INTERNALLY GENERATED REVENUE AND ITS IMPACT ON BUDGET IMPLEMENTATION IN SOME SELECTED STATES IN NIGERIA (2013-2022)

Ogunleye Stephen Ayodeji
Ph.D Student, Faculty of Management Sciences,
Department of Accounting,
Ekiti State University, Ado-Ekiti

Abstract

This study investigated internally generated revenue and budget implementation across some selected states in Nigeria. Also, the study adopted ex post facto research design using secondary data covering a period of 10 years (2013 to 2022). Data were collected from four states selected from each of the six geopolitical zones in Nigeria to make up 24 states. Data were sourced from the Board of Internal Revenue of each state and National Bureau of Statistics. This study adopted both descriptive and inferential statistical analysis. Descriptive statistics consisted of mean, standard deviation, maximum and minimum while the inferential statistical analysis covered Pearson correlation analysis and panel regression estimation effects. The study revealed that road tax (ROD) has a positive but not significant effect on capital expenditure of selected states in Nigeria to the tune of 0.0807 (p=0.608>0.05); direct assessment tax (DAT) has a positive significant effect on capital expenditure of selected states in Nigeria to the tune of 0.488 (p=0.005<0.05); Pay-As-You-Earn (PAYE) has a positive but insignificant effect on capital expenditure of selected states in Nigeria to the tune of 0.097 (p=0.131>0.05); Road tax (ROD) has a positive significant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0411 (p=0.039<0.05); Direct assessment tax (DAT) has a positive but insignificant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0212 (p=0.854<0.05); Pay-As-You-Earn (PAYE) has a positive but insignificant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0464 (p=0.343>0.05). From the analysis conducted, it was concluded that there was a statistically significant effect of internally generated revenue on budget implementation in some selected states in Nigeria.

Keywords*: Revenue, State Government, Road Tax, Budget Implementation, Direct Assessment Tax, PAYE, Capital and recurrent expenditure*

1.0 Introduction

Revenue is the lifeblood of any budget and is crucial for the effective functioning of a government. Without a reliable source of income, a government's budget remains theoretical and is unlikely to be implemented in practice (Braimah & Onuoha, 2022). This underscores the significance of revenue generation for the fiscal health of a government. States, in particular, strive to enhance their revenue generation efforts within their respective jurisdictions, which is commonly referred to as internally generated revenue. Internally generated revenue encompasses the total income and receipts collected by a government from sources or entities operating within its territorial boundaries during a specific period (Adinoge, et al., 2022). Olatunji and Dominic (2019) provided a concise explanation of internally generated revenue as revenues that states can generate without the involvement or reliance on entities outside their jurisdiction. This explanation reinforces the idea that state governments have the capacity to

generate revenue from sources located within their administrative boundaries. Any revenue derived from entities or activities beyond their jurisdiction would not be classified as internally generated revenue for that state.

The level of internally generated revenue (IGR) plays a pivotal role in influencing the scope and feasibility of a state's budget. In some states, particularly those located in the southern regions of the country, revenue from crude oil constitutes a significant portion of their income. Meanwhile, other states rely on various forms of taxes, such as pay-as-you-earn (PAYE), road tax, and direct assessment, as primary sources of internally generated revenue. It is important to note that not all states have access to crude oil revenue, but virtually all of them have the authority to levy taxes on income, profits, and properties within their jurisdiction. This underscores the importance of including tax-related variables in the analysis of internally generated revenue. When states are able to generate an adequate amount of revenue, they are better positioned to implement their budgets effectively.

Budget implementation is the degree to which the government can execute what was originally planned before the commencement of the fiscal year (Fatile & Ejalonibu, 2018). Most literature focus on the expenditure aspect of budget implementation, ignoring the fact that revenue also makes up the budget for a year. Thus, a certain level of revenue is expected to be earned, while a certain level of expenditure is expected to be spent. Unfortunately, there are various issues surrounding the collection of revenue within State governments. Inadequate training of tax officers, mismanagement of revenue gained, bribery and corruption, failure to submit tax collected to appropriate quarters, low internal control initiatives and poor accountability among others (Dladla &Khobai, 2018; Edewusi& Ajayi, 2019). These issues adversely influence revenue collection at the State level, making budget implementation difficult.

There are times when the revenue generated by a State is inadequate to meet the proposed expenditures of the State. In such circumstances, revenue could come from two streams: federal allocation or domestic debt. Federal allocation is the general revenue that is distributed by the Federal government to all the States in the nation (Olaoye & Bankole, 2019). It is shared based on various criteria like population, number of local government areas, constituencies and income generated among others. Against this background, this study is established to examine internally generated revenue and budget implementation in some selected states in Nigeria.

The heavy reliance on oil revenue, primarily from the southern region of the country, has resulted in the neglect and underdevelopment of other sectors in Nigeria (Nwafor, Obineme& Okey, 2021). This overreliance on oil revenue has weakened the nation's financial stability, contributing to suboptimal budget implementation. Furthermore, there is a concerning lack of accountability among government officials, especially after their terms in office expire. Officeholders are expected to account for how they utilized the budget allocated to them, but this accountability is often lacking. This lack of transparency fosters corruption and embezzlement, as officials are not held responsible for their budgetary responsibilities.

Another significant issue is the failure to prosecute offenders. Government officials involved in looting public funds often escape legal consequences, and stolen assets are not recovered or seized. This lack of accountability and legal action emboldens public officeholders to embezzle funds meant for the public,

with many resorting to bribery and manipulation of the judicial process to evade prosecution. Consequently, while the national budget grows annually, there is little to no positive impact on the overall well-being of the citizens, contributing to Nigeria's unfortunate status as one of the world's highest-rated poverty-stricken nations.

