Available online www.worldscientificnews.com

World Scientific News

An International Scientific Journal

WSN 208 (2025) 19-35 EISSN 2392-2192

Internally Generated Revenue and Budget Implementation of States In Nigeria: Does Debt Management Matter?

Dr. (Mrs) Victoria Bamitale AREMU

Department of Business Studies,
School of Vocational and Technical Education,
Federal College of Education, Ilawe-Ekiti,
Ekiti State, Nigeria.

Email: victoriaaremu77@gmail.com; victoriaaremu68@gmail.com

Phone Number: 07032576121

ABSTRACT

This study examined the relationship between internally generated revenue and budget implementation of states in Nigeria, tracking the moderating role of debt management in the context of independent states. The study captured 18 states randomly selected across the 6 geopolitical zones of Nigeria. Panel based data were collected across the 18 states over a period of 10 years spanning from 2014 to 2023. Data collated were analyzed using correlations and panel pooled OLS, fixed effect, and random effect estimation. Result showed that internally generated revenue exerts significant positive effect on budget implementation performance of states (0.1357188, $p < 0.05$). domestic debt management has insignificant negative moderating effect on the relationship between internally generated revenue and budget implementation performance (-0.0142615 and 0.702 ($p > 0.05$). Also, the moderation effect of external debt management is negative and insignificant -0.0232833 and 0.596 ($p > 0.05$). This study concludes that government budget implementation of states in Nigeria can be significantly facilitated by improved level of internally generated revenue and that both domestic debt management and external debt management does not significantly moderation the interaction between internally generated revenue and budget implementation performance across states in Nigeria. Hence, state governments need to put in efforts to block all revenue loopholes in all ministries, units, and offices.

(Received 21 August 2025; Accepted 16 September 2025; Date of Publication 4 October 2025)

In essence, state government should intensify the use of treasury single account, facilitate efficiency and effectiveness of anti-graft agencies as well as ensure regular independent auditing practices to keep public officials in check. In addition, state governments also need to boost existing revenue sources and activate dormant revenue sources. By doing this, state government can significantly increase internally generated revenue as well as enhance capacity to not only improve budget implementation but also attract creditor's funds for fiscal financing.

Keywords: Internal Generated Revenue, Budget Implementation, Debt Management, State, Nigeria

1. INTRODUCTION

The issue of budget implementation is very essential, especially in the field of public finance, because it shows the picture of the structure and extent of government performance within a fiscal year. Budget implementation ensures that government attains both economic and non-economic goals within the fiscal year (Onaolapo & Olaoye 2013). Budget implementation shows that part of the budget plan executed is either consumed by the people or invested in overhead. It is also argued that budget implementation shows government contribution in the economic and social community to enhance growth and development. Asimiyu and Saidi (2015) also stated that budget implementation enhances growth through the execution of budgeted capital expenditures such as investment in road construction, health and education, and generation of power systems, among others. It also ensures an increase in income and aggregate demand through its recurrent expenditure such as spending on expenditures that last for just one year such as transfer payment, unemployment support, pension and gratuity, repair of infrastructure, provision of medical and educational materials, etc. Internally generated revenue constitutes the most important source of revenue generation of any state of the federation. This is because it includes tax components which are powerful fiscal policy tools required to coordinate and boost the economy. It described the financial ability of the state to cater for expenditures projected using its own resources. According to Olayinka and Irewole (2019), internally generated revenue goes a long way in ensuring the provision of funds or revenue for the state to enhance growth and development, since it serves as a tool for social services and infrastructural development. Ekpo (2004) also addressed internally generated revenue as the nerve center of social contract, which makes the government more responsible and responsive to the needs of the people and keeps the society moving. It determines how many items would be covered by the government in the budget plan, both for recurrent and capital expenditures, as well as how many items is implemented. This is because the projected Internally Generated Revenue (IGR) determines the extent of planning, and the realized Internally Generated Revenue further determines the aspect of the plan that would be executed. Hence, as more revenue is generated by state governments from internal sources, it ensures more money in circulation, more employment and business opportunities, an increase in the level of standard of living, and more commissioned expenditure; hence, implementation of more expenditure items is guaranteed (Fasoye, 2020).

It is very essential for state governments to generate adequate revenue from internal sources since the ability to carry out fiscal responsibility is majorly tied to the magnitude of internally generated revenue (Agya, Ibrahim & Emmanuel, 2015). This explains the essence of the increased efforts of most state governments directed towards harnessing diverse resources available within their jurisdiction in order to strengthen internally generated revenue (Asimiyu & Kizito, 2014).

