debt on foreign reserves in Nigeria. The study specifically sought to determine the effect of direct taxes, indirect taxes, oil revenue and total debt on Nigeria’s foreign reserve from 1980 to 2019. Data for the study were collected from Federal Inland Revenue Service, Central Bank of Nigeria Statistical Bulletin and Debt Management Office. Descriptive statistics was used to analyze the data in order to ascertain the properties of the model variable such as the mean, standard deviation, minimum and maximum amongst others. Presence of multi-colinearity was checked using variance inflation factor (VIF) which showed that the explanatory variables were found within acceptable range. Multiple linear regression anchored on OLS was used to estimate the statistical significance of the research variables. The outcome of the regression analysis revealed that direct and indirect taxes have negative and significant effect on foreign reserves in Nigeria. Secondly, it was also found that oil revenue and total debt have positive but no significant effect on foreign reserves in Nigeria.

Andi (2019) investigated the effect of tax revenue, investment and foreign debt on poverty level in Idonesia.

The specific objectives of the study were to examine the effect of tax revenue, investigate and foreign debt on poverty level for the period 2002-2019. Data for the study were collected from the Central Agency on statistics and ministry of trade and industry. Descriptive statistics was used to provide the inferential statistics was used to test hypotheses at 5% level of significance. The result of the regression analysis showed that tax revenues and investigate levels had positive and significant effect on poverty level in Indoesia. The implication of these results is that increase in tax revenues and investment levels leads to increase in poverty level in Indonesia. The study also discovered that foreign debt had negative and significant effect on poverty level in Indosia. This implies that an increase in foreign debt of Indosia leads to decrease in her level of poverty.

2.3 Theoretical Framework

The study was anchored on two theories namely: Expediency Theory of Taxation and Debt Overhang Theory.

Expediency Theory of Taxation

The expediency theory of taxation was propounded by Buehler in 1936. The theory states that every tax

revenue collection system must pass the test of practicability, which must be the only consideration when government is choosing a revenue collection system. The assumption of this theory is that the economic and social objectives of the government should be treated as irrelevant, since it is useless to have a tax which cannot be levied and collected effectively. The theory is relevant to this study since it seeks to explain the influence of the administrative set up in tax revenue collection by the Federal Inland Revenue Service (FIRS) in Nigeria. The expediency theory is theory is therefore linked to this study since it is expected that FIRS should designed a tax system whose administration is feasible enough in generating the revenue needed for economic sustainability that will lead to reduction in external public borrowing in Nigeria.

Dependency Theory

This study is anchored on dependency theory propounded by Andre Gunder Frank in 1971 to explain the

nature of the relationship between the countries of the world and the factors that facilitated the dependency of one group of countries on the other. Dependency theory states that the poverty of the countries in the periphery is not because they are not integrated or fully integrated into the world system as often argued by free market into the system. The theory assumes that resources flow from periphery of poor and underdeveloped states to wealthy state, enriching the later at the expense of the former. This theory is related to this study due to the underdeveloped nature of Nigeria including other developing countries where they depend on the western world for virtually everything ranging from technology, loan and even culture.

***3.* Methodology**

Model Specification

The study adopted Multiple Regression Model (MRM).

MRM is stated as: $y = f(b_1x_1, b2\ x_2)$ ……………………..…(1)

Explicit representation of the baseline model in order to determine the correlation between tax and external public debt depends behaviorally on the explanatory variables (elements of tax revenue). Hence, such behavioral relationship is stated in the equation below:

$EXPD = \beta_0 + \beta_1 PPT + \beta_2 CIT + \beta_3 CSD + \beta_4 VAT + U_t$ ……………………(2)

It can also be expressed as

$Log\ EXPD = \beta_0 + \beta_1 L_{og} PPT + \beta_2 L_{og} CIT + \beta_3 L_{og} CSD + \beta_4 L_{og} VAT + U_t$……………(3)

Where

EXPD	= External Public
PPT	= Petroleum profit Tax
CIT	= Company Income Tax
CED	= Custom and Excise Duty
VAT	=Value Added Tax
β_0	= Constant
$\beta_1\ \beta_2\ \beta_3\ \beta_4$	=Slopes of Coefficient of the explanatory variables
U_t	=Error term
Log	= Natural log

This study adopted a quantitative approach to analyze the data obtained from secondary sources. Data were analyzed using descriptive statistics in order to determine the characteristics of the research variables. Linear multiple regression anchored on ordinary least square (OLS) was employed to test the formulated hypotheses at 0.05 level significance with the aid of E-views 9.0. The decision rule that guided the study was anchored on the conventional probability values (P-values) associated with the regression outcome. The study was guided by the following decision rules:

Decision rule 1: Accept the alternate hypothesis and reject the null hypothesis if the p-value is less than the chosen level of significance (5%).

Decision rule 2: Accept the null hypothesis and reject alternate hypothesis if the p-value is greater than the chosen level of significance (5%).