Several studies (Adinoge, David, Aderibigbe & Njoku, 2022; Amin, 2018; Braimah & Onuoha, 2022; Fatile&Ejalonibu, 2018) have explored the relationship between internally generated revenue and budget implementation. However, these studies have yielded mixed findings, with some indicating a negative correlation between the two, while others suggest a positive relationship. This diversity in conclusions serves as a motivation for the current study, which aims to provide clarity and address uncertainties regarding this relationship. Moreover, while the researcher has identified several studies (Ofoegbu & Alonge, 2016; Okereke & Olewe, 2023; Olaoye & Bankole, 2019; Olatunji & Dominic, 2019; Olayinka & Phebe, 2019) that investigated the subject matter, a close examination of their timeframes reveals that many did not encompass recent developments and reforms in the nation. Consequently, the current study seeks to enhance the relevance of its findings by employing a dataset spanning from 2013 to 2022, thus ensuring a more comprehensive understanding of the effect of internally generated revenue on budget implementation in Nigeria.

2.0 Literature Issues

2.1 Internally Generated Revenue (IGR)

The definitions and explanations provided by various researchers shed light on the concept of internally generated revenue (IGR) within the context of state governments in Nigeria. Ofoegbu and Alonge (2016) defined IGR as the total revenue collected by a government from sources or entities operating within its jurisdiction during a specific period. This encompasses all income generated within the government's domain. Olatunji and Dominic (2019) specify that, for state governments, IGR includes incomes and receipts that can be generated without the need for external entities or intervention. This definition underscores the idea that state governments have the autonomy to generate revenue from sources within their territorial boundaries. Okereke and Olewe (2023) elaborate on the role of IGR as funds used to finance a state's budget, emphasizing that these funds are derived from income streams originating within the state. This definition reiterates the importance of self-generated revenue for budgetary purposes and highlights its local character.

Regarding the sources of IGR, Mohammed and Kanu (2019) and Olayinka and Phebe (2019) outlined various revenue streams, including pay as you earn (PAYE), road tax, direct assessment, fines, fees, licenses, rent on government properties, interests, dividends, and the sale of government properties. These sources of revenue are entirely controlled by the state government. It's important to note that while states generate revenue from various sources, certain taxes, such as company income tax, are collected by the federal government rather than the state government. However, states may impose other levies on companies operating within their jurisdiction, which can contribute to their IGR. The presence of multiple taxation can be a concern for businesses and may discourage compliance. In the context of this study, the focus is on examining the IGR of Nigerian states, with particular attention to pay as you earn (PAYE), road tax, and direct assessment as important components of internally generated revenue.

2.2 Budget Implementation

Budget implementation is a critical indicator of a government's ability to effectively carry out its planned activities and projects as outlined at the start of the fiscal year (Fatile & Ejalonibu, 2018). While much of the existing literature tends to concentrate on the expenditure component of budget implementation, it's essential to recognize that a budget consists of both revenue and expenditure components. In the context of budget implementation, revenue represents a crucial facet of the equation. Governments establish budgets with the expectation of both earning a certain level of revenue and incurring specific expenditures throughout the fiscal year. These financial plans are designed to allocate resources efficiently and address the needs of the state and its citizens.

Over time, a recurring trend has been the presence of budget deficits, which arise when the government's expenditures surpass its revenue generation. This budgetary deficit signals that the government must explore avenues to generate additional revenue if it intends to meet its proposed expenditures for the year. In essence, budget implementation serves as a barometer of the government's financial acumen and management capabilities. It underscores the importance of not only managing expenditures but also securing the necessary revenue streams to sustain and successfully execute the budget, ensuring that the government can fulfill its commitments to its citizens and carry out essential programs and projects.

2.2 Theoretical Review

2.2.1 Agency Theory

Agency theory is a very popular theory used to explain the relationship that exists when an agent has been entrusted to perform some responsibilities on behalf of his/her principal. It is widely accepted to have been established by Jensen and Meckling (1976). In the context of this study, the government can be described as agents, while the principals are the citizens. Through the election of public office holders, the citizens have entrusted their representatives to carry out decisions on their (the citizens) behalf in order to protect their interests and improve their standard of living.

The agency theory explains that there are issues in the agency relationship when the interests of the principal clash with that of the agent. Practically, the citizens convey their interests to public officeholders through the budget. Unfortunately, those entrusted with the responsibility of implementing the budget seek only the increment of their personal wealth (Jubery&Moeljadi, 2017). That is, there is a heightened sense of personal enrichment at the expense of the citizens. This sense of entitlement is one of the reasons why budget is hardly implemented to the best ability of the public holders.

The agency theory is quite relevant to the subject matter in the study. This relevance is demonstrated in its explanation of why budget might not be fully implemented; because of the clash of interests between principals and agents. Furthermore, the theory brings to fore-light the issues which might abound whenever there is delegation of authority and responsibility from one person to another. Agency theory affirms that there needs to be a certain level of trust, contract or understanding between the principal and his/her agent before the delegation, authority or responsibility can be transferred.

2.2.2 The Benefit Theory of Taxation

The benefit theory of taxation is supposed to have been authored by Eric Lindahl (1919). He asserted that it would be ideal if people pay tax based on the benefit they derive from the government. In other words, people should be liable to pay tax based on the implemented budget which favoured them. The idea behind this theory is that the government would be motivated to execute activities that would benefit the masses, and in the same vein, the masses would be motivated to pay their tax because they can see the tangible effect of the taxes they render to the government.