There is a growing recognition among the state governments in Nigeria of the crucial role of "Internally Generated Revenue" (IGR) as an instrument of provision of finance for infrastructural development needed to create the platform for economic growth. IGRs are increasingly accounting for a significant proportion of government revenue to finance the required level of public expenditure both at federal, state, and local government levels. Hence, IGR has been embraced by many state and local governments to boost total revenue nationwide (Oseni, 2013). For instance, Nigeria Governors' Forum Secretariat (NGFS) has promoted different reform programmes such as peer-learning workshops across states to enhance internal revenue-generating sources (Fasoye, 2020). The Federal Government also supports the financial capacity of the states with the distribution of statutory allocation from the federation account every month, as well as purposive grants when needed. However, there is still the problem of inadequacy in financing, which calls for the need to source for funds from sources other than revenue-generating sources.

The low level of budget implementation in most Nigerian states significantly contributes to the country's underdevelopment (Agbo & Nwankwo, 2021). Despite the states' efforts to develop sound and capable plans to meet the needs of their people, the execution of these plans has been inadequate. Particularly, capital expenditure suffers the most, with many projects either poorly executed or not executed at all. Spending on capital projects is expected to enhance government, business, and household income-generating capacity because it enhances social and economic transformation. However, many infrastructural development projects take more than the projected period before being completely executed; some are partly executed while execution never began on some of the infrastructural plans. These contribute to the low level of infrastructural facilities, low level of income-generating capacity for the state, continuous increase in the poverty level, decrease in aggregate demand, and a reduction in business activities, among others (Odo, Igberi, & Anoke, 2016). To enhance budget implementation and government performance, state governments encouraged one another through their activities in the Governors Forum. However, many of them cannot boast of substantial or huge internally generated revenue except Lagos State and some other states. This is because most of these states have, over the years, become over-dependent on statutory allocations from federal government. These states are not ready to shift ground and take larger responsibility for financing their expenditure hence; the support system became the mainstay for financing their fiscal responsibility. Statutory allocation, on the other hand, is determined by factors outside the control of Federal Government such as global oil price and its associated factors, hence, any fluctuation in these factors also affect budget implementation. This is evident in the continuous oil price decrease in the world market since 2015 till date which has forced many states into budget cut. The majority of states are so dependent on a statutory allocation that if the Federal Government delayed payment, internally generated revenue cannot run the execution of their budget plans.

Previous empirical studies relating to this study did not capture internally generated revenue, debt management, and budget implementation in a single study. It was also discovered that previous studies on the matter of internally generated revenue and budget implementation, as well as the connection between public debt and economic performance in Nigeria, focused either on one state or states from just one geopolitical zone of the country (Adenugba & Ogechi, 2013; Danbeki, Baninla & Bassey, 2020; Hilton, 2021; Odo, Igberi & Anoke, 2016; Onyeiwu, 2012).

As such, there is no empirical evidence in the literature on the subject matter of internally generated revenue and budget implementation based on a data set that captures the six geopolitical zones of Nigeria. Another gap identified in the literature is the fact that most of the previous studies on the interrelationship between internally generated revenue and budget implementation do not factor in the role played by the level of debt management in tracking the effect of a rise in IGR on budget implementation, and thus leaving an empirical need to trace whether debt management position of states in an emerging country like Nigeria affects the way internally generated revenue of states influence the rate of budget implementation. Hence, this study examined the relationship between internally generated revenue, debt management, and budget implementation of selected states in Nigeria, covering the six geopolitical zones.

2. LITERATURE REVIEW

Internally Generated Revenue

Revenue represents the total amount that government earned in order to finance its activities. Revenue include money received by government other than debt but include income from tax collection, licenses, charges, sales of government properties, and fines (Olayinka & Irowole, 2019). Internally generated revenue can be described as the total amount of fund generated by government itself through the operations and efforts of ministries, departments, and agencies, as well as institutions (Ventureonline, 2019). Internally generated revenue can also be referred to as the income earned within the state which is separated from the shares received from the federation account (Ajayi, Fali, Iganus & Simon, 2021; Deloitte, 2016). Internally generated revenue is also described as the total amount that government realized from activities within the state through ministries, departments, and agencies, as well as government ventures, which include public schools, health centres and hospitals, among others (Udondo & Ekpenyong, 2013). Internally generated revenue of the state can be categorized under tax revenue and non-tax revenue. It represents the revenue generated by state government from sources which include taxes such as pay as you earn, capital gain taxes, direct assessment etc. as well as motor vehicle license among others (Adenugba & Ogechi, 2013). States' IGR, made up of both tax and non-tax revenue, forms the bulk of revenue generated by most state governments within the areas of their jurisdiction. Under the 2004 Act, the relevant provision is Section 87 which provides for the establishment of the State Board of Internal Revenue, whose operational arm shall be known as the State Internal Revenue Service. The Board has the power to assess and collect some categories of taxes and levies within the state boundary as internally generated revenue (Federal Inland Revenue Service, 2013). These categories of taxes include: Pay As You Earn, Direct Taxation (Self-Assessment), Withholding and capital gain taxes of individuals, Stamp duties, pools, betting and lotteries, gaming and casino taxes, Business registration fees, Taxes from the informal sector, Road taxes and street registration fees, Development levies, and market taxes, etc. (Federal Government of Nigeria (FGN), 2017)

