EFFECT OF SUBNATIONAL PUBLIC EXPENDITURE ON STATES’ FISCAL SUSTAINABILITY IN NIGERIA

a Jim Pam Wayas, b Lucky Onmonya, c Kolawole Ebire

ABSTRACT

Objectives: The study examined the effect of subnational public expenditure on states’ fiscal sustainability in Nigeria. Specifically, the study examined the effect of capital expenditure and recurrent expenditure on states’ fiscal sustainability in Nigeria.

Methods: Ex-post facto research design was adopted to carry out the research for the period 2016-2022. The panel data were collected and sourced from Audited Financial Statements of subnational, CBN statistical Bulletin, CBN Annual report and accounts, other CBN publications, publications of the National Bureau of Statistics (NBS), and Ministry of Finance (MOF) Medium Term Fiscal Framework and other publications of 36 states. Panel regression was used to analyse the hypothesis significant effect between subnational public expenditure and states’ fiscal sustainability in Nigeria with the aid of E-views 12.

Results: The study found that capital expenditure has a significant effect on states’ fiscal sustainability in Nigeria. The study also found that recurrent expenditure negatively affects states’ fiscal sustainability in Nigeria.

Conclusion: The study recommends that the state governments of Nigeria should adhere strictly to the implementation of capital expenditure so as to increase the level of infrastructural and productive base in Nigeria which will have the capacity to stimulate economic growth and create employment. Also, state governments should decrease spending, particularly regarding recurrent expenditure, to reduce the cost of governance in the country. This is because our results indicated that an increase in government recurrent expenditure reduces the level of the sustainability index.

Keywords: subnational public expenditure, capital expenditure, recurrent expenditure, fiscal sustainability.

Received: 04/08/2024
Accepted: 06/07/2024
DOI: https://doi.org/10.55908/sdgs.v12i7.3771

a PhD Student in Accounting, Department of Accounting, Nile University of Nigeria.
E-mail: jimpamwayas@gmail.com Orcid: https://orcid.org/0009-0008-4467-2964

b PhD in Accounting and Finance, Department of Accounting, Nile University of Nigeria.
E-mail: onmonyalucky@gmail.com Orcid: https://orcid.org/0000-0003-1081-270X

c PhD in Finance, Department of Banking and Finance, Nile University of Nigeria.
E-mail: Kolawole.ebire@nileuniversity.edu.ng Orcid: https://orcid.org/0000-0001-7000-2552
EFEITO DA DESPESA PÚBLICA SUBNACIONAL NA SUSTENTABILIDADE ORÇAMENTAL DOS ESTADOS NA NIGÉRIA

RESUMO

Objetivos: O estudo examinou o efeito da despesa pública infranacional na sustentabilidade fiscal dos estados na Nigéria. Especificamente, o estudo examinou o efeito das despesas de capital e das despesas recorrentes na sustentabilidade fiscal dos estados na Nigéria.

Métodos: Ex-post fato design de pesquisa foi adotado para realizar a pesquisa para o período de 2016-2022. Os dados do painel foram coletados e obtidos a partir de Demonstrações Financeiras Auditadas de sub-nacionais, Boletim Estatístico CBN, Relatório Anual CBN e contas, outras publicações CBN, publicações do Bureau Nacional de Estatísticas (NBS), e Ministério das Finanças (MOF) Quadro Fiscal de Médio Prazo e outras publicações de 36 estados. A regressão do painel foi utilizada para analisar a hipótese de efeito significativo entre a despesa pública subnacional e a sustentabilidade fiscal dos estados na Nigéria com o auxílio de E-views 12.

Resultados: O estudo constatou que as despesas de capital têm um efeito significativo na sustentabilidade fiscal dos estados na Nigéria. O estudo também constatou que as despesas recorrentes afetam negativamente a sustentabilidade fiscal dos estados na Nigéria.

Conclusão: O estudo recomenda que os governos estaduais da Nigéria adiram estritamente à implementação de despesas de capital, de modo a aumentar o nível de infraestrutura e base produtiva na Nigéria, que terá a capacidade de estimular o crescimento econômico e criar emprego. Além disso, os governos estaduais devem diminuir as despesas, especialmente no que diz respeito às despesas recorrentes, a fim de reduzir o custo da governação no país. Isto porque os nossos resultados indicaram que um aumento das despesas recorrentes do governo reduz o nível do índice de sustentabilidade.

Palavras-chave: despesa pública subnacional, despesa de capital, despesa recorrente, sustentabilidade fiscal.