Results

4.1 Data Presentation

Time series data obtained on the variables of the study for the period of 23 years (1998-2021) were presented on table 1 for external public debt (EXPD); Petroleum Profit Tax (PPT); Company Income Tax (CIT); Custom and Excise Duty (CED) and Value Added Tax (VAT)

Table 1: Descriptive Statistics

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	LogEXPD	LogPPT	LogCIT	LogCED	LogVAT
Mean	38.419566	15.363357	12.667428	12.108957	14.894967
Median	31.689241	12.705322	10.011257	10.844522	14.665399
Maximum	48.180523	32.461746	15.212466	10.986849	15.925948
Minimum	23.214634	11.563688	8.842238	6.6628600	11.469233
Std dev.	20.804562	3.286914	3.249442	2.1084557	2.249231
Skewness	0.1332700	0.535324	0.566978	0.827365	1.019371
Kurtosis	0.532544	1.357856	0.663748	1.752258	0.571895

Jarque - Bera	23.443612	5.383277	3.436633	8.877564	8.312356
Prob	0.003614	0.000001	0.000031	0.000012	0.00000
Observations	23	23	23	23	23

Source: Author's E-views Output, 2022.

Table 1 showed the descriptive analysis results of external public debt (EXPD); Petroleum Profit Tax (PPT).

Company Income Tax (CIT); Custom and Excise Duty (CED) and Value Added Tax (VAT) for the period 1998-2021. The result showed that, on average, the values of external public debt (EXPD); Petroleum Profit Tax (PPT); Company Income Tax (CIT); Custom and Excise Duty (CED) and Value Added Tax (VAT) were 38.419566; 15.363357; 12.667428;12.108957 and 14.894967 respectively. The maximum values of PPT; CIT; CED AND VAT were 32.461746; 15.212466; 10.986849 and 15.925948 respectively; while their minimum values were 11.563688; 8.842238; 6.6628600 and 11.469233 respectively. The maximum and minimum values of EXPD for the period of the study were 48.180523 and 23.214634.

The standard deviation values of 20.804562; 3.286914; 3.249442; 2.1084557 and 2.249231 reveled the rate at which external public debt (EXPD); Petroleum Profit Tax (PPT); Company Income Tax (CIT); Custom and Excise Duty (CED) and Value Added Tax (VAT) deviated from their respective expected values. It was also discovered that EXPD; PPT; CIT; CED and VAT were positively skewed with skewness coefficient of 0.1332700; 0.535324; 0.566978; 0.827365 and 1.019371 respectively. The implication is that the distribution of these variables (EXPD; PPT; CIT; CED and VAT) clustered to the left, but had long tail to the right. The probability values EXPD; PPT; CIT; CED and VAT (0.000001; 0.000031; 0.000012 and 0.00000 respectively). Were less than 0.05 level of significance; hence, showing that the null hypothesis of normal distribution was rejected

Test of Hypotheses

Table 2: OLS Regression Results

Dependent Variable: EXPD
Method: Least Squares
Date: 12/14/2022 Time: 10:10
Sample: 1998 2021
Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.998456	0.137652	29.04757	0.0000
LogPPT	-0.663883	0.132848	-4.99731	0.0023
LogCIT	-0.433628	0.183239	-2.36646	0.0066
LogCED	-0.824062	0.166855	-4.93879	0.0025
LogVAT	-0.668499	0.465648	-1.43563	0.2429
R-Squared	0.685288	Durbin-Watson stat		1.88265
Prob(F-statistic)	0.00000	F-statistic		25.2238

Source: Author's E-views Output, 2022.

The decision rule is anchored on the conventional probability values (P-value) associated with the regression outcome. The decision rule is stated thus:

Decision rule 1: Accept the alternate hypothesis and reject the null hypothesis if the p-value is less than the chosen level of significance (5%).

Decision rule 2: Accept the null hypothesis and reject alternate hypothesis if the p-value is greater than the chosen level of significance (5%).

Interpretation of Regression Result

The result in table (2) showed that the P-values of PPT; CIT and CED were 0.0023; 0.0066; and 0.0025 respectively; with the corresponding coefficient values of -0.663883; -0.433628; and -0.824062. Based on these results and guided by the decision rules, earlier stated, the researcher rejected the null hypothesis and concluded that PPT; CIT and CED had negative and significant impact on external public debt in Nigeria. The implication of these result is that all these variables had an inverse relationship with Nigeria's Foreign Debt within the period covered by the study. However, the table also indicated that VAT ha a p-value of 0.2429, while its coefficient value was -0.668499. In line with decision rules, the study concluded that VAT had negative and no significant impact on external public debt in Nigeria.

R-Squared = 0.685288 implying that about 69% of the changes in EXPD is attributed to changes in Petroleum Profit Tax (PPT); Company Income Tax (CIT) and Custom and Excise Duty (CED) while 31% is caused by factors not included as variable in the model of the study but which are capable of affecting EXPD in Nigeria. Durbin Waston statistical values is 1.88265, which means that there is no presence of autocorrelation as its values is close to 2. Besides, the result of the F-statistic (25.2238) is high which indicated that the variables are jointly significant in explaining external public debt in Nigeria.