*The benefit theory of taxation proposes a progressive system of taxation, in that the higher an entity's wealth, the higher the tax liability to be rendered (*Adinoge, David, Aderibigbe & Njoku, 2022). *When an entity has a lot of wealth, the policies of the government would have a stronger effect on that wealth; thus, if the policies are not economically sound, the wealth would reduce greatly and vice versa. In examining the extent to which budget is implemented, this theory believes that tax revenue forms the bulk of government revenue, as a huge number of the working population renders tax to the government for social goods.*

Benefit theory of taxation gains some relevance to the subject matter being investigated in this study. Its assertion that taxes should be rendered based on benefit derived would improve the level of budget implementation. Furthermore, it supports one of the major canons of taxation, which is the principle of fairness. Another relevance of the theory is in its assertion that taxes should be paid as it greatly improves the revenue which would be used for budget implementation. This supports the explanatory variables of internally generated revenue used in the study.

2.3 Empirical Review

Pay as you Earn (PAYE) and Budget Implementation

Kalaš, et al. (2017) undertook a study in the United States to explore the nexus between taxes and economic growth from 1996-2016. Through regression analysis and correlation matrix, it was uncovered among other things that personal income tax was weakly related to gross domestic product growth. The reviewed study was conducted in the United States, but the current study was conducted in Nigeria.

Ghazo and Abu-Lila (2018) evaluated the causal relationship between public revenues and public expenditure in Jordan from 1976 to 2016. Using ARDL, it was discovered that there was an existence of a bidirectional causality between direct tax revenues and capital expenditures and a bidirectional causality between non-tax revenues and current and capital expenditures. The reviewed study was performed in Jordan, while the current study would be performed in Nigeria.

Firoj, et al. (2018) undertook a study in Bangladesh to reveal the determinants of public spending. Data was collated from 1973-2016 and analyzed using ordinary least square (OLS) regression. Findings showcased that external debt, real GDP, urbanization, tax, and non-tax government revenue positively influenced government expenditure, while dependency on foreign aid and trade openness adversely

affected it. The reviewed study was conducted in Bangladesh, while the present study was conducted in Nigeria.

Özdemir and Gomez (2020) examined the impact of domestic debt on private investment in the Gambia using data from 1980 to 2013. Through Autoregressive Distributed Lag (ARDL), findings showed among other things that domestic debt had a negative effect on private investment in the short run but not in the long run. The reviewed study was performed in the Gambia, while the present study would be performed in Nigeria.

Yusuf and Mohd (2021) assessed the effect of government debt on Nigeria's economic growth using data from 1980 to 2018. Autoregressive Distributed Lag technique was employed in the study. Findings proved that external debt was an impediment to long-term growth, but its short-term effect was growth-enhancing. On the other hand, domestic debt had a significant positive impact on long-term growth while its short-term effect was negative. The reviewed study used data from 1980-2018, while the present study would use data from 2013-2022 in order to improve the quality of its findings.

Ehikioya and Omankhanlen (2021) investigated the impact of public debt on economic growth in Nigeria using data from 1981-2019. With Johansen cointegration test, Ordinary Least Square technique and Vector Error Correction Model, it was unveiled that there was the presence of a long-run equilibrium relationship between public debt and economic growth in Nigeria, though in an adverse manner. The reviewed study used data from 1981-2019, while the present study would use data from 2013-2022.

Ayoka, et al. (2021) performed a study which evaluated the effect of federal government revenue and expenditure on the economic growth of Nigeria from 1983 to 2018. Bounds test and ARDL short/long run estimates were the preferred method of data analysis in the study. Findings gave credence to the fact that federal government retained revenue, non-oil revenue and recurrent expenditure were statistically significant in explaining the relationship with economic growth in the short run, while capital expenditure was not. The reviewed study used economic growth as its outcome variable, while the present study would use budget implementation as its outcome variable.

Okereke and Olewe (2023) undertook a study in order to unveil the effect of Internally Generated Revenue on development of local Government Areas in Enugu State. The Chi-square statistical analysis was favoured in the study to analyse the data. Findings proved that IGR had a significant effect on the provision of road infrastructure and educational infrastructure, but an insignificant effect on the provision of water infrastructure. The reviewed study was limited to Enugu State, while the current study would cover more than one State.

A substantial body of evidence has been presented, indicating that numerous studies have delved into the impact of pay-as-you-earn (PAYE) on both capital and recurrent expenditure, both within and beyond the borders of Nigeria. However, these studies have left certain aspects unexplored, which has served as the impetus for the researcher to embark on this study. In particular, none of the reviewed Nigerian studies extended their analysis to cover more than one state within Nigeria, setting this current study apart by encompassing eighteen states in the analysis. Furthermore, none of the studies under review incorporated

recent time series data spanning from 2013 to 2022, which is a notable feature of this study, aimed at capturing the most recent economic trends and developments. Another noteworthy gap in the existing literature is the absence of studies that consider both recurrent and capital expenditure as the outcome variables in their investigations. This prompts the formulation of the first hypothesis for this study, which seeks to address these gaps and contribute new insights to the field.

$H0_1$: Pay As you Eran has no significant effect on budget implementation.

Road Tax and Budget Implementation

Nguyen and Su (2017) performed a study in Thailand, in order to unveil the long-term association between tax revenue, expenditure, and economic growth using data from 2000-2015. With Granger causality test, findings showcased that the linkage between tax revenue and spending was a bi-directional causal correlation. The reviewed study was undertaken in Thailand, while the present study would be performed in Nigeria.

Dladla and Khobai (2018) explored the impact of taxation on economic growth in South Africa using data from 1981 – 2016. By employing Auto-Regressive Distribution Lag (ARDL), it was revealed that there was a negative relationship between taxes and economic growth in South Africa. The reviewed study used economic growth as its outcome variable, while the present study would use budget implementation as its outcome variable.