EFECTO DEL GASTO PÚBLICO SUBNACIONAL EN LA SOSTENIBILIDAD FISCAL DE LOS ESTADOS EN NIGERIA

RESUMEN

Objetivos: El estudio examinó el efecto del gasto público subnacional en la sostenibilidad fiscal de los estados en Nigeria. Especificamente, el estudio examinó el efecto del gasto de capital y el gasto recurrente en la sostenibilidad fiscal de los estados en Nigeria.

Métodos: Se adoptó un diseño de investigación ex post facto para llevar a cabo la investigación para el período 2016-2022. Los datos del panel se recopilaron y obtuvieron de los estados financieros comprobados del boletín estadístico subnacional del CBN, el informe anual y las cuentas del CBN, otras publicaciones del CBN, publicaciones de la Oficina Nacional de Estadísticas (NBS) y el Marco Fiscal a Mediano Plazo del Ministerio de Finanzas (MOF) y otras publicaciones de 36 estados. Se utilizó la regresión de panel para analizar la hipótesis del efecto significativo entre el gasto público subnacional y la sostenibilidad fiscal de los estados en Nigeria con la ayuda de E-views 12.

Resultados: El estudio encontró que el gasto de capital tiene un efecto significativo en la sostenibilidad fiscal de los estados en Nigeria. El estudio también encontró que el gasto recurrente afecta negativamente la sostenibilidad fiscal de los estados en Nigeria.

Conclusión: El estudio recomienda que los gobiernos estatales de Nigeria se adhieran estrictamente a la implementación de los gastos de capital para aumentar el nivel de infraestructura y base productiva en Nigeria, que tendrá la capacidad de estimular el
crecimiento económico y crear empleo. Además, los gobiernos estatales deberían reducir el gasto, particularmente en lo que respecta al gasto recurrente, para reducir el costo de la gobernanza en el país. Esto se debe a que nuestros resultados indicaron que un aumento del gasto público recurrente reduce el nivel del índice de sostenibilidad.

**Palabras clave:** gasto público subnacional, gasto de capital, gasto recurrente, sostenibilidad fiscal.

## 1 INTRODUCTION

The fiscal sustainability of States has become a subject of increasing concern for several reasons. First, is the slide in revenue in recent times which has contracted the fiscal space of governments. Secondly, the rising fiscal deficits of States with mounting domestic debts consisting of salary and pension arrears and other liabilities. Thirdly, the absence of policies to manage revenue volatility and achieve fiscal independence. These concerns have implications on how governments can stimulate pro-poor growth and sustainable economic development (NGF, 2017)

The issue on fiscal sustainability can be viewed towards debt sustainability, government solvency, stability of budgetary deficit-to-GDP ratio, and debt-to-GDP ratio that are regularly discussed and analysed by academics and, to a lesser extent, policymakers to understand the problem of fiscal sustainability (Pradhan, 2015). On the other hand, market perception of fiscal sustainability concerns the finance ability of deficit, rollover of debt, and how easily a government can mitigate its financial obligations to its creditors. The latter aspect is realised through the behaviour of financial markets. The finance ability aspect depends upon the creditworthiness of the government and the perception of investors about its fiscal health and the overall macroeconomic scenario. That is why the market perception about fiscal sustainability may or may not match the academic view of fiscal sustainability. For example, a government with a large deficit and debt may not experience any financial ability problems. In contrast, at other times, the same government with a lower deficit and public debt might face financial problems of finance ability and rollover debt. Though debt sustainability and financial ability are related in the context of understanding the problem of fiscal imbalance of a country, they are separate concepts and may not convey a uniform conclusion (Onofrei et al., 2021).
Exhaustive government expenditures are viewed as a claim on the economy's resources. Use of these resources by the public sector precludes use by other sectors. The absorption of resources by the public sector means that the opportunity cost of these government expenditures is the forgone output of the other sectors. The opportunity cost argument of this kind underlies the argument for those who frown upon the larger size of the public sector, and that also forms the basis of many techniques used to measure public sector efficiency. This argument underpinned the crowding-out debate (Bhatia, 2008).

Capital expenditure is crucial for long-term economic growth and development, but it also requires significant financial resources. In Nigeria, the heavy reliance on federal transfers and volatile revenue sources poses challenges to the fiscal sustainability of subnational governments. Thus, capital expenditure requires significant financial resources, which may be difficult to obtain in the current fiscal environment. Nigeria's low tax revenue and continued reliance on volatile oil revenue pose challenges to fiscal sustainability (Araga, 2016). In 2023, the 36 states of Nigeria were projected to spend a total of N11 trillion, with capital expenditure accounting for 56.42% of the approved budget, while recurrent expenditure made up the remaining 43.5%. Notably, some states allocated a higher proportion of their budgets to capital expenditure than others. For instance, Imo State allocated 78.74% of its budget to capital expenditure, Enugu State allocated 69.12%, Kaduna State allocated 64.01%, Katsina State allocated 63.48%, and Anambra State allocated 63.26%. Lagos State had the highest amount appropriated for the fiscal year, with N1.019 trillion allocated to capital expenditure out of its total budget of N1.768 trillion. This data highlights the varying levels of emphasis placed on capital expenditure by different states in Nigeria, reflecting their priorities for infrastructure development and long-term economic growth.