Budget Implementation

Smith and Thomas (2004) conceptualized budget implementation is the objective accomplishment of program related to objectives and goals within a definite time period, as defined in the budget framework. Budget implementation has to do with the execution of budget that depends on the key assumptions and benchmark that constitutes the budget structure.

According to Ugoh and Ukpere (2009), budget implementation requires close adherence to the dictate of the budget, which depicts what economic and non-economic activities a government wants to undertake, with special focus on policies, objectives, and strategies for accomplishment that are substantiated with revenue and expenditure projection. Budget presents the expected revenue and planned expenditure of government for a particular period of time, usually one year. Budget is an instrument of fiscal policy, which reflects government control over size and relationship between government receipts (revenue) and expenditures, usually designed to cover a specified period of time (Oniore, 2014). It can also be referred to as the state of the financial plan of government for a fiscal year. In the beginning of the year, government presents estimate of receipt and payment for the coming fiscal year. It plans its expenditure according to its objectives and then tries to raise the resources to meet the proposed expenditure. Budget in modern times, therefore, means the document which contains estimates of revenue and expenditure of a country, usually for one year. Adesopo (2011) explained that the process has gone beyond an annual ritual; it is today known to be very strategic in nature and all-encompassing, as it is through it the government scarce resources are allocated to programmes and services for governmental operations.

Relationship between Internally Generated Revenue and Budget Implementation

Ocheni, Ezugwu, and Akubo (2017) carried out an empirical study on the contribution of internally generated revenue and value added tax to government recurrent expenditure in Kogi state using data of 2002-2014 which showed that internally generated revenue exerted positive insignificant effect on recurrent expenditure. Edongbanya and Ja'faru (2013) also investigated influence of revenue generation on developmental effort using data of 2006-2010 analyzed with OLS which indicate that internally generated revenue influence positively and significantly development effort in Kogi state. Olaoye and Olugbamiye (2019) revealed that fines, licenses, fees, sales, and interest charges exerted positive but insignificant effect on expenditure implementation, in the study on effect of internally generated revenue on budget implementation which covered data of 2007-2016 for Ekiti state. Danbaeki, Baninla, and Bassey (2020) investigated trend of internally generated revenue and its effect on infrastructural development in Taraba state for the period 2011-2019 using trend analysis, which revealed that though infrastructural development increases with internally generated revenue, internally generated revenue is still inadequate to meet the infrastructural development needs. On the other hand, study conducted by Ajike, Ariguzo, Akinyosoye, Nwankeree, and Oyedeji (2020) on effect of internally generated revenue on transport infrastructure in Lagos state using data of 1998-2018 analyzed with ARDL co-integration approach indicated that personal income tax, withholding tax, stamp duty, and consumption tax had negative effect on transport infrastructure on the short run. The study also reported that personal income tax and stamp duty had negative effect on transport infrastructure, while withholding tax capital gain tax, and consumption tax had positive effect on the long run.

Theoretical Framework

Wagner's Law of Increasing State Expenditure

This study is hinged on the framework of Wagner's theory of increasing state expenditure. The theory was named after German economist Adolph Wagner (1835-1917) who developed it in 1883. It was propounded on the view that government expenditure tends to increase as national income expands. This theory emphasized that there are three factors responsible for increased state expenditure.

These include the need for providing administration, law, and order in the state as a result of increase in specialization, social, and economic life, which consequently promote division of labour. Secondly, the theory also identified that expansion in government activities also arises as a result of the need for the provision of social and welfare services such as education. Lastly, it was recognized that government expansion comes from the need for the provision of investment, such as road construction, of which private sector cannot finance due to its huge financial requirement as well as generality in utilization. Wagner's theory reflected the growing nature of government expenditure and activities as essential characteristics of a progressive state. The theory also reflects that the state capacity to generate revenue has direct impact on the government expenditure and thereby can enhance implementation of government's planned expenditure. Hence this theory is adopted as the framework for this study because it reflects on the link between revenue generating capacity of a state and the rate of budget implementation.