Olatunji and Dominic (2019) investigated the effect of internally generated revenue on budget implementation in Ekiti State using data from 2007-2016. Using trend analysis, descriptive analysis, correlation analysis, ordinary least square regression analysis and granger causality analysis, it was proven that there was no significant impact of IGR on budget implementation. The reviewed study was limited to Ekiti State in its geographical scope, while the current study would examine twenty-four States in the federation; a selection of four States from each geo-political zone. The reviewed used data from 2007-2016, while the present study would use data from 2013-2022.

Nestor and Ebikela (2020) performed a study which investigated the effect of domestic debt on economic growth in Nigeria using data from 1981-2016. Through ARDL, it was indicated that public debt was a significant determinant of economic growth. The reviewed study used economic growth as its dependent variable, while the present study would use budget implementation as its dependent variable.

Ahannaya, Daniel-Adebayo, Iwala, Sanni and Akenronye (2021) assessed the influence of IGR on financing infrastructural development in Lagos State, employing data from 2000-2014. Descriptive statistics and linear regression method were utilized to analyse the data. From the findings, it was seen that there was a positive and significant influence of IGR on Capital Expenditure. The reviewed study used data from 2000-2014, while the present study would use data from 2013-2022.

Akinpelu, Mohammed and Ogunbi (2022) performed a study which assessed state government budget implementation in Lagos State using data from 2008-2016. Independent t- test was the preferred method of data analysis. Findings gave credence to the fact that budget implementation was high during the

period under review because the nation's economy was upbeat due to high crude oil price at international market. The reviewed study was State-specific, while the current study would cover twenty-four States in Nigeria.

Adeyokunnu (2023) performed a study to unveil the nexus between public debt and economic growth using data from 1970-2019. Granger causality was employed in the study to analyze the data. It was proven that there existed a positive significant causal relationship between public debt and economic growth. The reviewed study used data from 1970-2019, while the current study would use data from 2013-2022 in order to contribute new knowledge to existing literature.

The available studies in the researcher's possession have yielded inconclusive findings on the subject matter. Some scholars have reported the presence of a positive and significant relationship, while others have arrived at contradictory conclusions. Moreover, none of the reviewed studies have employed a time series dataset covering the period from 2013 to 2022. This raises concerns about the applicability and relevance of the findings, particularly in light of recent changes in government and economic dynamics in Nigeria.In light of these gaps and uncertainties in the existing research, there is a compelling motivation for the current study to be undertaken. As a result, a second hypothesis is formulated to guide the research and address the outstanding questions and discrepancies in the literature. This new hypothesis represents an effort to contribute to a more comprehensive and up-to-date understanding of the relationship between internally generated revenue and budget implementation in the specific context of Nigeria.

H02: There is no significant effect of road tax on budget implementation

Direct Assessment and Budget Implementation

Amin (2018) examined the sources of revenue generation of Asa Local Government, Kwara State. Descriptive statistics was the specified method of data analysis. Findings proved that Asa Local Government generated revenues from internal (market rates, levies and permit fees) and external (statutory allocation and debt) sources. The reviewed study was limited to sources of IGR, while this current study would go a tad further by revealing the effect of IGR on budget implementation.

Edewusi and Ajayi (2019) performed a study which assessed the nexus between tax revenue and economic growth in Nigeria. Multiple Regression Analysis and Co-integration estimation tests were employed in the study. Findings indicated that petroleum profit tax, company income tax and value added tax all exerted a positive significant impact on economic growth. The reviewed study segregated tax revenue into petroleum profit tax, company income tax and value added tax, while the current study would segregate revenue into road tax, direct assessment and pay as you earn.

Ayuba and Khan (2019) investigated the long-run relationship between domestic debt and the fiscal policy of economic growth in Nigeria from 1981 to 2013. Through autoregressive distributed lag (ARDL) approach and the bounds test, findings uncovered that domestic debt had a positive effect on government revenue and economic growth. The reviewed study used data from 1981-2013, while the present study would use data from 2013-2022 in order to add more relevance to existing literature.

Hammayo, et al. (2020) examined the impact of State Government revenues on infrastructural development in Bauchi State, Nigeria using data from 2006 to 2018. Ordinary Least Square regression was the preferred statistical tool in the study. It was uncovered that the share of allocation received from the federation account as well as debt both had positive and significant influence on infrastructural development, while internally generated revenue, showed a negative and significant relationship. The reviewed study used data from 2006-2018, while the present study would use data from 2013-2022.

Efuntade, et al. (2020) investigated tax revenue and its effect on government expenditure in Nigeria. Using the Ordinary Least Square Linear Regression model, it was discovered that tax revenue had a significant effect on government expenditure in Nigeria. The reviewed study used tax revenue as its predictor variable, while the present study used internally generated revenue as its predictor variable.

Oluwatobi and Oyesanya (2021) uncovered the impact of IGR on instructional aids and equipment at a few public universities in southwest, Nigeria. Descriptive statistics, correlation and regression analysis, were employed to analyse the data. Findings showcased that there was a significant relationship between IGR and learning aids/equipment in selected public universities in the southwest. The reviewed study used instructional aids and equipment as its outcome variable, while the current study would use budget implementation as its outcome variable.

Bamidele, et al. (2021) assessed the determinants of government expenditure in Southwest Nigeria using data from 2010 to 2019. Panel data estimation techniques were the chosen methods of data analysis. Findings proved that IGR exerted a positive significant effect on both capital and recurrent expenditure; statutory allocation exerted a positive but insignificant effect on both capital and recurrent expenditure; and domestic debt exerted a negative insignificant effect on capital expenditure, but a positive insignificant effect on recurrent expenditure. The reviewed study used data from 2010-2019, while the current study would use data from 2013-2022.