The recurrent expenditure of states in Nigeria refers to the funds that the government spends on ongoing operations and services, such as salaries, utilities, and maintenance. Conversely, the data from the NBS indicates that the 36 states of the federation have spent N1.71tn on recurrent expenditures, including allowances, foreign trips, office stationery, aircraft maintenance, and more in the first nine months of 2023. This expenditure includes N802.43bn on salaries across the data period available. Other recurrent spending items covered in this report include the amount spent on foreign and domestic travel, Internet access fees, entertainment, foodstuff, honorarium/sitting allowance, wardrobe allowances, telephone bills, electricity charges, stationery,
anniversaries/special days, welfare, aircraft maintenance, and more. The total borrowings of the states grew to N988bn as of the third quarter of 2023. World Bank provided a breakdown of some frivolous recurrent expenditures of Nigeria’s state governments, including Abia State, which reportedly spent N397,520,734.84 on feeding and welfare. In contrast, N223,389,889.84 was spent on refreshments and meals. Similarly, the Lagos State government reportedly awarded the sum of N440,750,000 to the Office of the Chief of Staff for the procurement of bulletproof cars. At the same time, it budgeted N2bn to buy rechargeable fans, rechargeable lights and fridges in the Office of the Deputy Governor. The Akwa Ibom State government has reportedly spent N92.54bn on allowances and social contributions, social benefits, travel and transport, utilities such as electricity chargers, Internet access charges, and on materials and supplies such as office stationery, drugs, laboratory and medical supplies, maintenance, training in the first two quarters alone. The Adamawa State government has reportedly spent N40.90bn on non-salary expenditure as of the end of Q3, 2023, including on furniture allowance, medical supplies, stationaries, and more. The Anambra State government also reportedly spent N15.17bn on frivolous items, as of the end of quarter two, 2023. The Bauchi State government reportedly spent N70.25bn on frivolous items, while Bayelsa State government spent N58.26bn on travel, welfare packages, burial logistics, meeting expenses, ‘praise night/thanksgiving expenses’, and ‘marriage ceremony support’. The Benue State government reportedly spent N34.44bn on ‘special day celebrations’, ‘welfare packages’, ‘security votes’, and materials and supplies such as office stationery, and books. The Borno, Cross Rivers, Delta, and Ebonyi states also respectively spent N32.63bn, N43.71bn, N152.15bn, N30.91bn, and N41.11bn on frivolous items, and public funds may have been mismanaged or diverted (BudgIT Report, 2023). These actions have several implications such as driving poverty, corruption (Fayzullokh et al. 2023; Karianga, 2024)

There is yet to be a unified framework for analysing fiscal sustainability at the level of the subnational government in Nigeria. However, the national framework where fiscal sustainability is defined through a government’s ability to repay debt is ill-suited for sub-national governments that exist under a different set of constraints, such for example debt limits and balanced budget requirements. At the sub-national level, theoretical frameworks of fiscal sustainability have only been developed in the past six

This study seeks to cover a significant gap in the empirical literature as most researchers that have worked on fiscal sustainability have only contributed to existing methodologies and also produced alternative statistical tests for the investigation of sustainable fiscal policies (Polito & Wickens, 2005). This study focused on a complete empirical analysis that is not at the national level but on the subnational public finance components of states’ fiscal sustainability in Nigeria, as there is no research presently on states’ fiscal sustainability in Nigeria. In effect, empirical works on fiscal sustainability are replete with varying and distinct measures. While these measures lack consensus, some are methodologically biased (Chalk & Hemming, 2000). Fiscal sustainability is one of the important elements in maintaining a stable and growing economy. It is a state where a government is able to finance its fiscal or budgetary deficits without generating explosive increases in public debt in the long-term period (Ngotho & Kerongo, 2020). However, this study intends to investigate the effect of subnational public expenditure on states’ fiscal sustainability in Nigeria from 2016-2022.

2 THEORETICAL FRAMEWORK

2.1 FISCAL SUSTAINABILITY

The notion of fiscal sustainability indicates the ability of the government to smoothly finance its budget without excessive accumulation of public debt in the long run. The government should be solvent and capable to repay its debt at a certain point in the future (Camarero et al, 2015). More often, a technical definition of fiscal sustainability can be derived from the government’s intertemporal budget constraint (IBC). A sustainable budget process requires that the expected present discounted value of all future stock of debt converge to 0 (Trehan & Walsh, 1991).