Empirical Review

Ahannaya, Daniel-Adebayo, Iwala, Sanni, and Akenronye (2021) examined the effect of internally generated revenue on total revenue of Lagos state using variables such as tax, fine, licenses, earnings, and charges as measure of internally generated revenue. The study engaged data of the period 2000-2014 analyzed with ordinary least square regression method. Result of the study showed that explanatory variables engaged, which were tax, fine, licenses, earnings, and charges, had positive effect on infrastructural facilities. Therefore, the study recommended that government should adopt policies that ensure growth and maintenance of level of internally generated revenue. Similar study conducted by Ajayi, Fali, Iganus, and Simon (2021) assessed influence of internally generated revenue on the finance and development of University of Maiduguri. The study engaged data collected through questionnaire from one hundred and two (102) respondents and analyzed data with mean, standard deviation, and Pearson correlation. Result of the study revealed that there exist significant relationship between internally generated revenue and development in the university. Hence, the study recommended that people of integrity should be employed to manage financial resources and oversee internal auditing process of the university. Danbaeki, Baninla, and Bassey (2020) investigated trend of internally generated revenue and its effect on infrastructural development in Taraba state. The study employed data of 2011-2019 and analyzed data using trend analysis. Result of the study showed that increase in internally generated revenue with the period understudied, except the decline of 2016 and 2018. Result on the other hand, indicated that trend of actual internally generated revenue is below that of budgeted internally generated. Therefore, the study concluded that internally generated revenue is inadequate to meet the infrastructural development needs. As such, the study suggested that government of Taraba state need to design strategies that will enhance internally generated revenue.

Amie-Ogan and Alabere (2020) assessed influence of internally generated revenue management on implementation of administrator functions in senior secondary schools in Port Harcourt. The study engaged data collected from 366 principals and vice principals and analyzed data with mean, standard deviation and z-score. The result indicated that school fees, rental of school facilities, donation and contributions from Parent Teacher Association formed the source of internally generated revenue. Result also revealed that internally generated revenue has positive effect on planning and organizing functions of administrators. As such, the study recommended, among others that schools authority and administrators should explore other means of resource mobilization. Ajike, Ariguzo, Akinyosoye, Nwankeree, and Oyedeji (2020) examined influence of internally generated revenue on transport infrastructure in Lagos state.

Variables employed were transport infrastructure, personal income tax, withholding tax, stamp duty, capital gain tax, and consumption tax. The study used data covering the year 1998-2018 and analyzed data with ARDL co-integration approach. Result then indicated that all variables except capital gain tax has negative significant effect on transport infrastructure on the short run. Result of the study also revealed that personal income tax and stamp duty had negative significant effect, while others had positive significant effect on transport infrastructure on the long run. Hence, the study concluded that internally generated revenue has significant relationship with transport infrastructure. As such, the study recommended that state government should ensure that internally generated revenue is incurred on provision of transport infrastructure.

Ekpoese, Umanah, Akpan, and Okafor (2019) investigated effect of revenue generation on capital expenditure in local government area of Akwa-Ibom state. Variables engaged were capital expenditure on road, capital expenditure on water, capital expenditure on electricity, capital expenditure on health services and revenue generation (aggregate of internally generated revenue and statutory allocation). The study employed data of 2003-2015 for sixteen local governments and analyzed data with analysis of variance. Result indicated positive effect of revenue generation on capital expenditure on road, water, electricity, and health service. Result also showed that revenue generation has significant on all capital expenditure components engaged in the study except electricity. As such, the study suggested, among others that government should establish and operate strategies that will enhance revenue generation and ensure that revenue is incurred on capital projects. Olaoye and Olugbamiye (2019) investigated how internally generated revenue influence budget implementation of Ekiti state. The study engaged variables which are taxes, fines and fees, licenses, earnings and sales, interest and dividend, and expenditure implementation. Data used were extracted for the period 2007-2016 from the annual budget and analyzed with ordinary least square and granger causality. Result of the study showed that taxes, fines and fees, licenses, earnings and sales, as well as interest and dividend had positive insignificant effect on expenditure implementation. Result of the study also indicated that no causal relationship exist between internally generated revenue measures and expenditure performance. Henec, the study recommended, among others that government should ensure that internally generated revenue is adequately monitored and accounted for, so as to enhance remarkably budget implementation

