FEDERAL TAX REVENUE ON GOVERNMENT EXPENDITURE IN NIGERIA

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Abstract
This study aimed to further evaluate the relationship between federal tax revenue and government expenditure in Nigeria between the years 2009 to 2023. This research focused on VAT, PPT and CIT as proxies for federal government's portion of tax revenue and analyzed their significance on capital expenditure. The study drew attention to the challenges attributed to Nigeria's low tax-to-GDP ratio, which limits revenue mobilization, therefore increasing borrowing. The study used time series data to compile data from Central bank statistical bulletin and Federal Inland Revenue Service between 2009 and 2023. Data gathered over the years were analyzed using descriptive statistics, unit root tests and co-integration tests and estimation using fully-modified ordinary least squares (FMOLS), canonical co-integrating regression (CCR) and dynamic ordinary least squares (DOLS). The study revealed that VAT had a positive and significant effect on CAPEX ($\beta_2 = 0.2301$, $p = 0.0057 < 0.01$). It also showed that PPT had a positive and significant effect on CAPEX ($\beta_2 = 0.2301$, $p = 0.0057 < 0.01$). Additionally, CIT was shown to have a positive but statistically insignificant effect on CAPEX ($\beta_3 = 0.3432$, $p = 0.1752 > 0.1$). The study suggested possible fiscal reforms to improve tax collection, reduce overreliance of external borrowing, and promote economic development. The findings are expected to assist policymakers in formulating effective fiscal policies that improve government spending efficiency and promote public welfare.
Keywords: *Tax revenue, Government expenditure, VAT, PPT, CIT, Tax-to-GDP.*

Introduction

Every administration in power aspires to improve the quality of life for those it governs. This is undoubtedly accomplished by providing basic infrastructure, decent roads, a steady power supply, jobs, paying wages and salaries, maintaining economic stability, and creating an environment that is investment friendly so that the country's industries can grow and attract international investment. The efficient mobilization of tax revenue is crucial for sustainable development, provision of public services, and reduction in the reliance on external borrowing. The government, however, is unable to accomplish any of this without funding or other financial means (Collins, Barikui, Sira, & Igbara, 2019). These governments engage in a variety of activities that would generate funds for the government since they need the resources to finance these social benefits and their programs. Even while authorized fiscal tools are used to generate government money, the actualization of such revenue is mostly dependent on economic realities. The majority of the time, the government's real revenue exceeds or falls short of the planned budget. However, money serves as the foundation for fulfilling all mandates, both suggested and created by the government.

The government has access to a range of revenue streams in varying amounts and volumes to fund national development initiatives. However, most governments excessively rely on one source of revenue, which may be driven by the amount of revenue it generates. Various types of government revenue have been grouped together in literature. Additionally, the various forms of governance have been used to categorize government revenue. Government revenue, however it is defined or categorized, is divided into tax and non-tax categories (Alade, 2022). There is no doubt that revenue and government expenditure are related. The ability of the government to finance initiatives is greatly dependent on revenue collection, particularly tax revenue. The primary source of funding for the government is tax revenue. In Nigeria, the federal government generates over 60% of its total revenue from taxes (Okafor 2020 as cited in Ihenyen, Ebiware & Egiye, 2023).

Government expenditure key component of any economy's growth and development since people and business entities are usually unable to offer the vast majority of the functions and activities that promote a country's development and progress. The funds used by the government to fund its many operations and duties are known as government expenditures. Spending on debt servicing, grants and subsidies, public services, defense and social security, infrastructure development, and administration will all be covered by this (Adegbie, Ogbebor & Athora, 2023).

Without question, government spending is a crucial tool for managing a country's economy, long-term economic growth can be promoted by government expenditures on various public projects. Government expenditure is essential to the advancement of jobs, economic growth, infrastructure, health, and education. The federal government of Nigeria generally classifies its spending into two categories: capital and recurrent. The government's administrative costs, such as labor, salaries, loan interest, and upkeep, make up the recurring expenditures. On the other hand, capital expenditures are allocated to projects such as telecommunication, water, health, education, highways, and airport (Craig *et al.*, 2020). In general, taxes are levied against human skill, income, consumption, and production. When there is a budget deficit, the government results to borrowing from the public, which may come from either domestic or international sources, to cover its expenditure (Ntekpere & Olayinka, 2020). However, a nation's financial situation may determine the best course of action for financing such beneficial public spending. As a result, the economic impact of government expenditures may be influenced by the magnitude of the existing tax and duty burden in addition to the method of funding the investment.

Due to declining crude oil revenue and public perceptions of fraud, waste, and abuses, government expenditure in Nigeria is currently the subject of intense public scrutiny. This has also accelerated attempts to change how the government generates revenue and how it spends it, involving citizens and concerned authorities in the process. However, decades of growing sovereign debt, rising state and national budget deficits have followed due to significant attention to and reliance on petroleum resource revenue generation. (Achanya & Mamman, 2024).

Like every other nation in the world, Nigeria must manage its finances effectively in order to achieve prosperity. This involves both government revenue and expenditure. Nonetheless, there is still much disagreement in the Nigerian public finance literature on how to raise sufficient funds from the government to accomplish its macroeconomic goals. Investigating how tax revenues affect government spending in Nigeria is consequently motivated by this dispute (Ime *et al.*, 2023).

Statement of the Problem

The repercussions of potential changes to government spending and revenue have long piqued the interest of scholars and policymakers. In microeconomics, the link that exists between government revenue and expenditure has been a point of contention. There have recently been concerns about the rise in budget deficits in certain developing nations, as spending is essential in economic expansion as well as enhancing the standard of living for a country's population. Government spending will rise in tandem with population growth and demographic shifts, sparking interest in spending on the sectors of the economy that deal with sewage and waste disposal, street cleaning, health care, education, and agriculture (IGI global 2018 as cited in Emmanuel, 2020).

Nigeria's fiscal policy and tax administration encounter persistent problems which includes low tax-to-GDP ratio, tax evasion, an inefficient tax collection system, and heavy reliance on oil revenue which is subject to global price fluctuations. According to Organization for Economic Co-operation and Development (OECD), Nigeria's tax-to-GDP ratio increased from 5% to 6% in prior years to 10.86% in 2023. This shift shows success in expanding the nation's revenue base and reflects an increase in tax collecting activities. However, in comparison to other countries, Nigeria's tax-to-GDP ratio is still among the lowest in the world. When placed against global standards, the average tax-to-GDP ratio among its member countries was around 34.1% and the ratio for African countries was about 15.6% in 2023, with variations across countries, this further proves that Nigeria's current tax-to-GDP ratio is significantly lower than the OECD average, indicating a wide gap in revenue mobilization and tax collection efficiency when compared to that of more developed countries.