Domar (1944) discussed the issue of fiscal sustainability in the context of a growing economy. Domar’s concept of fiscal sustainability is known as Domar’s stability condition. He defined fiscal sustainability in terms of a stabilising debt-to-GDP ratio or deficit-to-GDP ratio. Domar’s condition states that sustainable fiscal policy requires the growth rate of national output (n) to exceed the cost of government borrowing (r) or the
growth rate of public debt if there is no fresh borrowing. However, if the cost of borrowing exceeds the growth rates of national output, any deficit can lead to a perpetually unsustainable fiscal policy. The novelty of Domar’s approach is that it helps to compute the required primary surplus (PS) or deficit in stabilising the debt-to-national output ratio at a particular level, for a given growth-interest rate differential.

Andrey et al (2021) are of the opinion that fiscal sustainability, which is the ability of governments to sustain their current fiscal policies in the long run, is largely linked to the concept of fiscal risks. To the extent that the sustainability of public finances affects intergenerational fairness and embodies principles that apply at all times and to all governments, regardless of their current indebtedness. Taofeek-Olusola (2014) stressed that fiscal sustainability describes the condition of fiscal policies, perhaps, due to the persistent implementation of fiscal rules, the absence of political apathy, and the existence of an economy; that is free from perpetual debt accumulation. Stemming from this, fiscal sustainability has been considered a multi-dimensional concept.

2.2 SUBNATIONAL PUBLIC EXPENDITURE

Subnational public Government expenditures refer to the expenses that state government incurs for its own maintenance, for society and for the economy as a whole (Weil, 2009). Government spending reflects the policy choices of the government. Once government has decided upon the type and quantity of goods and services to provide, government spending represents the cost of carrying out these policies (Weil, 2009). The rationale behind the need for expenditure is associated with the existence of externality or market failures; there is no reason to assume that additional public-sector investments would be more productive than private-sector investments (Tanzi, 2015).

Thus, Government budgets are the primary fiscal policy instruments that determine the size of public investments and economic activities, especially during periods of low or negative growth. The government can adjust the nature of its spending, in addition to taxation, to influence business decisions and private sector investment. The expenditure roles and responsibilities of States as defined in the Nigerian 1999 Constitution relate to the areas under the concurrent list, while the exclusive and residual components are governed by the federal and local governments. Items under the
concurrent list are also shared between the federal and State governments, while the residual list is at the prescription of State governments.

Therefore, Government spending on public services has a profound effect on the citizens’ standard of living and opportunities. Government spending on public services has the objectives of giving the citizens chance to realize their full potential (through education, training and work), building an inclusive and fair society and strengthening a competitive economy (Prohl & Schneider, 2006).

2.3 SUBNATIONAL CAPITAL EXPENDITURE

Subnational capital expenditures are expenses on capital projects like roads, airports, health, education, telecommunication and electricity generation. Capital expenditures refer to the expenditures of government, which are investments (Ugochukwu & Oruta, 2021). Such expenditures increase the existing stock of wealth and or reduce existing liability. This covers the total government spending on infrastructural facilities such as building health facilities, construction of new roads, bridges, farm mechanisation, dams, schools, mining, provision of rural electrification and communication outfits to reduce the level of unemployment rate (Araga, 2016). In this study, subnational government capital expenditure refers to money spent by the states in acquiring or maintaining fixed assets, such as land, buildings, and equipment for the benefit of the citizens.

However, Usman (2011) asserted that capital expenditure is used when the market proves inefficient or its outcomes are socially unelectable. In support of this notion Khan (2019), opined that Government capital expenditure is the amount of money a government spends each year on public goods and related activities in order to deal with market inefficiencies, such as, stabilization of the economy, maintain a strong national defence, provision of public goods, and to deal with specific needs of society such as redistribute income that a free market system will not or cannot address on its own.

2.4 SUBNATIONAL RECURRENT EXPENDITURE

Ugochukwu and Oruta (2021) defined subnational recurrent expenditures as expenses on administration such as wages, salaries, interest on loans and maintenance.
Recurrent expenditure involves spending on wages and salaries of public services workers, the operational cost of running government departments are regarded as recurrent expenditures. It also refers to that part of government expenditure which neither creates assets nor reduces liabilities. Examples include salaries and wages of employees, consumption expenditure on debts and financial aid (Yildirim & Yildirim, 2017).