Ogunjimi, Bello, and Olaniyi (2018) assessed how institutional budget and internally generated revenue influence funding of academic library in developing country. The study employed data collected from twenty four librarians in five private universities in Osun state and analyzed data with descriptive statistics. Result of the study revealed that the common source of internal revenue for these universities were reprographic service fee, loss of library books fees, overdue charges, and binding fees. Result also showed that funds generated are not utilized on purchse of library books or journals and that financial resource are inadequate to meet the need of the library. Therefore, the study recommended, among others, that there is need for universities to ensure and enhance other means of generating revenue in order to complement the existing ones for financial adequacy. Kadiri and Kayode (2019) explored increment in internally generated revenue through enforcement of taxes. The study employed data collected through questionnaire from one hundred respondents and analyzed data with descriptive statistics. The study recognized data tax evasion and avoidance hinder increase in internally generated revenue. The study also explained that inadequate staffing, dishonesty among tax auditor and inadequate supply of facilities are problems of tax administration that promotes tax evasion and avoidance.

Hence, the study suggested that there is need for accountability and transparency in the collection and utilization of taxes in order to discourage tax evasion and avoidance. Similar study conducted by Omodero, Ekwe, and Ihendinihu (2018) examined impact of internally generated revenue on economic development in Nigeria. Variables engaged were total internally generated revenue, federal government independent revenue, state government internally generated revenue, local government internally generated revenue, and real gross domestic product. The study used data of the period 1981-2016 and analyzed data with ordinary least square. It was revealed in the result that total internally generated revenue, federal government independent revenue, state government internally generated revenue, and local government internally generated revenue had positive significant effect on real gross domestic product. As such, the study recognized that government should concentrate effort at enhancing internally generated revenue and ensure that capital projects are well linked with the internally generated revenue in order to enhance development. Another study by Izevbigie and Ebohon (2018) carried out a comparative analysis of internally generated revenue in Edo and Lagos state. The study engaged data of the period 2011-2016 for the two states analyzed with descriptive statistics. The study revealed that tax compliance level is higher in Lagos state relative to Edo state. The study also indicated that internally generated revenue is low in Edo state. It was however, recognized in the study that there was improvement in internally generated revenue in Edo state within the period as a result of decisive steps taken to generate more revenue. Hence, the study recommended that state governments should engage the service of tax consultant and ensure adoption of revenue collection practices that will boost revenue in the state.

Oti and Odey (2017) assessed internally generated and capital expenditure utilization in Cross River State. The study employed data of the period 2007-2015 and analyzed data with trend analysis. It was shown that government expenditure has positive relationship with budget deficit when government revenue remained unchanged. The study therefore, concluded that government budget deficit keep increase partly significantly as a result of increase in government expenditure. As such, the study recommended that government should boost its revenue by enhancing internally generated revenue in order to reduce budget deficit. Similar study by Ocheni and Akubo (2017) carried out an empirical study on the contribution of internally generated revenue and value added tax to government recurrent expenditure in Kogi State. The study employed data of the period 2002-2014 analyzed with descriptive statistics and ordinary least square. Result of the study depicted that internally generated revenue exerted positive but insignificant effect on recurrent expenditure. Results, on the other had indicated that value added tax had positive significant effect on recurrent expenditure. As such, the study concluded that only value added tax contributes substantially to recurrent expenditure. Hence, the study identified that government should structure aggressive tax policy that encourages tax payers acquire TIN in order to enhance internally generated revenue

3. METHOD

Research design, Population size, Sample size, and Sampling techniques

The study employed quantitative research design for its data analysis using an additive model which is in tandem with panel data/variables of study. The population of this study covered all the States in the Federal Republic of Nigeria cutting across the six geopolitical zones of the country. Specifically, the population included the 36 states in Nigeria, with Federal Capital Territory (FCT), Abuja. This study made use of multistage sampling technique.

In the first stage of the sampling process, the study made use of stratified sampling technique to categorize all the states in the Federation into strata based on the geographical location of each state. At this stage, all the states were stratified into the geopolitical zones they belong, namely, South-West, South-East, South-South, North Central, North East, and North West. In the second stage, three states each were randomly selected from each of the geopolitical zones. Thus, in total, this study covered 18 states, with three states each randomly selected from each of the six geopolitical zones of the Federation, as shown in Table 1

Table 1. Selected States under each of the Six Geopolitical Zones in Nigeria.