A number of researchers have carried out studies on this topic, they include Adeola and Evans (2019), Akinlo and Akinlo (2017), Ogunmuyiwa and Olanrewaju (2019) and Popoola, Jimoh and Oladipo (2017) who used time series data to investigate the connection between tax revenue and government expenditures in Nigeria gathered through the 1980's to the 2010's, finding a positive correlation between tax revenue and government expenditure in Nigeria. Other researchers have also carried out studies on this topic, such as Emmanuel kaka (2020), Udeagwu and Eze (2020), Abdurrahman, Yola, & Masud (2020) amongst others, whose studies established a relationship between government revenue and expenditure, stating the revenue and expenditure of the Nigerian government are consistent with the spend-and-revenue hypothesis. However, past researchers have failed to conduct concentrated research on the issue of Nigeria's low tax-to-GDP ratio and its inability to meet up with the minimum set standards in comparison with other countries, and how it influences government expenditure, considering its critical importance in the country's fiscal capacity and development, lack of which has left a significant knowledge gap in relation to the development of effective policies that have substantive impact on Nigeria's economic situation, and has resulted in the inability of the government to fund its expenditures with tax revenue generated.

Research Objectives

The main objective of this study is to conduct an empirical examination of the relationship between federal tax revenue and government expenditure in Nigeria. The study would therefore specifically:

i. Assess the effect of Federal government's portion of value added tax revenue on government capital expenditure in Nigeria.
ii. Examine the effect of Federal government's portion of petroleum profit tax revenue on government capital expenditure in Nigeria.

iii. Evaluate the effect of Federal government's portion of company income tax revenue on government capital expenditure in Nigeria.

Research Questions

The research questions formulated in line with the research objectives are as follows;

i. What is the effect of Federal government's portion of value added tax revenue on government capital expenditure in Nigeria?
ii. What is effect of Federal government's portion of petroleum profit tax revenue on government capital expenditure in Nigeria?
iii. What is the effect of Federal government's portion of company income tax revenue on government capital expenditure in Nigeria?

Research Hypotheses

The research hypotheses formulated for the purpose of this research are;

Hypothesis one

H_0: Federal government's portion of value added tax revenue has no effect on government capital expenditure in Nigeria.
H_1: Federal government's portion of value added tax revenue has an effect on government capital expenditure in Nigeria.

Hypothesis two

H_0: Federal government's portion of petroleum profit tax revenue has no effect on government capital expenditure in Nigeria.
H_1: Federal government's portion of petroleum profit tax revenue has an effect on government capital expenditure in Nigeria.

Hypothesis three

H_0: Federal government's portion of company income tax revenue has no effect on government capital expenditure in Nigeria.
H_1: Federal government's portion of company income tax revenue has an effect on government capital expenditure in Nigeria.

Literature Review

Conceptual Review

In this section, the concepts of tax revenue, determinants of tax revenue, which are; value added tax, petroleum profit tax, company income tax, tax-to-GDP ratio, government expenditure, government capital expenditure, relationship between tax revenue and government capital expenditure, relationship between determinants of tax revenue and government capital expenditure.

Tax Revenue

Revenues from social security payments, payroll taxes, property ownership and transfer taxes, taxes on income and profits, and other taxes are together referred to as tax revenue (Craig *et al.*, 2020). In order to offer and sustain basic utilities for its citizens, every modern day state or nation needs a large amount of revenue. Imposing taxes is one easy way for the government to raise money; this is not a recent development. These days, very few governments do not rely on taxation (Olugbemi, Bassey, Micheal & Odu, 2020). In order to finance different public expenditures, a country's government may impose taxes, levies, or other forms of levies on taxpayers, who can be either individuals or legal entities. Almost every nation on earth imposes taxes in order to pay for government spending. One way to boost the Nigerian economy's growth

is through taxation as the main objective of any developing nation like Nigeria is to raise per capita income and the rate of economic growth, with the purpose of raising living standards (Njoku *et al.* as cited in Craig *et al.*, 2020).

Tax revenue can also be said to be one of the primary sources of income for the government, they are mandatory payments made to the government without any expectation of exchange or direct benefit to the taxpayer. Both direct and indirect taxes are used in obtaining tax money. Value Added Tax, excise duty, and custom duty are the three types of indirect taxes. Stamp duty, capital gains tax, petroleum profit tax, corporation income tax, and personal income tax are examples of direct taxes (Okwori & Sule as cited in Emmanuel, 2020). It is a tool the government makes use of to monitor, assess, and regulate the unorganized sector, which is dominant in the world's emerging economies (Wambai & Hanga as cited in Craig *et al.*, 2020). A significant portion of the government's income, aside from the proceeds from the sale of crude oil in Nigeria, comes from it. The majority of government capital and recurrent expenses, particularly those associated with the construction and maintenance of infrastructure and generally fostering economic growth, are funded by taxes. Thus, in the Nigerian economy, the significance of taxes cannot be overstated (Ayeni & Afolabi, 2020). Not all governments, nevertheless, take full use of this opportunity to generate revenue (Okwara & Amori as cited in Craig *et al.*, 2020).

Determinants of Tax Revenue

Tax revenue is measured with Federal government's receipts of Value Added Tax, Petroleum Profit Tax and Company Income Tax.

Value Added Tax

Possibly the most significant and striking was the quick increase in value-added tax. VAT was seldom known outside of theoretical discussions when it came to the growth of taxation in the later half of the 20th century. Representing about 25% of global tax revenue, it is a fundamental element of the tax systems in more than 120 nations. Taxes are a sort of levy or mandatory financial charge that are imposed by a governing body on an individual or other legal entity to finance public spending. The term "tax" originates from the Latin word "tax" (Kwanti & Dauda, 2022). In Nigeria, Value Added Tax (VAT) can be understood as a consumption tax that takes the place of sales tax. It is charged at every phase of the supply chain and is paid for by the ultimate user of the goods or services.

The report of a study group established by the Nigerian government in 1991 to assess the country's whole tax structure is credited with inspiring the country's decision to implement value added taxation (VAT). It was proposed to impose a value-added tax, and a committee was established to investigate the viability of doing so (Kaoje *et al.* as cited in Ime *et al.*, 2023). VAT is seen as a consumption tax since the consumer is always responsible for paying any sales tax when making purchases of goods and services. It is thought to be an effective tax that lessens the potential negative effects of taxes on intermediate inputs. Unlike single-stage indirect taxes, which affect the fixed price relationship between a supplier and a buyer of goods, value-added taxes (VAT) consider the entire production supply chain process (Cevik as cited in Erero, 2021).

Before the 2020 Finance Act was enacted in Nigeria and before the VAT Act of 1993 was amended, each seller was required to charge and aggregate the VAT at a consistent rate of 5% on all invoice amounts for goods and services that are subject to VAT.