Apparently, recurrent expenditure means the cost of incurred expenses in the accounting year. It consists mainly of expenditure on wages, salaries, and supplements, purchases of goods and services and consumption of fixed capital (depreciation). The concept of recurrent expenditure is used to denote the expenses which the government incurs for its own maintenance and also for the society and economy as a whole (Bhatia, 2004). It also means all payments other than for capital assets, including on goods and services (wages and salaries, employer contributions), interest payments and subsidies (Philip, 2014). It is usually connected with the amount of money spent on the current repairing, fixing, and maintenance.

2.5 KEYNESIAN ECONOMIC THEORY

Maynard Keynes advanced this postulation in 1936. According to the Keynesian economist, fiscal policy is a key tool of sustainability management, and the government's role is crucial in maintaining the economy at the fiscal sustainability. This is done by managing the level of aggregate demand until the economy attains fiscal sustainability. Therefore, an increase in government tools increases aggregate demand. A minimal reduction in personal income tax (PIT) increases disposable income which in turn increases aggregate demand. Nevertheless, government expenditure is one of the components of aggregate demand. Keynes (1934) focused on aggregate demand function to curb fiscal unsustainability.

The Keynesian view of long-run aggregate supply is different. They argue that the economy can be below full capacity in the long term. Keynesians argue output can be below full capacity for various reasons such as wages are sticky downwards (labour markets don’t clear), negative multiplier effect. Once there is a fall in aggregate demand, this causes others to have less income and reduce their spending creating a negative knock-on effect, and a paradox of thrift. Therefore, in a recession, people lose confidence
and therefore save more. By spending less this causes a further fall in demand (Onofrei et al., 2020).

Keynes states that in the short run, economic growth through fiscal unsustainability is firmly influenced by total spending in the economy. This theory regards the economy as being naturally unstable and required active government intervention through spending to achieve fiscal unsustainability. Bowden (1982) in Ojong and Hycenth (2013) states that Keynesian theory posits that our ability to understand what determines the level of spending will help us know what determines the level of employment, production of output and income in the economy. Keynesian theory suggests that public expenditure revitalizes the economy and increases the rate of fiscal unsustainability, which in turn makes households feel wealthier on the basis of government spending and leads to an increase in savings.

2.6 EMPIRICAL REVIEW

Onofrei et al (2021) highlighted the specificity of fiscal sustainability in some developing EU employ a panel data analysis to evaluate developing EU countries for the period 2000–2014 and we investigate the status of convergence of fiscal responsibility coordinates by computing the convergence score of fiscal responsibility. The research is based on interdisciplinary coordinates and helps to consolidate judgments from both legal and financial perspectives, contributing to the literature that investigates the relationship between the legal framework related to government decision-making and public finance sustainability. The choice of the study sample in relation to developing EU countries represents a contribution and a point of reference for the literature that investigates the sustainability of developing EU countries and highlights the importance of fiscal risk management and control mechanisms in enhancing the performance of the public sector and fiscal sustainability. The results suggest that it is important to reinforce the interaction between the legal framework and the institutional one by identifying good practices for designing and operating effective independent fiscal institutions, making them capable not only of advising the government on fiscal policy matters but also of promoting sound fiscal policy and sustainable public finance.

Saibu (2018) examined public spending, fiscal sustainability and macroeconomic performance in Nigeria. Using the framework of an intertemporal budget constrain for
the government, a fiscal sustainability equation is derived and the conditionality for establishing sustainability is ascertained. The empirical strategy applies the unit root test, cointegration test and dynamic OLS (DOLS) regression approach for testing the sustainability of the fiscal stance from 1961 to 2016. The empirical evidence shows evidence of weak sustainability especially as reported in the DOLS regression result. Similarly, the result for the effect of fiscal sustainability and economic performance also reports weak response of economic performance to fiscal sustainability. On the overall, the evidence from this study does not significantly deviate from extant studies in this strand of the literature. The main policy implication of this research is that the Nigerian government should ensure a more robust and systemic link between tax and expenditures policies and the evolution of public debt. In passing, a focus on determining a short-term government constrain framework and fiscal sustainability indicators for signalling short and medium-term fiscal imbalances and to correct them will be a worthwhile direction for future research.