SOUTH EAST	SOUTH WEST	SOUTH SOUTH	NORTH CENTRAL	NORTH WEST	NORTH EAST
Abia	Ekiti	Akwa Ibom	Kogi	Kaduna	Adamawa
Enugu	Lagos	Cross River	Nasarawa	Kebbi	Bauchi
Imo	Ogun	Rivers	Plateau	Sokoto	Taraba

Source: Authors' Computation (2025)

Model Specifications

This study adapted the model used by Nnanseh and Akpan (2013) to investigate the interrelationship between Internally Generated Revenue and infrastructural development in Akwa Ibom State. Nnanseh and Akpan model is presented in equation 1,

$$Y_t = \delta_0 + \delta_1 AIGR_t + \mu_t \text{ ---------- } (3.1)$$

Where Y is a vector of dependent variables, including annual expenditure on water (AEW), annual expenditure on electricity (AEE), and annual expenditure on road (AER), and AIGR represent annual internally generated revenue. However, this study adapted equation 1 by replacing disaggregated expenditure on water, electricity, and road with budget implementation at State level in terms of budget implementation performance (BIP), while the explanatory variables include internally generated revenue (IGR), alongside control variables such as statutory allocation (STA); State population size (SPS), and governance continuity of states (GC). Notably from the adaptation 2 sets of models were generate. The first model captured the effect of internally generated revenue on budget implementation performance, while the second model capture the moderating effect of debt management in the relationship between internally generated revenue and budget implementation.

Model 1. *Internally Generated Revenue and Budget Implementation*

$$lnBIP_{it} = \beta_0 + \beta_1 ln\text{IGR}_{it} + \beta_2 ln\text{STA}_{it} + \beta_3 ln\text{SPS}_{it} + \beta_4 ln\text{GC}_{it} + e_{it} ----(1)$$

Model 2: *Moderating effect of debt management in the interaction between internally generated revenue and budget implementation.*

$$lnBIP_{it} = \beta_0 + \beta_1 ln\text{IGR}_{it} + \beta_2 ln\text{IGR} * \text{DDMR}_{it} + \beta_3 ln\text{STA}_{it} + \beta_4 ln\text{SPS}_{it} + \beta_5 ln\text{GC}_{it} + e_{it} - - - -(2)$$

$$lnBIP_{it} = \beta_0 + \beta_1 ln\text{IGR}_{it} + \beta_2 ln\text{IGR} * \text{EDMR}_{it} + \beta_3 ln\text{STA}_{it} + \beta_4 ln\text{SPS}_{it} + \beta_5 ln\text{GC}_{it} + e_{it} - - - -(3)$$

Table 2. Identification, Measurement of Variables, and A-priori Expectation.

Variables	**Type of Variable**	**Description**	**Measurement**	***A-priori***
BIP	Dependent	Is the proportion of the budget that is executed as at the end of a fiscal year	Percentage	-
IGR	Independent	Is the amount of revenue by state government which is independent of federal government	Billion naira	Positive
IGR*DDMR	Moderating	is the interaction between internally generated revenue and domestic debt management ratio	Billion naira	Positive
DDMR*EDMR	Moderating	is the interaction between internally generated revenue and domestic external management ratio	Billion naira	Positive
STA	Control	Is the amount of revenue received by state government as share from federation account, during a fiscal year	Billion naira	Positive
SPS	Control	State population size represents the total number of people in a state	Number of people	Positive
GC	Control	Governance continuity is continuity of person in governor seat within 2 period	Dummy Variable (1- continuity of person in governor's seat; 0- change in person on the governor's seat)	Positive

Source: *Author's Computation (2025)*

Sources of Data and Estimation Technique

This study used secondary data sourced from various database including the annual budgets of each state, Debt Management Office of Nigeria, National Bureau of Statistics. Data were collected for samples from each of the sampled 18 states that were randomly selected across the six geopolitical zones of the country from the website of selected states, publication and data portal of both the Debt Management Office of Nigeria and the National Bureau of Statistics. This study made use of inferential statistics, including correlation analysis and static panel data analyses, including pooled OLS estimator, fixed effect estimator, and random effect estimator, alongside post-estimation tests such as restricted f-test, Hausman test, Wald heterogeneity test, Wooldridge autocorrelation test, and Pesaran cross sectional dependence test.

4. RESULT

Correlation Analysis

Table 3. Correlation Matrix.

	BIP	*IGR*	*STA*	*SPS*	*GC*
BIP	1.0000				
IGR	0.1058	1.0000			
STA	-0.0337	0.1535	1.0000		
SPS	0.0669	0.4073	0.1860	1.0000	
GC	0.0051	0.0168	0.0207	0.0052	1.0000

Source: *Researcher's Computation (2024)*

Correlation statistics results in form of matrix which is shown in Table 3 above, indicate that budget implementation performance has positive correlation with internally generated revenue, state population size, governance continuity, but negative correlation with statutory allocation, given the coefficients of 0.1058 for BIP and IGR, -0.0337 for BIP and STA, 0.0669 for BIP and SPS, 0.0051 for BIP and GC. Result depicts that there is relatively weak relationship among the explanatory variables of the study, given the coefficients of 0.1535 for IGR and STA, 0.4073 for IGR and SPS, 0.0168 for IGR and GC, 0.1860 for STA and SPS, 0.0207 for STA and GC, as well as 0.0052 for SPS and GC. Therefore, there is absence of multicollinearity and its associated problems in the model used for this study, hence, regression estimation can be conducted.