It's evident that the subject matter has garnered significant attention within the realm of research. However, despite the abundance of studies available to the researcher, a noticeable gap exists in the literature when it comes to using pay as you earn (PAYE), road tax, and direct assessment as explanatory variables for internally generated revenue. Additionally, many of the existing studies have utilized timeframes that do not adequately capture recent economic developments and changes. To address these critical gaps and contribute to a more comprehensive understanding of the topic, the current study takes a unique approach. It aims to employ PAYE, road tax, and direct assessment as key variables to elucidate the dynamics of internally generated revenue. Furthermore, the study seeks to enhance the quality and relevance of its findings by utilizing a timeframe spanning from 2013 to 2022, which encompasses recent economic shifts and developments. This rationale leads to the formulation of the final hypothesis for the study, reflecting its goal of advancing knowledge in this area.

H03: There is no significant effect of direct assessment on budget implementation

1.0 Methodology

The study adopted ex post facto research design. using secondary data covering a period of 10 years (2013 to 2022). These data were sourced from the Board of Internal Revenue of each state and Nigeria Bureau of Statistics. Four states were selected from each of the six geopolitical zones in Nigeria which are; North Central (Benue, Niger, Nasarawa and Kogi), North East (Bauchi, Adamawa, Taraba and Gombe), North West (Kaduna, Katsina, Kano and Sokoto), South East (Abia, Anambra, Imo and Ebonyi), South South (Akwa Ibom, Bayelsa, Delta and Rivers) and South West (Lagos, Oyo, Ogun and Ondo); so that, a total of 24 states were selected. The study captured government revenue with road tax, fines and licenses against capital expenditure as the outcome variable. In line with the structured framework of the study, fines and licenses were replaced with direct assessment tax and pay as you earn. This study adopted both descriptive and inferential statistical analysis. Descriptive statistics consisted of mean, standard deviation, maximum and minimum while the inferential statistical analysis covers pears on correlation analysis and panel regression estimation effects. The panel regression estimations consist of Ordinary Least Square estimations, random effect estimate and fixed effect estimate. Thereafter diagnostic tests were conducted. The recurrent expenditure (REX) was added to the outcome variable. Mathematically, the models are presented below:

Model I:

$CEX = f(ROD, DAT, PAYE)$…… ……..…….(1)

$CEX_{it} = \beta_o + \beta_1 ROD_t + \beta_2 DAT_t + \beta 3 PAYE_t + e_t$……(2)

Model II:

$REX = f(ROD, DAT, PAYE)$…… ……..…….(3)

$REX_{it} = \beta_o + \beta_1 ROD_t + \beta_2 DAT_t + \beta 3 PAYE_t + e_t$……(4)

Where:

REX is Recurrent Expenditure; CEX is Capital Expenditure; ROD is Road Tax; DAT is Direct Assessment Tax; PAYE is Pay-As-You-Earn; β_1 - - - - β_3 is the slop parameters; i is cross-sectional variable; t is time series variable.

4.0 Result and Discussion

4.1 Descriptive Statistics

Using descriptive statistical tools such as mean, standard deviation, minimum and maximum, the details characteristics of the variables are provided. **Table 1: Descriptive Statistics**

	CEX	REX	ROD	DAT	PAYE
Mean	88.08	47.24	45.60	18.52	61.60
Std. Dev.	70.55	53.01	22.47	20.93	43.62
Obs	240	240	240	240	240
Minimum	8.96	5.94	7.54	2.09	20.07
Maximum	442.06	555.61	93.69	117.19	221.8

Source: *Stata Output (2023). Variables are as described in chapter three.*

As presented in Table 1, the mean value of the capital expenditure stood at 88.08 with a standard deviation value of 70.55 shows that there is an averagely wide dispersion from the series mean across the selected states in Nigeria indicating that there is a close difference in the cost incurred on capital expenditure of the selected states. Contrarily, a wide gap was reported for the recurrent expenditure incurred as the standard deviation is greater than the mean value. This shows that there is a wide dispersion in the recurrent expenditure incurred in the selected states. Similarly, a wide gap was reported for direct assessment tax as the standard deviation is greater than the mean value. Finally, the table disclosed that there is a is a close difference in the revenue generated via road tax and pay as you earn tax across the selected states.

4.2 Correlation Analysis

Table 2: Pearson Correlation Matrix

	CEX	REX	ROD	DAT	PAYE
CEX	1				
REX	0.46***	1			
ROD	0.21***	0.21***	1		
DAT	0.09	0.13*	0.029	1	
PAYE	0.07	0.04	0.065	0.498***	1

Source: Data Analysis (2023). Variables are as defined in chapter three.

The correlation result indicated that a positive relationship between the pairs of variables across the selected states for the period covered. this indicated that an increase the predictors will cause an increase in the outcome variables.