Maulid et al (2022) analysed the causality between tax revenue, state expenditure, inflation and economic growth in Indonesia during the 1973-2019 period to provide policy advice to the Indonesian government. This country was selected as an object with consideration that its economy has grown impressively and has been able to rise from the Asian economic crisis. A brief overview of the policies developed during the research period is presented to provide insight into the policies taken by the government. The use of quantitative methods through the Vector Error Correction Model and Granger causality test was carried out to provide an in-depth analysis. The result showed a positive long-term two-way causality relationship between tax revenues and state expenditures as well as tax revenues and economic growth. This indicates that the government’s efforts to implement state expenditure have succeeded in increasing tax revenues. Conversely, an increase in tax revenue allows the government to make state expenditures, both in development and other activities, to improve people’s economy, leading to increased economic growth. However, the result of tests on inflation show that this variable is caused by economic growth and does not apply the other way around, but this variable has a negative effect on tax revenue, state expenditure and economic growth so its needs to be suppressed to ensure the stable economic growth. Conversely, most of the intext citations were not referenced in the work.
Falade (2020) examined the effects of fiscal policy variables on the performance of the key sectors of the economy namely; Industrial, Agricultural and Service sectors were investigated using an Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) for the period of 1970-2018. The obtained results indicated that while both domestic and foreign debts have no significant effects on the three sectors examined in the short run, it was observed that foreign debt and government consumption expenditure have incremental effects on the industrial sector’s output. Similarly, it was observed that while domestic debt crowd-in agricultural and services sectors’ outputs, it has a crowd-out effect on industrial output in the long run. It is also noteworthy that while government investment expenditure has a positive effect on industrial output, its effects on agricultural output are detrimental in the long run. This implies that the government can neutralize the negative effects of its domestic debt on the industrial sector’s output either by increasing its consumption expenditure or rely more on foreign debt. It is recommended that government should focus more on investing in infrastructure such as irrigation, access road to farmland, storage facilities, processing equipment like milling machine in other to boost productivity in the sector.

Olaoye et al (2019) examined statutory allocation and budget implementation in Nigeria. This study covered all the six states of southwest geopolitical zone of Nigeria including Lagos State, Ogun State, Oyo State, Osun State, Ondo State and Ekiti State, over the period of 10 years spanning from 2008 to 2017. Data used in the study were collected from National Bureau of Statistics, Office of the Accountant General of the Federation, and annual budget of the selected states. The study made use of static panel estimation techniques such as pooled OLS estimator, fixed effect estimator and random effect generalized least square estimator, as well as Dumitrescu-Hurlin panel-based granger causality test. Result showed that statutory allocation exerts insignificant, positive impact on actual expenditure to the tune of 0.109719 (p = 0.000 < 0.05), and that there is no existence of causal relationship between statutory allocation and actual expenditure of southwest states in Nigeria. The study thus established that though impact of statutory allocation on actual expenditure is positive, such impact is not significant in the context of southwest states, and that past period statutory allocation to southwest states does not significantly depict the level of budget implementation in the current period. In addition, this study established among other things that there is heterogeneity effect across southwest states in the discourse of statutory allocation and budget.
implementation. Thus, the study underscores the place of states uniqueness in the matter of budget implementation.

Osinowo (2015) evaluated the effect of fiscal policy on sectoral output growth in Nigeria (1970 – 2013) Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) were employed in testing the research variables and the result obtained indicates that total fiscal expenditure (TEXP) has positively contributed to all the sectors output with an exception of the agriculture sector. In addition, Bakare-Aremu and Osobase (2015) in their study in an assessment of the effect of fiscal and monetary policies on industrial sector performance- evidence from Nigeria, ordinary least squared (OLS) econometric techniques were used in analyzing the data of their model and found out that stabilization policy has a great implication on manufacturing sector performance. The study recommends that if certain adjustments are made it would better the lots of the people by developing the sector, through Government fiscal policy and its monetary policy measures.

Also, Ismaila and Imoughele (2015) adopted an econometric technique that is rooted in co-integration and error correction model (ECM) using statistical time series data for the period 1986 – 2011 to test the Behavioral Pattern of Fiscal Policy Variables and Effects on Economic Growth in Nigeria. The findings of this study showed that fiscal policy has a long-run relationship with Nigeria economic growth as confirmed by the co-integration test. The study further reveals that the government expenditure and gross fixed capital formation from government has positive and significant implication on Nigeria economic growth, while budget deficit has a negative and significant effect on Nigeria economic growth and concluded that that fiscal policy has the ability to induced economic growth in Nigeria through government expenditure and investment in the economy while ensuring that fiscal discipline is practised by keeping to budgetary provisions and minimizing budget deficit.

3 METHODOLOGY

The research design for this study was expo-facto research design. Expo-facto design involves describing the relationship between the past factors on the present trend or occurrence. The population of this study constitutes the 36 states public sector finances within the Nigerian subnational economy. The subnational public expenditure of the
Nigerian economy is made up of state government finances. However, the research sample of this study is subnational of 36 states. This is arrived at after applying the purposive sampling technique (Kothari, 2004). This study examines how subnational government expenditure affect the Nigerian economy, so as to draw inferences on the study population from the regression, based on the Sample Regression Function (SRF) specified (Gujarati & Porter, 2009).