Effect of Internally Generated Revenue on Budget Implementation Performance of Selected States in Nigeria

Table 4. Estimation result model 1.

Model 1						
Variables	**Pooled OLS**	**Probability**	**Fixed Effect**	**Probability**	**Random effect**	**Probability**
C	1.944904	0.000	1.45738 7	0.008	**1.882534***	**0.000**
LnIGR	.1025487	0.000	.1390416	0.005	**0.1357188***	**0.000**
LnSTA	-.0649468	0.155	.0306488	0.753	**-0.0341755**	**0.631**
LnSPS	-.1706647	0.032	.0211214	0.967	**-0.2279742**	**0.163**
GC	-.0051076	0.845	.0008578	0.967	**0.0024849**	**0.903**
R-square **Wald Test** **Pesaran Test** **Wooldridge Test**	*0.5861* 1.6973 0.6160 1.538		*0.6222*		***0.5814***	
	Restricted F-Test 8.43 (p <0.05)					
		Husman Test 1.60 (p> 0.05)				

Source: *Author's Computation (2025)*

The most consistent and efficient estimation result shown in column 6 and 7 of Table 4 show coefficient and probability of 0.1357188 and 0.000 ($p < 0.05$) for InIGR, reflecting that budget implementation performance rises by almost ₦ 0.14 billion whenever there is ₦1billion increase in internally generated revenue, such that it can be inferred that internally generated revenue exerts positive significant effect on budget implementation performance across selected states in Nigeria when heterogeneity is incorporated as error term. Results also indicate coefficients and probability of -.0341755 and 0.631 ($p > 0.05$) for InSTA as well as -.2279742 and 0.163 ($p > 0.05$) for InSPS which shows that there is decrease of about ₦ 0.034 billion and ₦ 0.23 billion in budget implementation performance whenever there is ₦1billion increase in allocation received from federal government and number of people in the states, respectively. Hence, the results reflect that statutory allocation and states population size has insignificant negative effect on budget implementation performance across selected states. In addition, result reveals coefficient of .0024849 and 0.903 ($p > 0.05$) for GC which indicates that budget implementation performance rises by ₦ 0.2 billion when there is continuity of seating governors, such that it can be inferred that governance continuity has positive, although insignificant, effect on debt stock across selected states in Nigeria. R-square statistics of 0.5814 reflects that 58.14% of the systematic variation in budget implementation performance is explained by variation in internally generated revenue, including statutory allocation, state population size and governance continuity when heterogeneity effect is incorporated into regression model as error term.

Furthermore, post estimation tests showed that there is no evidence to reject null hypothesis on panel homoscedasticity, null hypothesis of no cross-sectional dependence, and null hypothesis of no AR (1) panel autocorrelation, given the reported probability statistics of 0.3921 > 0.05 for Wald test, 0.5451 > 0.05 for Pesaran test, and 0.7898 > 0.05 for Wooldridge test. Hence it can be established in the study that assumptions of equal variance of residual terms, cross sectional independence, and absence of serial autocorrelation for the estimated panel-based model is valid.

Moderating Effect of Domestic Debt Management and external debt management in the Interaction between Internally Generated Revenue and Budget Implementation in Nigeria

Table 5. Estimation result model 2 and 3.

Model 2				**Model 3**			
Variables	**Pooled OLS**	**Fixed Effect**	**Random effect**	**Variables**	**Pooled OLS**	**Fixed Effect**	**Random effect**
C	1.9620*	1.2839*	**1.8907***	*C*	1.9176*	**1.3052***	1.8967*
LNIGR	.18591*	.16207*	**.1516***	*LNIGR*	-.02455	**.16472***	.105178*
*LNIGR*DDMR*	-.07339	-.02406	**-.01426**	*LNIGR*EDMR*	.10881*	**-.02328**	.02274
LNSTA	-.07653	.03617	**-.04113**	*LNSTA*	.04533	**.02843**	-.02010
LNSPS	-.20274*	.16926	**-.22928**	*LNSPS*	-.25318*	**.1519**	-.24385
GC	-.00347	.00043	**.00281**	*GC*	-.00838	**.00152**	.00105
R-square **Wald Test** **Pesaran Test** **Wooldridge Test**	*0.4054* 1.4219 2.8185 1.575	*0.5230*	***0.5871***	**R-square** **Wald Test** **Pesaran Test** **Wooldridge Test**	*0.4389,* 1.8303 1.9574 1.645	***0.5231***	*0.5991*
	Restricted F-Test 8.04 (p <0.05)			**Restricted F-Test** 7.39 (p <0.05)			
		Husman Test 9.94 (p> 0.05)			**Husman Test** 8.70 (p < 0.05)		