1.0 Panel Regression Analysis for the two models

Model I: Internally Generated Revenue and Capital Expenditure (CEX)

Table 3: Results of Regression Estimate and Diagnostic Tests

VARIABLES	*(1) OLS*	*(2) FE*	*(3) RE*	*(4) FGLS*
ROD	.691***	0.052	0.196	0.0807
	(0.001)	(0.878)	(0.509)	(0.608)
DAT	.584**	0.877**	0.785**	0.488***
	(0.017)	(0.022)	(0.003)	(0.005)
PAYE	.287**	0.079	0.036	0.097
	(0.015)	(0.505)	(0.750)	(0.131)
Constant	63.468***	64.6037***	62.38***	63.20***
	(0.000)	(0.007)	(0.002)	(0.000)
Observations	240	240	240	240
R-squared	0.5765	0.6066	0.6167	
Adj. R-Squared	0.4647	0.5495	0.5131	
F-Stat	F(3,236) = 6.51 Prob > F = 0.0003	F(3,213) = 13.69 Prob > F = 0.0127	Wald $chi^2_{(3)}$ =10.39 Prob>chi^2 = 0.0155	Wald $chi^2_{(4)}$ = 9.24 Prob>chi^2 = 0.0262

Pesaran CD Test	-	12.618 {0.0000}	-	-
Hausman Test	-	Chi2(3) = 2.97 Prob>chi^2 = 0.3962	-	-
Breusch-Pagan LM Test	-	-	$chi^2_{(01)}$ = 636.21 Prob>chi^2 = 0.000	-
Modified Wald Test for Heteroskedasticity	-	chi^2 =1570.51 Prob>chi^2 = 0.000	-	-
Woodridge Test for Autocorrelation	-	$F_{(1,23)}$ = 17.661 Prob > F= 0.0003	-	AR (1) = 0.7455

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: Data Analysis (2023).

The use of panel data (cross-sectional and time-series data) necessitates the use of a panel regression estimation technique that includes estimates for fixed effects, random effects, and ordinary least squares. Both Hausman and Breusch-Pagan LM tests were carried out to support the most accurate and suitable approach for this model. The Hausman test was used to determine which estimation method between fixed effect and random effect estimation was most appropriate, and the Breusch-Pagan LM test was used to determine which estimation method between pooled OLS and random effect estimation was most appropriate.The results of these evaluation tests were inconsistent; with the Hausman test result, the random effect estimate was made the most suitable model with a p-value of 0.3962>0.05 and the Breusch-Pagan LM test chose the pooled OLS effect estimate to be the most suitable estimate with a p-value of 0.0000.05.

Further diagnostic tests were carried out to confirm the existence of the linear regression assumptions in this model in light of this conflicting finding. The cross-sectional dependence, serial correlation, and heteroscedasticity assumptions, however, were found to be false. In order to control the issue of cross-sectional dependence, serial correlation, and heteroscedasticity in the model, a feasible generalized least square (FGLS) was undertaken. The FGLS estimation effect was deemed to be the most suitable effect for this model. The result of the FGLS estimation is presented as:

i. Road tax (ROD) has a positive but insignificant effect on capital expenditure of selected states in Nigeria to the tune of 0.0807 (p=0.608>0.05);

ii. Direct assessment tax (DAT) has a positive significant effect on capital expenditure of selected states in Nigeria to the tune of 0.488 (p=0.005<0.05);

iii. Pay-As-You-Earn (PAYE) has a positive but insignificant effect on capital expenditure of selected states in Nigeria to the tune of 0.097 (p=0.131>0.05).

MODEL II: Internally Generated Revenue and Recurrent Expenditure (REX)

VARIABLES	*(1) OLS*	*(2) FE*	*(3) RE*	*(4) FGLS*
ROD	.487***	.281**	.418**	0.0411**
	(0.001)	(0.039)	(0.015)	(0.039)
DAT	0.361*	0.631*	0.435	0.0212
	(0.051)	(0.097)	(0.115)	(0.854)
PAYE	0.056	0.111	0.023	0.0464
	(0.526)	(0.486)	(0.856)	(0.343)
Constant	21.811**	15.911***	18.745**	33.52097***
	(0.013)	(0.008)	(0.035)	(0.000)
Observations	240	240	240	240
R-squared	0.559	0.4570	0.4523	
Adj. R-Squared	0.447	0.4190	0.4059	
F-Stat	F(3,236) = 4.93 Prob > F = 0.0024	F(3,213) = 12.38 Prob > F = 0.0004	Wald $chi^2(3)$ =10.77 Prob>chi^2 = 0.0235	Wald $chi^2_{(3)}$ = 9.43 Prob>chi^2 = 0.0000
Pesaran CD Test	-	11.861 {0.0000}	-	-
Hausman Test	-	Chi2(3) = 1.43 Prob>chi^2 = 0.6983	-	-
Breusch-Pagan LM Test	-	-	$chi^2_{(01)}$ = 105.62 Prob>chi^2 = 0.000	-
Modified Wald Test for Heteroskedasticity	-	chi^2 =1.2e+05 Prob>chi^2 = 0.000	-	-
Woodridge Test for Autocorrelation	-	$F_{(1,23)}$ = 10.861 Prob > F= 0.0000	-	AR (1) = 0.7393

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The result of the diagnostic test nullified the results of the three estimations (OLS, fixed and random effect) as the model failed to comply with the assumptions of linear regression. Thus, Feasible Generalized Least Square (FGLS) was conducted. This estimation corrects the failure of the model to comply with regression assumptions and the result was made the most efficient and reliable analysis result for the model. The result of the FGLS estimation is presented as:

i. Road tax (ROD) has a positive significant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0411 (p=0.039<0.05);

ii. Direct assessment tax (DAT) has a positive but not significant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0212 (p=0.854>0.05);

iii. Pay-As-You-Earn (PAYE) has a positive but insignificant effect on recurrent expenditure of selected states in Nigeria to the tune of 0.0464 (p=0.343>0.05).

4.2 Discussion

Addressing the first hypothesis, it was revealed that road tax exhibits a positive effect on budget implementation, encompassing both capital and recurrent expenditures across the selected Nigerian states. Specifically, a 1% increase in road tax resulted in an 8% increase in capital expenditure and a 4% increase in recurrent expenditure. This positive effect aligns with the primary objective of tax revenue, which is to bolster the government's ability to provide public goods and services. It can be inferred that road tax has the capacity to independently drive an increase in budget implementation. However, this positive effect was found to be significant only for recurrent expenditure (p-value = 0.039 < 0.05), while it was insignificant for capital expenditure (p-value = 0.608 > 0.05). This lack of significance for capital expenditure could potentially be attributed to mismanagement of the funds generated through road tax, which is in line with the findings of Olatunji and Dominic (2019); Nguyen and Su (2017); Yusuf and Mohd (2021), Ehikioya and Omankhanlen (2021), and Okereke and Olewe (2023). However, the finding is at variance with the study of Dladla and Khobai (2018)..