The data of this study is on the state government’s finances from 2016-2022. The data are published in internal and external documents to the federal and state government finances. The internally published documents are Audited Financial Statements of subnational, CBN statistical Bulletin, CBN Annual report and accounts, other CBN publications, publications of the National Bureau of Statistics (NBS), and Ministry of Finance (MOF) Medium Term Fiscal Framework and other publications. The external published documents comprise of World Bank’s World Development Indicators, UNDP Human Development Report, BudgIT, and other international organizations’ publications. The reputation and recognition of both internal and external secondary sources (organizations) enhance the reliability and suitability of the data obtained for this study.

The panel data was analysed using E-views version 12. Descriptive statistics, correlation matrix, normality test and regression analysis were carried out and post estimation analysis such as Heteroskedasticity test, serial correlation and Hausman test was also carried out. The specific model given below for the Hausman test describes a convenient version for regression applications that involves testing whether certain transformations of the original regressors have zero coefficients.

### 3.1 THE MODEL SPECIFICATION

The model adopted for this study is given as thus:

\[ SUI_{it} = \beta_0 + \beta_1 SPCE_{it} + \beta_2 SRE_{it} + e_{it} \quad (1) \]

Where:

- \( SUI_{it} \) = Sustainability index
- \( SPCE_{it} \) = Subnational Public Capital Expenditure
- \( SRE_{it} \) = State Revenue Expenditure
- \( e_{it} \) = Error term

[1] The model specification and analysis are based on the data from 2016 to 2022, covering all 36 states in Nigeria. The reliance on secondary sources such as government documents and international organizations ensures the reliability and validity of the findings. The use of E-views version 12 for data analysis is appropriate for the scope of the study.
SRE= Subnational Recurrent Expenditure
a0 = Constant,
\( e_t \) = Error term
\( \beta_1, \beta_2, \) = the slope or the coefficient of the independent variables.

3.2 DECISION RULES

The decision rule to test the hypothesis of the study is as follows:
If the p-value of the t-coefficient is less than 5% (0.05), the null hypothesis is rejected, otherwise accept.

4 RESULTS AND DISCUSSIONS

Tables 1
Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>FISCAL SUS INDEX</th>
<th>RECURRENT EXPENDITURE</th>
<th>CAPITAL EXPENDITURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.482351</td>
<td>10.93187</td>
<td>8.586466</td>
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<tr>
<td>Median</td>
<td>0.312811</td>
<td>10.89220</td>
<td>10.52937</td>
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<td>Maximum</td>
<td>1.951880</td>
<td>12.01590</td>
<td>11.78057</td>
</tr>
<tr>
<td>Minimum</td>
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<td>10.13119</td>
<td>0.591228</td>
</tr>
<tr>
<td>Std. Dev.</td>
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<td>0.283688</td>
<td>3.999230</td>
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</tr>
<tr>
<td>Jarque-Bera</td>
<td>24.85294</td>
<td>48.84888</td>
<td>52.59814</td>
</tr>
<tr>
<td>Probability</td>
<td>0.0000004</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>36.06932</td>
<td>14.40570</td>
<td>2686.965</td>
</tr>
<tr>
<td>Observations</td>
<td>216</td>
<td>216</td>
<td>216</td>
</tr>
</tbody>
</table>

Source: E-Views (2024)

The table 1 revealed the data used in the study with fiscal sustainability, capital expenditure and recurrent expenditure having a mean value of 0.482351, 10.93187 and 8.586466 respectively. The deviation from the mean (standard deviation) was 0.448893, 0.283688 and 3.999230 respectively. This means that it was normally distributed because the standard deviation value was lower than the mean value. In like manner, the Jacque-Bera values confirm the normality of the data.
Table 2

Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>FISCAL INDEX</th>
<th>SUS</th>
<th>RECURRENT EXPENDITURE</th>
<th>CAPITAL EXPENDITURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISCAL INDEX</td>
<td>1</td>
<td></td>
<td>-0.1646</td>
<td>-0.8183</td>
</tr>
<tr>
<td>SUS</td>
<td></td>
<td>1</td>
<td>0.0713</td>
<td>1</td>
</tr>
<tr>
<td>RECURRENT EXPENDITURE</td>
<td>-0.1646</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPITAL EXPENDITURE</td>
<td>-0.81837</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: E-Views (2024)

Table 2 explained the correlation between public expenditure and the states’ fiscal sustainability in Nigeria where the fiscal sustainability index was correlated with recurrent expenditure to the value of -0.16 which signifies there is negative correlation since the value is low. Fiscal sustainability index was correlated with capital expenditure to the value of -0.81 which signifies there is low correlation since the value is negative.