Source: *Author's Computation (2025)*

Results of random effect estimation presented in column 4 of Table 5 showed coefficient and probability of .151661 and 0.009 (p < 0.05) for lnIGR which reveals that budget implementation performance increases by about 0.15% with any ₦1 billion increase in internally generated revenue across states in Nigeria when heterogeneity is incorporated as error term. This implies that internally generated revenue has significant positive effect on budget implementation performance. Result also reveals coefficient and probability of -0.0142615 and 0.702 (p > 0.05) for lnIGR*DDMR which signifies insignificant negative effect, revealing that domestic debt management ratio has insignificant negative moderating effect in the interaction between internally generated revenue and budget implementation performance of selected states in Nigeria when heterogeneity is incorporated as error term.

Reported R-square statistics of 0.5871 also reveals that about 58.71% of the systematic variation in budget implementation is explained by variation in internally generated revenue, combination of internally generated revenue and debt management ratio, statutory allocation, state population size and governance continuity when state heterogeneity is incorporated as constant term.

Furthermore, the most consistent and efficient estimation result for external debt management concern as shown in column 7 of Table 5 reported coefficient and probability of .1647253 and 0.018 ($p < 0.05$) for InIGR which reveals that budget implementation performance increases by about 0.17% with any ₦1billion increase in internally generated revenue across states in Nigeria when heterogeneity is incorporated as constant term. This implies that internally generated revenue has significant positive effect on budget implementation performance. Result also reveals coefficient and probability of -0.0232833 and 0.596 ($p > 0.05$) for LNIGR*EDMR which signifies insignificant negative effect, revealing that external debt management ratio has insignificant negative moderating effect in the interaction between internally generated revenue and budget implementation performance of selected states in Nigeria when heterogeneity is incorporated as constant term.

5. DISCUSSION

The study revealed that budget implementation can be enhanced by state government in Nigeria as long as they are able to increase their internally generated revenue. This could be because increased internally generated revenue, enhances state government capacity to repay debt, support increase in retained revenue which in turn facilitate capacity to finance planned expenditure of the govern. The implication of this result is that the low level of internally generated revenue and the slow growth therein is an important factor responsible for the low level of budget implementation among many states in Nigeria. This is in line with the findings of Olaoye and Olugbamiye (2019), Fatile and Ejalonibu (2018), Dambaeki *et al* (2020), Omodero *et al* (2018), Ekpoese *et al* (2019). For instance, Fatile and Ejalonibu (2018) explained that sustainable budget implementation stems from the deliberate efforts and prolonged approach taken by the state government, which significantly boost internally generated revenue. From the same perspective, Arogundade and Olaoye (2016) claimed that actual revenue significantly improves budget performance. In addition, result showed that debt management, in terms of domestic debt management and external debt management has insignificant negative effects on the interaction between internally generated revenue and budget implementation performance of the selected states in Nigeria. The implication of this is that though poor debt management might pose threat to the positive effect of internally generated revenue on budget implementation of states in Nigeria, such effect is not considered substantial, other things held constant. The result is similar to the submission of Chukwu *et al.* (2017), which clearly stated that public debt has insignificant effect on public investment, although in the context of national government.

6. CONCLUSION AND RECOMMENDATIONS

This study concluded that state government budget implementation of states in Nigeria can be significantly facilitated by improved level of internally generated revenue. In essence, in Nigeria, states with higher capacity to generate revenue internally has the tendency to perform better in its budget implementation, other things held constant. Secondly this study concluded that both domestic debt management ratio and external debt management ratio do not significant moderate the observed significant positive impact of internally generated revenue, though there is an evidence of negative interaction effect.

Hence this study recommends that state governments need to put in efforts to block all revenue loopholes in all ministries, units, and offices. In essence state government should intensify the use of treasury single account, facilitate efficiency and effectiveness of anti-graft agencies as well as ensure regular independent auditing practices to keep public officials in check. In addition, state governments also need to boost existing revenue sources and activate dormant revenue sources. By doing this, state government can significantly increase internally generated revenue as well as enhance capacity to not only improve budget implementation but also attract creditor's funds for fiscal financing.

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