All materials and commercial activities that are not exempt from VAT, however, now have to pay 7.5% VAT as a result of the enactment and implementation of the 2020 Finance Act. This represents a 50% increase in the VAT rate. The differences between production VAT and

contribution VAT are provided by Sections 10 and 11 of the VATA. The productivity VAT is the tax collected from clients on the cost of business services and taxable items provided or sold, whereas the involvement VAT is the tax that suppliers receive when taxable products and financial endeavors are purchased (Akhor & Ekundayo as cited in Bank-Ola, 2021).

As a result, Nigerians' opinions to the recently approved finance measure have been divided. Nigerians have responded to the recently enacted finance bill in a variety of ways, drawing attention from the general public. You will also remember that in 2007, the Federal Government tried to raise the VAT rate to ten percent, but strong resistance forced them to halt the projected increase. Nonetheless, the issue is that Nigeria's value-added tax rate has been at 5% since its inception in 1993, despite multiple attempts by succeeding administrations to raise it (Orisadare & Fasoye, 2022).

Petroleum Profit Tax

Petroleum profit tax is a tax levied on Nigerian oil producing firms' profits. That is to say, any person who explores for or produces petroleum as a resident, occupier, or as the manager of a non-resident corporation is liable for the petroleum profit tax. This encompasses all entities engaged in petroleum operations within Nigeria, be they liquidators, recipients, or agents of such entities (Efuntade, Efuntade & Akinola, 2020).

Nigeria first implemented the petroleum profit tax in 1959 under the Petroleum Profits Tax Ordinance 1959, which went into force retroactively on January 1st, 1958 (Oyeleke *et al.* as cited in Adegbie *et al.*, 2023). The Petroleum Profits Tax Act, Cap P13 LFN 2004 (as modified), governs the petroleum profit tax in Nigeria. According to the Petroleum Profit Tax Act, businesses engaged in the upstream activities of crude oil exploration, drilling, extraction, and transportation are subject to a Petroleum Profits Tax on their chargeable profits. Companies that are subject to the petroleum profit tax are exempt from paying the Companies Income Tax (CIT) on the same revenue (Adegbie *et al.*, 2023). Because of the special features of the oil industry, petroleum taxation has some unique characteristics. These include the significant central revenue contribution to the economy, the volatility of oil prices, the high operating and development costs, the high degree of uncertainty associated with petroleum geology, the unique characteristics of individual oilfields, and the potential for reinvestment.

Company Income Tax

Company income tax (CIT) is a tax subjected on the income generated by Nigerian registered firms. It also covers the tax on the earnings of international businesses operating in Nigeria. Companies that are residents are required to pay CIT on their worldwide revenue, whereas non-residents must pay CIT on any income that is derived in Nigeria. The assessment of the correct amount of tax owed, timely and accurate filing, and timely notification of the taxpayer of their tax liability are all aspects of company income tax. The primary legislation that governs how Nigerian firms are taxed is the Company Income Tax Act (CITA) (Adegbie *et al.*, 2023). Company income tax is intended to tax the business, which is a distinct legal entity at incorporation and is therefore a juristic person, as opposed to its stockholders. The Companies Income Tax Act (CITA) of 1979 established CIT, which originated with the Income Tax Management Act of 1961. The Federal Inland Revenue Service (FIRS) is responsible for the administration and collection of this tax. The tax has a major impact on the Service's revenue profile. Because the government is adamant about tax certificates being submitted for any official obligation from corporate administration, it is comparatively simple to collect (Efuntade *et al.*, 2020).

Company Income tax is chargeable on the income of all companies operating in the country except those particularly exempted under the Act. There is some emphasis in the Act on the distinction between Nigerian and non-Nigerian companies. A Nigerian company is defined as one incorporated under the Companies and Allied Matters Act 1990, or any enactment replaced by that Act. The total profits of such company are assessable to Nigerian tax regardless of whether or not all the profit have been derived from, brought into or received in Nigeria (Sani & Ahmed, 2019).

Tax-to-GDP Ratio

A popular metric for comparing overall tax revenue to the GDP of a nation is the tax-to-GDP ratio (GDP). It gives information about the extent of government involvement in economic activity as well as the amount of the tax burden on the economy. The tax-to-GDP ratio varies greatly between nations due to several reasons such as economic structure, tax laws, and governmental priorities (Oyewobi & Falolu, 2023). The amount of a nation's output that the government collects through taxes is shown by the total tax revenue as a proportion of GDP. It can be viewed as one indicator of how much the government controls the resources of the economy. The entire tax revenue received as a percentage of GDP is used to calculate the tax burden. This statistic pertains to the government as a whole and is expressed in both million USD and percentage of GDP (Craig *et al.*, 2020).

The staggeringly low ratio of tax income to GDP—which is calculated as the monetary value of all products and services generated in the country in a given year—was one of the main effects of the most recent GDP rebasing effort, which was completed in 2015. Nigeria's tax income to GDP ratio was roughly 22% before the rebasing effort. The percentage dropped to 12% after the GDP rebasing effort, with non-oil tax revenue making up roughly 4.5 percent. This ratio was said to be among the lowest in Africa (Zenith economic quarterly as cited in Achanya & Mamman, 2024).

With a 2019 tax revenue-to-GDP ratio of 6.1%, Nigeria has one of the lowest ratios in the world, much lower than both the global average of 15.3% and the average for sub-Saharan Africa, which is 16.5% (World Bank, 2021). The nation's excessive reliance on oil revenue, lax tax administration, and poor tax compliance rate are the main causes of the low tax revenue collection. However, Nigeria's government spends a lot and is continuing to spend, which is a reflection of its aggressive development objective (Ihenyen *et al.*, 2023). It may seem cliché to keep attributing Nigeria's low tax revenue to GDP ratio to the country's slavish reliance on oil revenue, which makes up more than 70% of its total revenue. However, there is a strong case to be made for separating the country's economy from this over-reliance on oil revenue, which is known as the country's only but also most unstable source of income. As previously mentioned, no country that relies on a single economic sector can ensure long-term prosperity and advancement (Achanya & Mamman, 2024).

Government Expenditure

The term "government expenditure" refers to the amount of money the government spends in a given fiscal year on defense, state, administration, justice, law and order, health, education, housing, communication, infrastructure, transfer, social security, and other related areas (Okanta as cited in Collins *et al.*, 2019).It alludes to costs borne by the government for upkeep as well as the supply of public goods, services, and projects required to encourage or support economic growth and enhance societal welfare. Spending incurred for the benefit of a country's citizens is used to estimate government expenditures (Efuntade *et al.*, 2020). The government is responsible for a number of tasks, such as maintaining public infrastructure, power, healthcare, education,

and security. It is impossible to overstate the significance of government expenditures. For example, the Keynesian model predicts that rising government spending will result in greater economic development and growth, however neo-classical models that abide by government fiscal policy have little bearing on the growth and development output in the country (Abdurrahman *et al.*, 2020).