Table 4

Hausman Test

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>7.215703</td>
<td>2</td>
<td>0.0271</td>
</tr>
</tbody>
</table>

Source: E-Views (2024)

The result of the Hausman test in the table 4 indicates that the fixed effect regression model is the most appropriate model to analyse the data of the study. With the probability of 0.027, the fixed effect was rejected. Therefore, the random effect estimator was used to run the regression.

Table 5

Panel Result

Period random effects test equation:
Dependent Variable: FISCAL_SUS_INDEX

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.694561</td>
<td>1.066202</td>
<td>-0.651435</td>
<td>0.5159</td>
</tr>
<tr>
<td>CAPITAL_EXPENDITURE</td>
<td>0.110652</td>
<td>0.009127</td>
<td>12.12416</td>
<td>0.0000</td>
</tr>
<tr>
<td>RECURRENT_EXPENDITURE</td>
<td>0.214511</td>
<td>0.071541</td>
<td>-2.998450</td>
<td>0.0033</td>
</tr>
</tbody>
</table>
Wayas, J., P., Onmonya, L., & Ebire, K. (2024). EFFECT OF SUBNATIONAL PUBLIC EXPENDITURE ON STATES’ FISCAL SUSTAINABILITY IN NIGERIA

<table>
<thead>
<tr>
<th>Effects Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
<tr>
<td>S.E. of regression</td>
</tr>
<tr>
<td>Sum squared resid</td>
</tr>
<tr>
<td>Log likelihood</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
</tr>
</tbody>
</table>

Source: E-Views (2024)

Capital expenditure had a significant effect on states’ fiscal sustainability in Nigeria because the p-value was 0.000 which was less than the 0.05 significant level, indicating that increase in capital expenditure will have an increase on states’ fiscal sustainability in Nigeria since the coefficient is 0.110652. While recurrent expenditure had a negative significant effect on states’ fiscal sustainability in Nigeria because the p-value was 0.000 which was less than the 0.05 significant level, indicating that increase in recurrent expenditure will have a decrease on states’ fiscal sustainability in Nigeria since the coefficient is -0.214511.

The coefficient of determination R² value at 0.86 shows that 86% of change in the dependent variables is explained by the independent variables. The probability of the F-Statistics which is less than 0.05 indicates that the independent variables jointly explain the independent variables. Therefore, the model is fit and appropriate.

4.1 DISCUSSION OF FINDINGS

Based on the findings, the study rejects the null hypotheses which stated that capital expenditure had a significant effect on states’ fiscal sustainability in Nigeria at 5% significant level, indicating that an increase in capital expenditure will have an increase on states’ fiscal sustainability in Nigeria. The implication of this findings indicates that spending on infrastructure and social sectors, is crucial for long-term development and can influence a country's fiscal sustainability. However, the specific impact of capital expenditure on states' fiscal sustainability in Nigeria would require a more targeted analysis of the country's economic and financial situation. Research works of Ugochukwu and Oruta (2021) Andrey et al (2021), all support the findings of this study.
Moreover, recurrent expenditure had a negative significant effect on states’ fiscal sustainability in Nigeria at 5% significant level, indicating that an increase in recurrent expenditure will have a decrease on states’ fiscal sustainability in Nigeria. The implication of this findings indicates that high government spending on items such as wages, salaries, and maintenance, can affect fiscal sustainability negatively. Thus, if recurrent expenditure is not carefully managed, it can lead to long-term financial imbalances, potentially affecting a government’s ability to sustain its current spending and policies without threatening its solvency. Research works of Saibu (2018) Camarero et al (2015), all support the findings of this study.

5 CONCLUSION

This research examined the effect of subnational public expenditure on states’ fiscal sustainability in Nigeria for a period of 7 years (2016-2022). The study observed that capital expenditure has a significant effect on states’ fiscal sustainability in Nigeria. This reveals that an increase in capital expenditure will automatically have an increase on states’ fiscal sustainability in Nigeria. Therefore, it was concluded that capital expenditure has a significant effect on states’ fiscal sustainability in Nigeria, as it directly influences the country's development outcomes and long-term financial stability. The study witnessed that recurrent expenditure has a negative significant effect on states’ fiscal sustainability in Nigeria. This reveals that an increase in recurrent expenditure will have a decrease on states’ fiscal sustainability in Nigeria. Therefore, it was concluded that recurrent expenditure may have a negative significant effect on states' fiscal sustainability, especially if it is not aligned with long-term revenue generation and economic growth. Consequently, the research recommends that the state governments of Nigeria should adhere strictly to the implementation of capital expenditure so as to increase the level of infrastructural and productive base in Nigeria which will have the capacity to stimulate economic growth and create employment. Also, the State government should decrease spending, particularly regarding recurrent expenditure towards reducing the cost of governance in the country. This is because our results indicated that increase in government recurrent expenditure reduces the level of sustainability index.
REFERENCES