Regarding the second hypothesis, it was discovered that direct assessment tax exerts a positive effect on budget implementation in the selected Nigerian states, impacting both capital and recurrent expenditures. Notably, a 1% increase in direct assessment tax was associated with a substantial 49% increase in capital expenditure, while the effect on recurrent expenditure was relatively smaller at 2%. The significant positive impact on capital expenditure (p-value = 0.005 < 0.05) can be attributed to the contribution of direct assessment tax to the government's internally generated revenue. However, for recurrent expenditure, the effect was found to be insignificant (p-value = 0.854 > 0.05), potentially due to duplication of administrative functions and inefficient resource allocation, consistent with the findings of Edewusi and Ajayi (2019), Efuntade, et al. (2020), Oluwatobi and Oyesanya (2021). However, the variance is at variance with the findings of Hammayo, et al. (2020), and Bamidele, et al. (2021)

Finally, pay-as-you-earn tax (PAYE) was reported to have a positive but insignificant effect on budget implementation in the selected Nigerian states. A 1% increase in PAYE resulted in a 9.7% increase in capital expenditure and a 4.6% increase in recurrent expenditure. This may be attributed to state governments' efforts to enhance their domestic revenue base in anticipation of reduced federal grants. However, the lack of significance suggests that PAYE may not be the sole determinant of budget implementation, contradicting the findings of Olatunji and Dominic (2019), Kalaš, et al. (2017), Ghazo and Abu-Lila (2018), Firoj, et al. (2018), and Okereke and Olewe (2023). However, the findings was at variance with the study of Özdemir and Gomez (2020), and Yusuf and Mohd (2021).

5.0 Conclusion and Recommendation

Numerous studies have been undertaken in relation to internally generated revenue and its effect on budget implementation. However, their findings are mixed, with some conclusions affirming that the nexus between internally generated revenue and budget implementation is negative, while others affirm that the relationship is positive. This serves as a motivation for the current study to be conducted, to

clarify the doubts surrounding this relationship. From the studies reviewed by the researcher, there were a lot of time frames used to investigate the subject matter. However, a thorough examination of these time frames based on the studies in Nigeria showed that most of them did not cover recent happenings and reforms in the nation. Hence, the current study used data set from 2013-2022 in order to increase the relevance of its findings. Thus, this study investigated the effect of internally generated revenue on budget implementation, using time frame from 2013-2022. From the analysis conducted, it was concluded that there was a statistically significant effect of internally generated revenue on budget implementation in some selected states in Nigeria. In agreement with these findings, the following recommendations are given:

i. To increase the number of taxable individuals who pay taxes, the government should rigorously enforce the regulations governing direct assessment tax. This could potentially magnify the positive impact of direct assessment tax on recurrent expenses. To mitigate the corruption among tax collectors, the government should consider implementing an automated revenue management system, which can enhance tax collection efficiency and contribute to funding state capital projects.

ii. Given that road taxes were found to have a positive but insignificant effect on capital spending, state governments are advised to emulate the practices of developed nations that maintain comprehensive databases of all taxpayers. This could help streamline tax collection processes and enhance the effectiveness of road tax revenue in financing capital projects.

References

Adeyokunnu, J. A. (2023). An investigation of causal relation between public debt and economic growth in Nigeria. *Journal of Global Social Sciences 4*(13), 103-117.https://doi.org/10.58934/jgss.v4i13.137

Adinoge Z. O., David K. O., Aderibigbe, S. O., & Njoku, F. J. (2022). Internally generated revenue and capital budget performance in public sector of Osun State, Nigeria. *International Journal of Innovative Finance and Economics Research, 10*(2), 90-98.

Ahannaya, C. G., Daniel-Adebayo, O., Iwala, A. T., Sanni, A. S. & Akenronye, C. (2021). Impact of internally generated revenue (IGR) on total revenue of Lagos state. *International Journal of Scientific and Engineering Research, 12*(3), 913-922

Akinpelu, Y. O., Mohammed, S. R., & Ogunbi, O. J. (2022). Evaluation of state government budget implementation: Evidence from Lagos State Government. *International Journal of Managerial Studies and Research (IJMSR), 10*(11), 1-10 http://dx.doi.org/10.20431/2349-0349.1011001

Amin, A. (2018). Impact of internally generated revenue on community development: A case study of Asa local government area, Kwara State. *International Journal of Politics and Good Governance, 9*(9), 1-38

Ayoka, C. O., Nzotta, S. M., & Kanu, S. I. (2021). The effect of Federal Government revenue and expenditure on economic growth in Nigeria – An Empirical Review. *International Journal of Innovation and Economics Development, 7*(3), 34-52.https://doi.org/10.18775/ijied.1849-7551-7020.2015.73.2004

Ayuba, I. K., & Khan, S. M. (2019). Domestic debt and economic growth in Nigeria: An ARDL bounds test approach. *Economics and Business, 33*, 50–68.doi: 10.2478/eb-2019-0004

Bamidele, S. I., Adebayo, T. O., & Oluwasegun D. O. (2021). Determinants of government expenditure in Southwest Nigeria. *Research Square.*https://doi.org/10.21203/rs.3.rs-889453/v1

Braimah, M. E., & Onuoha, A. U. (2022). Revenue generation and performance in Local Governance in Nigeria: A survey of people's perception in selected Local Government Areas of Edo State. *Accounting and Taxation Review, 6*(1), 74-88.