The government receives funding for these services from a variety of sources, including grants, aid, public debt, and revenue. Additionally, it is expected that public spending will demonstrate the principle or canon of greatest social benefit, economy, elasticity, sanction, surplus, etc. Therefore, although there are contradictory arguments, government expenditure should primarily drive the economy (Alade, 2022). Government expenditure can be a helpful tool in terms of fiscal and economic policy. It is a tool of fiscal policy that affects the economy. Increased government expenditure boost the economy, particularly in recessions, which is called an expansionary fiscal policy. Conversely, during an economic boom, the government cools the economy by cutting back on expenditure, a tactic known as contractionary fiscal policy. One way to counteract inflation is by cutting back on government expenditures (Ndubuisi, Ezeokwelume & Maduka, 2020). By maximizing anticipated social benefits, economy, flexibility, punishment, and excess, government expenditure will boost the economy. Governments are believed to use public spending as a key instrument for managing the economy. The two primary categories of public expenditure are capital and current, both of which are employed by the government as tools of fiscal policy to regulate the economy, finance public goods, and guarantee long-term economic growth and development. Public spending mostly consists of operations and investments (Allard as cited in Ime *et al.*, 2023).

Government Capital Expenditure

Given that there may be a delay between an expense's occurrence and its impact on the economy, capital expenditure is defined as an expense that generates future benefits. The term "capital expenditure" describes the money used on the purchase of productive non-current assets (whose life span lasts longer than the accounting or fiscal year) coupled with the money spent on the renovation or improvement of fixed assets already in place, such as buildings, roads, machinery, and other equipment as well as intangible assets. This category of government spending also includes funding for research. Generally speaking, capital expenditure is considered an investment that will yield rewards in the future (Brown *et al.* as cited in Efuntade *et al.*, 2020).

Capital expenditure is an investment plan for long-term asset acquisition and maintenance. It also serves as a way to provide the funding needed for these projects, which include building new facilities, significant additions, and extensive remodeling and repairs to already-existing ones. Capital expenditures have advantages that last longer than the year they are paid for (Collins *et al.*, 2019). A capital expenditure is revenue spent on a capital project, which is typically an expensive one (Anthony *et al.*, 2023).

Relationship between Tax Revenue and Capital Expenditure

The potential impacts of changing government spending on revenue has long piqued the interest of scholars and decision-makers. In microeconomics, there has been debate concerning the link that exists between government revenue and expenditure. Since spending plays a critical and significant part in both economic development and the improvement of a nation's citizenry's quality of life, there have recently been concerns regarding the rise in budget deficit in several developing nations (Igi Global as cited in Emmanuel, 2020). The amount of the government's anticipated expenditures is often determined by the revenue base. An economy that lacks the

necessary resources or whose anticipated revenue is not as high as anticipated must borrow money to fund its project (Solomon as cited in Collins *et al.*, 2019).

An essential perspective for elucidating the study's claim is grounded two growth models, the neoclassical and the endogenous, that clarifies how governmental growth or modifications impact revenue collecting sources. This suggests the theoretically supported one-way relationship between government aggregate expenditure and tax and duty revenue. It implies that every rise in tax revenue should result in a rise in government spending, particularly in the near run. The link between tax and expenditure is not constant, even in long-term frameworks; it varies according to economic state, management style, and circumstance (Eniekezimene *et al.*, 2019).

Value Added Tax and Government Expenditure

Value-added tax (VAT) is thought to promote economic growth by discouraging excessive consumption and having a favorable effect on savings and investments. Nigeria has a federal system of government that consists of the federal, state, and local administrations. In this multilevel system, the federal, state, and local governments share fiscal responsibility (Madugba & Azubike as cited in Kwanti & Dauda, 2022). Thus, Fiscal Federation is created. Fiscal federalism is referred to as the existence in one country of multiple levels of government, each with varied expenditure obligations and taxing capabilities (Kwanti & Dauda, 2022). The involvement tax is the paid to suppliers on the acquisition of taxable goods and financial undertakings is referred to as VAT, whereas the productivity VAT is the tax that businesses charge their clients on the value of taxable goods and services that are supplied or provided (Bank-ola, 2021).

While some nations opt to raise their VAT rates in order to enhance revenues and finance government expenditures, others have chosen to lower their VAT rates in order to encourage investment. Appropriate tax policy and its application appear to be quite difficult tasks. It is the duty of every government to set up a fair tax code and enforce rigorous compliance for all citizens. In this regard, it is important to evaluate the adjustments made to the VAT rates and to strengthen tax compliance (Bankman & Schuler as cited in Erero, 2021).

Petroleum Profit Tax and Government Expenditure

PPT is unequivocally the most significant sector in Nigeria as it contributes the most revenue to the nation. According to Statement of Accounting Standard (SAS) No. 14, Nigeria's petroleum sector is the primary source of foreign income and the most strategic industry. It contributes significantly to Nigeria's economic growth and development. However, Odusola (2006) is of the belief that despite PPT's contribution to Nigerian revenue, government spending on capital projects has fallen short of expectations, especially in the Niger Delta region. There have been discussions between oil firms and the government on this topic. The Nigerian government aims to use PPT proceeds to provide necessary amenities, while oil companies are expected to fulfill corporate social responsibilities to host communities and Nigerians, creating a favorable environment for their operations. It's crucial to analyze how the petroleum profit tax affected government expenditure from 1988 to 2018 (Abdurrahman *et al.*, 2020).

Company Income Tax and Government Expenditure

The available empirical data indicates that there are several reasons why using CIT as a means of funding government expenditures in Nigeria has proven to be problematic. Among these are the evasion and avoidance of taxes. These types of tax resistance are seen to undermine government spending and contribute to the underdevelopment of the country (Collins *et al.*,

2019). It is required of the government to levy taxes on all obtainable financial resources and use the proceeds to fund infrastructure projects. Consequently, the supply of social amenities is made impossible by tax opposition. Nigerian tax revenue, especially CIT, has fallen short of what the government had hoped for (Micah, Ebere, & Umobong as cited in Abdurrahman *et al.*, 2020).

Theoretical Review

This section aims to review the theories that underpin this study, which are; benefit theory, ability to pay, Peacock and Wiseman Theory of Public Expenditure.

Benefit Received Theory

Knut Wicksell (1896) and Erik Lindahl (1919) were the first to establish the benefit theory. The concept was being applied to topics including company taxes, property or wealth taxes, and tax progressivity. Cooper (1994) developed the benefits theory of taxation, which held that taxes should be imposed by the government on an individual basis in proportion to the benefits the individual received from the services (social goods) the government provided. This theory made the assumption that taxpayers and the government have an exchange relationship (Yahaya & Yusuf, 2019). The benefit theory suggests that individuals should pay more to the government based on the benefits they receive from governmental operations (Osho, Olemija & Falade, 2019).