Discuss of Findings

The findings from the test of hypothesis formed the basis of discussion which were made in line with specific objectives of the study. Our findings were compared with the results from previous studies by authors on related topics.

Impact of Petroleum Profit Tax on External Public Debt in Nigeria

The result presented in table (2) clearly indicated that P-value with respect to hypothesis one (1) is (0.0023). Based on the decision rule earlier stated, the P-value fall within the acceptable significant level of 0.05%. Hence, the implication of this decision by the researcher is that petroleum profit tax (PPT) had a negative and significant impact on external public debt in Nigeria. This result is in conformity with the researcher's aprior expectation due to the fact that an increase PPT is expected to bring reduction in Nigeria's External Debt. Moreover, the result of this study is also in line with the findings of Nwaobia, Ogundipe and Adejumo (2021) who examine the effect of tax revenue on foreign debt in Nigeria. This prior study found that oil tax revenue had significant influence on foreign debt in Nigeria.

Impact of Company Income Tax on External Public Debt in Nigeria

The outcome of the regression analysis in table 2 showed that the p-value with respect to CIT was -0.0066 and its coefficient was -0.433628. Based on these results, the researcher concluded that CIT had negative and significant impact on external public debt. This result is also in agreement with the researcher's aproriexpectation, because an increase in company income tax in Nigeria should lead to reduction in Nigeria's indebtedness. However, the result of this study is in contradiction with the findings of Ntekpere and Olayinka (2020) who examined the effect of tax revenue on public debt and capital expenditure in Nigeria. This prior study found that company income tax had positive and significant impact on external public debt in Nigeria

Impact of Custom and Excise Duty (CED)on External Public Debt in Nigeria

The results of hypothesis 3 as presented in table 2 indicated that the p-value with respect to CED was 0.0025 while its coefficient value was -0.824062. Based on these results and in line with the decision rules, the researcher concluded thatcustom and excise duty negative and significant impact on external public debt in Nigeria. However, the outcome of this study disagreed with the findings Kaka (2021) who evaluated the impact of government tax revenue on Nigeria's public debt. This prior study found that tax revenue component had negative and no significant effect on public debt in Nigeria. Additionally, the result of our study is also in conformity with the findings of Ntekpere and Olayinka (2020) who discovered that custom and excise duty had negative and significant effect on Nigeria's external public debt.

Impact of Value Added Tax (VAT)on External Public Debt in Nigeria

The study found that value added tax with p-value of 0.0029 and coefficient value of -0.6684990 had negative and significant impact on external public debt in Nigeria. This result did not align with the aprior expectation of the researcher, implying that any change in value added tax results to no change in Nigeria's external debt. Moreover, the outcome of our study disagreed with the findings Nwobia, Ogundipe and Adejumo (2021) who found that non-oil tax revenue had significantly influenced foreign debt in Nigeria.

Implication of the Study

The study examined the impact of tax revenue on external public debt in Nigeria for the period of 23 years spanning from 1998-2021. Results of the regression analysis indicated that all the variables (PPT, CIT and CED had negative and significant impact on external public debt in Nigeria; while VAT negative and no significant impact on Nigeria's foreign debt. The implication of these findings is that tax revenue has significantly contributed in reducing external public debt in Nigeria.

Summary of Findings

i. The study found that petroleum profit tax with coefficient value (-0.663883) and p-value (0.0023) had negative and significant impact on external public debt in Nigeria.
ii. The study discovered that company income tax with coefficient value (-0.433628) and p-value (0.0066) had negative and significant impact on external public debt in Nigeria.
iii. Custom and excise duty with coefficient value (-0.824062) and p-value (0.0025) was found to have negative and significant impact on external public debt in Nigeria.
iv. The study found that value added tax with coefficient value (-0.668499) and p-value (0.2429) had negative and no significant impact on external public debt in Nigeria.

Conclusion

The current economic situation in Nigeria has necessitated the need for government to generate adequate revenue from taxation with the realization that over dependency on crude oil earnings can no longer sustain public expenditure due to the decline in price of oil in recent years. Based on the results obtained from the regression analysis, the study concluded that tax revenue has significantly influence external public debt in Nigeria.

Recommendations

1. Government should ensure that revenue gotten from petroleum profit tax are spent on profitable investments such as capital expenditure that can be used to service public debt and sustain economic development.
2. Government can use tax revenues from company income tax to pay external debt directly rather than invest in unproductive ventures.
3. Nigerian government should continue to utilize the revenue from custom and excise duty to invest on education, health and other infrastructural facilities which would boast economic activities that result increase in government revenue.
4. Generated tax revenue from VAT should be judiciously utilized to develop the latent economy in order to expand tax net which will place less reliance on acquisition of external debt.

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