Dladla, K., & Khobai, H. (2018). The impact of Taxation on Economic Growth in South Africa.*MPRA Paper No. 86219*.https://mpra.ub.uni-muenchen.de/86219/

Edewusi, D. G., & Ajayi, I. E. (2019). The nexus between tax revenue and economic growth in Nigeria. *International Journal of Applied Economics, Finance and Accounting, 4*(2),45-55. DOI: 10.33094/8.2017.2019.42.45.55

Efuntade, A. O., Efuntade, O. O., & Akinola, A. O. (2020). Tax revenue and its effect on government expenditure in Nigeria. *The International Journal of Business and Management, 8*(9), 279-286. DOI: 10.24940/theijbm/2020/v8/i9/BM2009-077

Ehikioya, B. I., & Omankhanlen, A. E. (2021). Impact of public debt on economic growth: Evidence from Nigeria. *Montenegrin Journal of Economics, 17*(1), 97-109.

Fatile, J. O., & Ejalonibu, G. L. (2018). Improved internally generated revenue and sustainable budget implementation: A comparative study of Lagos and Oyo States. *Governance and Management Review, 3*(1), 27-45

Firoj, M., Sultana, N., & Sultana, F. (2018). Determinants of the size of the government expenditure: An empirical study on Bangladesh. *International Journal of Economics and Finance, 10*(11), 149-157.https://doi.org/10.5539/ijef.v10n11p149

Ghazo, A., & Abu-Lila, Z. (2018). Causalities between components of public revenues, and public expenditures in Jordan. *International Journal of Academic Research inEconomics and Management Sciences, 7*(2), 59–71. http://dx.doi.org/10.6007/IJAREMS/v7-i2/4211

Hammayo, A., Shittu, I., & Abdullahi, A. A. (2020). Impact of state government revenues on infrastructural development in Bauchi State Nigeria. *International Journal of Accounting and Taxation, 8*(1), 34-43 https://doi.org/10.15640/ijat.v8n1a5

Jubery, M., & Moeljadi, M. (2017). The perspective of the agency theory in budget preparation of local government and its implementation on budget performance and financialdecentralization to realise performance of local government of regencies and cities in Banteen Province. *Russian Journal of Agricultural and Social- Economic Sciences, 3*(2), 415-446.

Kalaš, B., Mirović, V., & Andrašić, J. (2017). Estimating the impact of taxes on the economic growth in the United States. *Economic Themes, 55*(4), 481-499 DOI 10.1515/ethemes-2017-0027

Lerato, R. (2016). The relationship between tax and economic growth: A South African perspective. *Unpublished Master's Thesis*

Mohammed I., & Kanu O. (2019). The impact of internally generated revenue on total expenditure of Gombe State-Nigeria. *International Journal of Economics and Business Administration*, *5*(4), 177-184.http://www.aiscience.org/journal/ijeba

Nestor C. B., & Ebikela S. D. (2020). Effect of domestic debt on economic growth in Nigeria. *International Journal of Innovative Finance and Economics Research 8*(2):42-47.

Nguyen P. L., & Su, D. T. (2017). Tax revenue, expenditure, and economic growth: An analysis of long-run relationships. *Journal of Economic Development 24*(3), 4-26. DOI: 10.24311/jed/2017.24.3.02

Nwafor, I. V., Obineme, C. H., & Okey, P. C. (2021). Land-based taxation and internally generated revenue: An empirical investigation of its outputs in Abia state, Nigeria.*International Journal of Development and Economic Sustainability, 9*(3),20-35, https://doi.org/10.37745/ijdes.13

Ofoegbu, F. I., & Alonge, H. O. (2016). Internally generated revenue (IGR) and effectiveness of Universityadministration in Nigeria. *Journal of Education and Learning, 5*(2), 1-8.http://dx.doi.org/10.5539/jel.v5n2p1

Okereke, N. C., & Olewe B. N. (2023). Effect of internally generated revenue on rural development of local government areas in Enugu state. *Nigerian Journal of SocialDevelopment, 11*(1), 25-36

Olaoye, F.O., & Bankole, T. (2019) Statutory allocation and budget implementation inSouthwest Nigeria. *Open Journal of Social Sciences, 7*, 125-135.https://doi.org/10.4236/jss.2019.77012

Olatunji, O. C., & Dominic, O. O. (2019). Effect of internally generated revenue on budget implementation in Ekiti State. *Applied Finance and Accounting,5*(2), 10-19.https://doi.org/10.11114/afa.v5i2.4253

Olayinka, O. M., & Phebe, I. (2019). Internally generated revenue and infrastructural development: Of what relevance to Lagos?*IOSR Journal of Economics and Finance (IOSR-JEF) 10*(4), 58-74DOI: 10.9790/5933-1004045874

Oluwatobi, A. S., & Oyesanya, S. (2021). Impacts of internally generated revenue on learning aids and equipment's in selected public university in Southwest Nigeria. *International Journal of Academic Accounting, Finance and Management Research (IJAAFMR) 5*(10), 47-58

Özdemir, B. K., & Gomez, E. (2020). The impact of domestic debt on private investment in the Gambia: An ARDL Approach. *Journal of Research in Economics, Politics and Finance, 5*(1), 111-127 AraştırmaMakalesi, DOI: 10.30784/epfad.682291

Yusuf, A., & Mohd, S. (2021). The impact of government debt on economic growth in Nigeria. *Cogent Economics and Finance*, *9*(1), 1946249. DOI: 10.1080/23322039.2021.1946249