The benefit principle is a taxation ideology originating from public finance. The benefit principle approaches taxation from a market-oriented perspective. The goal is to precisely ascertain the ideal revenue level that ought to be directed toward public goods. Taxes for public goods are based on political readiness to pay for advantages obtained. The idea is sometimes compared to how prices work to allocate private products (Craig *et al.*, 2020). According to the view, taxpayers and the state have a contractual relationship. Because the state offers certain goods and services, the expense of which is contributed in proportion to the benefits obtained, the benefits received form the basis for spreading the tax burden in a specific manner (Ologbenla, 2021). According to the argument, people tend to pay higher taxes when they believe their advantages from government actions are sufficient. This indicates that when people believe their taxes are being utilized to fund infrastructure projects and stimulate the economy, they are more inclined to pay taxes to the government. Because it assesses the benefits of taxes in relation to the state-provided capital infrastructure and the pace of economic expansion, this theory is thus pertinent to the study (Ayeni & Afolabi, 2020).

Ability to Pay Theory

This theory's central claim is that the tax burden should be assigned between the citizens in a way that considers each person's unique ability to pay in order to preserve the ideals of equity and justice. The idea of equity and justice originated with Adam Smith. He supports the idea that taxes should be paid in an equal quantity, which implies that taxes are paid in relation to earned income. Only when the tax system can assume equity and justice based on the taxpayer's ability to pay the amount determined as a tax burden (Okafor as cited in Efuntade *et al.*, 2020). This theory emphasized the tax payer's income in order to cover the tax obligation and established that a company or person with a bigger tax base should pay more in taxes than a company or person with a smaller tax base. The precise formula for determining a person's capacity or ability to pay is a topic of debate among economists (Naiyeju as cited in Osho *et al.*, 2019).

This notion is supported by the taxation cannons, which emphasize the contributor's ability to contribute to the state's common pulse at a time and in a way that is most convenient.

There are no perks in exchange for the state's taxes (Chigbu *et al.* as cited in Innocent, 2020). According to this concept individuals ought to pay taxes according to their ability to pay. Individuals with higher incomes ought to pay higher rates than those with lesser income. In this study, the ability to pay suggests that if a person's expenses increase, they should pay more tax. The equality of sacrifice theory is another name for the ability to pay theory (Adam, 1776 in Adam Smith Institute, n.d. as cited in Innocent, 2020).

Empirical Review

Research has been done to ascertain or investigate the connection between tax income and public spending. Among these studies is one by Adeola and Evans (2019), which examined the relationship between tax revenue and government spending in Nigeria using annual time series data from 1986 to 2016. The analysis found that an increase in tax collections lead to more government spending, establishing a positive long-term correlation between the variables. In other words, tax revenue affects spending by the government. A similar research carried out by Emmanuel Kaka (2020) of which the article's objective was to examine the connection between government spending, tax revenue, and non-tax revenue in Nigeria. A quantitative study design was used. Secondary data were gathered from the Federal Inland Revenue Service, World Bank, World Bank statistical journal, and Central Bank of Nigeria. The study's time frame was from 2010 to 2018 and was evaluated using descriptive statistics. The study's results revealed a relationship between government revenue and expenditure and that the revenue and expenditure patterns of the Nigerian government support the spend-and-revenue hypothesis. In other words, government revenue only adjusts in response to past changes in spending. Since oil revenue is declining, it is anticipated that the government would raise sufficient tax income to cover its expenses. This means that the government must always raise more money in order to fund greater government expenditures. In Nigeria, for example, government spending consistently exceeds revenue, creating a budget deficit. It was also discovered that tax revenue had been rising, albeit more slowly.

Collins *et al.* (2019) investigated the effect of taxes on capital and ongoing expenses on economic growth. The topic of taxes as a source of income is still hotly contested, so in order to voice an opinion, the data for this study were gathered from the CBN statistical bulletin for the years 1998 through 2017. OLS was used for the analysis in the form of single and multiple regression techniques. A positive and sizable relationship between capital and recurrent revenue and tax revenue was discovered. Furthermore, a significant correlation between GDP and the taxation ratio on capital and recurrent spending was discovered. Stated differently, an increase in tax revenue will result in a commensurate rise in government capital and ongoing expenses as well as economic expansion.

A research was also conducted by Ndubisi *et al.* (2020) examined the impact of tax income and previous tax reforms on government expenditure in Nigeria. Value-added tax, corporation income tax, excise and customs duties, and tax reforms were used to explain tax revenue. The years in which the reforms occurred were used as proxies, and the results were quantified using dummy variables. The study concluded that government spending is positively and significantly impacted by value-added tax, negatively and significantly impacted by company income tax, positively and significantly impacted by excise taxes, and negatively and significantly impacted by tax reform periods.

Udeagwu and Eze (2020) investigate the impact of tax collection on government expenditure in Nigeria using annual time-series data from 1981 to 2017. According to the report, tax revenue greatly increased Nigerian government expenditure. The study also discovered that a

1% rise in tax revenue causes a 0.78% increase in government expenditure. Additionally, the study demonstrates a two-way causal relationship between tax revenue and government expenditure, with higher government expenditure translating into higher tax revenue.

According to Ogunmuyiwa and Olanrewaju (2019), tax revenue appears to be an important predictor of government expenditure in Nigeria because of its long-term link with tax revenues, which is consistent with the data mentioned above. This indicates that tax revenue directly influences government spending in Nigeria. It also suggests that, while not always the case, larger tax collections will result in higher government spending. (Ihenyen *et al.*, 2023). A study carried out by Abdurrahman *et al.* (2020) looks into the relationship of correlation between three different forms of tax collection and government spending in Nigeria. Concerns over the connection between revenue from taxes and government spending in Nigeria have been highlighted by the country's deteriorating infrastructure and the government's incapacity to fulfill its obligations. Since the Toda-Yamamoto causality test can clearly demonstrate the causal relationship between variables, it was used in the study. Empirical evidence indicates that the three types of tax revenue and government expenditures in Nigeria have a unidirectional causal relationship.

Ime *et al.* (2023) carried out an analysis which concluded that the goal of increasing tax revenue is not being achieved by government spending. As a result, the study suggests placing more focus on long-term government spending and economic initiatives that will raise tax collections. The influence of government revenue on government spending in Nigeria was investigated in this study. Data for the study came from a statistics bulletin published by the National Bureau of Statistics, CBN, IFRS, OECD, and CBN between 1981 and 2020. The study employed a retrospective research approach. The data was evaluated using multiple regression analysis, descriptive statistics, and correlation analysis using SPSS 20.0 and the Advanced Excel Analytical Toolkit 2018 program. According to the analysis, there is a substantial correlation between Nigerian government revenue and expenditure.

Methodology

Research Design

In carrying out this research, the *ex post facto* research design was adopted as the data to be used already exists and is accessible. This study examines time series data covering a twenty four years period, extending from the first quarter of 2009 to 2023's fourth quarter.

Population and Sample

The population being used in carrying out this research is Nigeria. A purposive sampling technique is being used to carry out this study. The sample size of this study consists of the Federal government's portion of some of the major taxes being collected in Nigeria.

Analysis and Interpretation

Following the study's empirical data structure, the study employs the time series data methodology. Thus, empirical data analysis phases sequentially include preliminary analysis, model estimation stage and post diagnostic tests. The data to be used in carrying out this research is obtained from Federal Inland Revenue Service (FIRS) and National Bureau of Statistics on a quarterly basis.

Preliminary Analyses

Descriptive analysis, tests for unit roots, and co-integration tests are all included in the preliminary study. The summary statistics of the variables under investigation, such as mean, skewness, kurtosis, and Jarque-Bera statistic, are provided by the descriptive analysis. The pre-

estimation tests needed to check for stationarity and linear combinations of the variables under investigation, respectively, are the unit root test and the cointegration test. The "Augmented Dickey Fuller (ADF)" test is used in the unit root test to evaluate the order in which the variables are integrated. Following the findings of the unit root test, the single-equation testing methods of Engle-Granger (EG) cointegration tests were used for the purpose of determining whether the long-run relationships among the variables existed. The Engle-Granger (EG) is a parametric version of the augmented Dickey-Fuller (ADF) methodology.

Estimation Methods

Following the pre-estimation tests, the study employed time series long-run or cointegrating estimation methods that are fully efficient. The cointegrating estimation methods include: "Fully Modified Ordinary Least Squares, FMOLS (Phillips & Hansen, 1990s), Dynamic Ordinary Least Squares, DOLS (Saikkonen 1991; Stock & Watson 1993) and Canonical Cointegrating Regression, CCR (Park 1992)". The aforementioned estimation methods are fully efficient estimation procedure applicable to models with I (1) series as well as having the existence of linear combination among the variables. Meanwhile, the choice among the three competing estimation methods is based on their adjusted R-squared values. Thus, method with largest R-squared value is selected in conducting the inferential analysis.

Post Estimation Diagnostics

To evaluate the validity of the given model, post estimation tests, such as the serial correlation test (using the Ljung-Box Q-statistic) and normality test (using the Jarque-Bera statistic), were carried out.

Model Specification

In this study, the dependent variable is the Federal Government Capital Expenditure (CAPEX), while the independent variable is the Federal Tax Revenue, represented by proxies which are the federal government's portion or share in the value added tax, petroleum profit tax and company income tax. The following models were used to analyze the relationship between Federal tax revenue and government capital expenditure in Nigeria, adopted from Osho *et al.* (2019). Moreover, gross domestic product (GDP) was employed as a control variable. Thus, the functional form of the model is as follows:

$$CAPEX_t = f(VAT_t, PPT_t, CIT_t, GDP_t) \qquad (3.1)$$

Where VAT= Value Added Tax

PPT= Petroleum Profit Tax

CIT= Companies' Income Tax

CAPEX=Federal Government Capital Expenditure

The regression model is expressed as follows:

$$CAPEX_t = \beta_0 + \beta_1 VAT_t + \beta_2 PPT_t + \beta_3 CIT_t + \beta_4 GDP_t + \varepsilon_t \qquad (3.2)$$

The above model assumes a linear relationship between the dependent variable and the independent variables.

The *a priori* expectation

The *a priori* expectations are defined as follows:

$$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0$$

The above statements suggest that value added tax, petroleum profit tax and company income tax is expected to have a positive effect on capital expenditure.

Descriptive Statistics

The summary statistics of the variable under are summarised in the table below. The variables include capital expenditure (CAPEX), value added tax (*VAT*), petroleum profit tax (*PPT*),

company income tax (*CIT*) and gross domestic product (*GDP*). The aforementioned variables are expressed in scale of ₦'billion. Moreover, the statistics were computed using the logarithm form of variables.

Table 4.1-: Summary Statistics
Sample Period-: 2009Q1 – 2023Q4

	Variable				
Statistics	**CAPEX**	**VAT**	**PPT**	**CIT**	**GDP**
Obs.	60	60	60	60	60
Mean	7.482	5.342	6.337	5.641	11.114
Maximum	8.754	6.863	7.297	7.096	11.264
Minimum	6.483	4.690	5.175	4.618	10.831
Std. Dev.	0.787	0.541	0.494	0.587	0.115
Skewness	0.3221	1.0356	-0.2680	0.2650	-0.8660
Kurtosis	1.3555	3.0562	2.2572	2.3436	2.7842
Jarque-Bera	7.7983	10.7316	2.0975	1.7795	7.6167
p-value	0.0203	0.0047	0.3504	0.4108	0.0222

Source: Research's computation (2025)

The summary statistics for the variables being examined are shown in Table 4.1. It could be observed that the measures of variability, *i.e.* the standard deviations, are lower in magnitude than the respective averages for all the variables. The foregoing indicates that the variables witnessed low level of variability values across the quarterly period, and thus, suggesting that the variables are likely to have high forecasting power. Variables such as CAPEX, VAT and CIT appear to be positively skewed (long-right tailed), however, *PPT* and *GDP* demonstrate negatively skewed distribution having negative coefficients of skewness. It appears that CAPEX, PPT, CIT and GDP demonstrate flat-topped distributions (platykurtic) relative to the normal distribution with kurtosis coefficients" below the threshold of 3.0 for normal distribution. However, *VAT* appears to be approximately mesokurtic having kurtosis coefficient (3.0562) approximately equal to 3 for a normal distribution. Meanwhile, PPT and CIT appear to demonstrate normal distribution having insignificant Jarque-Bera statistics with the respective *p*-values above 0.05 level of significance. However, CAPEX, VAT and GDP demonstrate non-normal distribution having significant Jarque-Bera statistics.

Pre-Tests

Unit Root Tests

The unit root test was conducted before the model estimation to determine the stationarity status of the variables under study. Thus, the Augmented Dickey-Fuller (ADF) test was employed to examine the stationarity conditions of the variables.

Table 4.2-: Unit Root Test Results
Sample Period: 2009Q1 – 2023Q4

		Level Form				
		CAPEX	**VAT**	**PPT**	**CIT**	**GDP**
With Constant	t-Statistic	-1.0250	2.5387	-2.2782	0.6683	-1.9987
	Prob.	**0.7387**	**1.0000**	**0.1825**	**0.9904**	**0.2866**
With Constant & Trend	t-Statistic	-2.5084	0.4988	-2.0867	-1.1669	-2.2697
	Prob.	**0.3232**	**0.9991**	**0.5414**	**0.9074**	**0.4432**
Without Constant & Trend	t-Statistic	0.7771	2.7985	-0.0441	3.1094	1.0623
	Prob.	**0.8785**	**0.9985**	**0.6637**	**0.9994**	**0.9230**
		First Difference Form				
		Δ(CAPEX)	**Δ(VAT)**	**Δ(PPT)**	**Δ(CIT)**	**Δ(GDP)**

With Constant	t-Statistic	-2.9003*	-9.6807***	-8.4638***	-15.3350***	-2.2062
	Prob.	**0.0514**	**0.0000**	**0.0000**	**0.0000**	**0.2064**
With Constant & Trend	t-Statistic	-2.8486	-10.4507***	-8.4061***	-15.3965***	-2.4563
	Prob.	**0.1867**	**0.0000**	**0.0000**	**0.0000**	**0.3480**
Without Constant & Trend	t-Statistic	-2.7671***	-8.3880***	-8.5154***	-4.7056***	-2.0840**
	Prob.	**0.0064**	**0.0000**	**0.0000**	**0.0000**	**0.0367**
Order: I(d)		**I(1)**	**I(1)**	**I(1)**	**I(1)**	**I(1)**

Source: Research's computation (2025)

*Note: *** & ** denote statistical significance at 1% and 5% respectively.* Δ = difference operator

Employing the ADF unit root testing method, the unit root test results are shown in Table 4.2. It could be observed that all the variables appear to be integrated of order one *i.e.* they follow *I(1)* processes since there is no significant result under the level for all the variable. Thus, the first differencing technique was utilized in order for the series to become stationary. Thus, the model under consideration, *i.e.* CAPEX-model, contain variables that follow I(1) processes. As a result, the variables' uniform order of integration of I(1necessary to perform a co-integration test in order to ascertain the likelihood that the variables have a lasting relationship. Moreover, impulse to the variables may persist over time due to the non-stationary conditions.

Co-integration Test

Based on the preceding unit root test results, it is necessary to test for the existence or otherwise of the linear combinations or long-term relationships among the variables. Thus, the Engle-Granger (EG) co-integration testing methods of the single-equation co-integration test approach was employed since the variables being examined have the same I(1) order of integration.

Table 4.3-: Engle-Granger (EG) Co-Integration Test Results
Sample Period: 2009Q1 – 2023Q4

Model	Test Type	tau-Stat.	*p*-value	z-stat.	*p*-value
CAPEX	Engle-Granger	-6.7407	0.0018	-52.770	0.0011

Source: Research's computation (2025)

The results of the co-integration test conducted for each of the models using the Engle-Granger (EG) co-integration testing techniques are shown in Table 4.3. Thus, significant test results are shown by both the tau-statistics (stat. = -6.740, p = 0018) and the z-statistics (stat. = -52.770, p = 0.0011) with the corresponding p-values below 0.05 level of significance. The foregoing implies that the variables of each of the study's model appear to have long-run relationships or linear combinations. Therefore, the model does not witness spurious regression.

Model Estimation

Following the existence of long-run relationship among the variables under investigation, the study employed the co-integrating regression estimation methods which include: fully-modified ordinary least squares (FMOLS), canonical co-integrating regression (CCR) and dynamic ordinary least squares (DOLS). The choice of among the aforementioned competing estimation method depends on the adjusted R-squared values. The estimator with largest adjusted R-squared value is chosen for inferences. The estimation results using the three estimation method are shown in Tables 4.4 for the model. Following the results displayed in Table 4.4, it could be observed that among the competing estimation methods, the dynamic ordinary least squares (DOLS) estimator is considered most acceptable method having the highest adjusted R-squared value (0.9579). Thus, the dynamic ordinary least squares (DOLS) estimation method is selected.

Moreover, the natural log forms of the variables were utilized in the estimation, thus, the estimates obtained are in elasticity.

Table 4.4-: Co-integrating Regression Estimation Results
Sample Period: 2009Q1 – 2023Q4

Estimation Method	FMOLS	DOLS	CCR
Response Variable	**CAPEX**	**CAPEX**	**CAPEX**
Independent Variable			
C	79.7087*** (0.0000)	106.456*** (0.0000)	85.4847*** (0.0000)
VAT	0.3923 (0.1268)	1.4104*** (0.0000)	0.4787 (0.1384)
PPT	0.3286*** (0.0025)	0.2301*** (0.0057)	0.3259*** (0.0063)
CIT	0.0144 (0.9166)	0.3432 (0.1752)	0.0135 (0.9464)
GDP	6.7496*** (0.0000)	8.9368*** (0.0000)	7.2522*** (0.0000)
trend-t	0.0977*** (0.0000)	0.1397*** (0.0000)	0.1021*** (0.0000)
Explanatory Power:			
R-squared	0.9189	0.9706	0.9179
Adj. R-squared	0.9112	**0.9579**	0.9102
Overall Test: Wald Test:			
F-statistic	11.3199*** (0.0000)	67.8210*** (0.0000)	14.4388*** (0.0000)
Post-Diagnostic Tests			
Serial Correlation Test:			
Q-Statistic (Ljung-Box)	38.957*** (0.000)	4.7611 (0.5750)	39.781*** (0.000)
Normality Test:			
Jarque-Bera Stat.	4.1430 (0.1259)	0.6506 (0.7223)	3.8751 (0.1440)

Source: Researcher's computation (2025).

*Note: *** denotes statistical significance at 0.01* at level of significance. Meanwhile, values in parentheses are *p-values* of the respective coefficients and statistics.

As shown in Table 4.4, the test of individual significance is given by the individual coefficients and the resultant *p*-values (in parentheses). Thus, the test of individual significance evaluates the study's hypotheses using the dynamic ordinary least squares (DOLS) method.

Test of Individual Significance – Hypothesis 1

Under the DOLS estimator in Table 4.4, it could be observed that changes in each of value added tax (VAT) exert positive and statistically significant effect (β_1 = 1.4104, p = 0.0000 < 0.01) on federal government capital expenditure (*CAPEX*) in Nigeria. Thus, the statistical significance position of the foregoing empirical test implies the rejection of the null hypothesis, *i.e.*, H_0: $\beta_1 = 0$ is rejected. Furthermore, the partial slope coefficient indicates that CAPEX is elastic with respect to each VAT having partial coefficient being greater than one. In other words, the degree of responsiveness of CAPEX to VAT is elastic and significant.

Test of Individual Significance – Hypothesis 2

As shown under the DOLS estimator in Table 4.4, it could be observed that changes in each of petroleum profit tax (PPT) exert positive and statistically significant effect (β_2 = 0.2301, p = 0.0057 < 0.01) on federal government capital expenditure (*CAPEX*) in Nigeria. Thus, the

statistical significance status of the foregoing empirical test implies the rejection of the null hypothesis, *i.e.*, $H_0: \beta_2 = 0$ is rejected. Nonetheless, the partial slope coefficient indicates that CAPEX is inelastic with respect to PPT having partial coefficient being less than one. In other words, the degree of responsiveness of CAPEX to PPT is inelastic but significant.

Test of Individual Significance – Hypothesis 3

As shown under the DOLS estimator in Table 4.4, it could be observed that changes in each of company income tax (CIT) exert positive, however, statistically insignificant effect ($\beta_3 = 0.3432$, $p = 0.1752 > 0.1$) on federal government capital expenditure (*CAPEX*) in Nigeria. Thus, the statistical significance status of the foregoing empirical test implies the preservation of the null hypothesis, *i.e.*, $H_0: \beta_3 = 0$ is retained. Nonetheless, the partial slope coefficient indicates that CAPEX is inelastic with respect to CIT having partial coefficient being less than one. In other words, the degree of responsiveness of CAPEX to CIT is inelastic and insignificant.

Meanwhile, changes in GDP in a positive and statistically significant impact ($\beta_4 = 8.9368$, $p = 10.5343 < 0.01$) on federal government capital expenditure (*CAPEX*) in Nigeria. Moreover, the magnitude of impact in elastic. In other words, the degree of responsiveness of CAPEX to GDP is elastic and significant. Furthermore, the significant effect of trend (t = time, $\beta = 0.1397$, $p = 0.0000$) on CAPEX suggests that CAPEX responds significantly to changes in the fiscal year in upward fashion indicated by the positive coefficient.

Test of Overall Significance

As shown in table 4.4 under DOLS estimator, the F-statistics (21.2173) indicates that the included independent variables (*VAT*, *PPT*, *CIT* and *GDP*) seem to have a substantial combined or joint significant impact on capital expenditure (*CAPEX*) having a *p*-value (0.0000) below 0.01 level of significance.

Post Diagnostic Tests

Essentially, the post estimation tests include autocorrelation (or serial correlation) test and normality test. As displayed in Table 4.4, the insignificant results (having *p*-values > 0.05) of the serial correlation test (using the Ljung-Box Q-statistic, $p = 0.5750$) and normality test (using Jarque-Bera statistic, $p = 0.6506$) of the selected DOLS estimation method for the estimation of the model suggests that the estimates obtained are efficient and suitable for drawing conclusions and formulating policies.

Summary of Hypotheses Testing Results

An overview of the estimated model's significance tests is provided in Table 4.6 to reveal the tests of hypotheses result of the study.

Table 4.5-: Summary of Tests of Hypotheses Results

Federal tax revenue and government expenditure in Nigeria

	Null Hypothesis (H_0)	Method	Stat. Sign.	Strength
1	Value added tax has no significant effect on capital expenditure in Nigeria	DOLS	+ Significant ($p < 0.01$)	Strong
1	Petroleum profit tax has no significant effect on capital expenditure in Nigeria	DOLS	+ Significant ($p < 0.01$)	Strong
2	Company income tax has no significant effect on capital expenditure in Nigeria	DOLS	+ insignificant ($p > 0.1$)	

Source: Researcher's compilation (2025).

Discussion of findings

This investigate the effect of federal tax revenue on capital expenditure in Nigeria. The study's empirical outcomes revealed that a significant and positive association was observed between

value added tax and capital expenditure in Nigeria. The foregoing suggests that the petroleum profit tax is catalyst for the growth of capital expenditure in Nigeria. The preceding empirical outcome is in line with Adeola and Evans (2019), Emmanuel Kaka (2020), Akinlo and Akinlo (2017), Ibrahim and Adebisi (2017), Udeagwu and Eze (2020), Isma'il & Badara (2023), Olaniyi, Mustapha & Oyedokun (2019) and Ogunmuyiwa and Olanrewaju (2019).

Similarly, empirical outcomes revealed that a significant and positive association was observed between petroleum profit tax and capital expenditure in Nigeria. The foregoing suggests that the company income tax is a significant revenue-driven source for the growth of capital expenditure in Nigeria. The foregoing finding is corroborated by the aforementioned studies.

However, company income tax was found to be positive but insignificant impact on capital expenditure. The foregoing suggests that capital expenditure responds positively but insignificantly to company income in Nigeria. Studies such as Ugwuanyi, Bonface & Ezugwu (2022), Ime, Jonah & Chinda (2023) supports the foregoing empirical outcome.

Summary of the findings

This study is being carried out on Federal tax revenue on government expenditure in Nigeria, specifically capital government expenditure, and the findings of the research work are summarized below;

This study shows that the value of the majority of the variables, which includes CAPEX, VAT, PPT, CIT were mostly constant overtime. This makes it good for effectively forecasting future trends.

After carrying Unit Root and Co-integration Tests (Checking for Relationships), the research revealed that the variables were only stable after being corrected, which is common for financial data. Additionally, it demonstrated that taxes and CAPEX have a long-term relationship, which means that they typically move in unison.

After carrying out model estimation (analyzing data), the impact of VAT on CAPEX was overwhelmingly favorable, indicating that higher VAT leads to higher government capital expenditure. PPT also had a noteworthy and beneficial impact, but the rise in CAPEX was less than that of VAT. CIT had a positive effect, but it wasn't statistically significant, meaning the relationship wasn't strong enough to be reliable, and GDP had a substantial and positive impact on CAPEX, demonstrating that an expanding economic is accompanied by more government spending on infrastructure. After carrying out post-diagnostic tests (checking accuracy), tests showed that there were no major errors in the model, and the results could be trusted.

Conclusion

The main objective of this study was to explore the concepts of Federal tax revenue and government expenditure in Nigeria, reviewing the extent and impact of their correlation using various tests and analysis methods to understand the relationship between these taxes and CAPEX. This study was conducted to significantly advance the literature and validate the findings of previous investigations on correlated and related topics. The analysis comes to the conclusion that PPT and VAT are crucial for increasing government spending on capital expenditures (CAPEX) such as hospitals, schools, and roads. Although CIT has a beneficial effect, it is insufficient to have a significant influence. Government expenditure is also greatly increased by a developing economy (GDP).

Recommendations

Following the findings of this study, the below recommendation are therefore presented to other researchers:

Improve VAT and PPT collection: The government should concentrate on streamlining the collection of VAT and PPT since they have the biggest influence on government capital expenditure. Understanding how companies and individuals avoid paying taxes, particularly PPT and VAT could help the government reduce these gaps and increase overall tax collection by identifying frequent loopholes or evasion tactics. This would ensure that more funds are available for development and infrastructure.

Investigate CIT's Weak Impact: The government should investigate the possible reasons behind the lack of a discernible impact of CIT on expenditure and devise strategies to enhance its financial contribution. Subsequent studies may examine the effects of possible modifications to the CIT collection procedure. Through an analysis of the consequences of more stringent tax laws or alternative auditing procedures, scholars could ascertain ways to increase CIT's contribution to government revenue.

Support Economic Growth: Since a stronger economy results in more government spending on significant projects, policies that promote economic growth should be given top priority. More funds are available for the government to invest in development initiatives when the economy expands. The government must put policies in place that foster investment, improve productivity, and foster a business-friendly climate in order to maintain and accelerate this growth.

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