Assessment of budget compliance: Evidence from the Nigerian public sector

Tajudeen Lawal

Department of Accounting and Finance, Faculty of Management and Social Sciences, Kwara State University, Malete, Kwara State Nigeria.
e-mail: tajudeen.lawal@kwasu.edu.ng, Ltajudeen@yahoo.com
(Corresponding Author)

Adeoye Amuda Afolabi

Department of Accounting and Finance, Faculty of Management and Social Sciences, Kwara State University Malete, Nigeria.
e-mail: adeoye.afolabi@yahoo.co.uk

Abstract

Purpose: Evidence suggests that the federal government annually budgets and appropriates amounts for both capital and recurrent expenditure to various ministries, departments, and agencies, yet there is no impact on the ordinary citizen on the street. The question is whether it is a result of non-compliance with budgets or other factors hindering budget compliance. In addition, the federal government introduced different policies to fast-track the process of budgeting and public expenditure; several factors have prolonged the period of the current economic recession. From the fiscal policy side, delays in budget approval and implementation are major challenges. Against this background, this study examines factors that influence budget compliance and in relationship with variance in Nigeria.

Methodology: The data was gathered from secondary sources and analysed using the Engle-Granger co-integration test and the augmented Dickey-Fuller (ADF) test (Units root test).

Findings: The findings revealed that corruption, political stability, and type of government have a significant negative relationship with variance. Additionally, corruption and crude oil prices show a negative effect on actual total expenditure. However, Gross Domestic Product (GDP) and revenue are positively significant with budget variance and actual total expenditure.

Limitations/Implications: This study illustrates evidence relevance to the public and academic debates about how government should use all the institutions at their disposal to minimise corruption since corruption reduces the variance and actual total expenditure. In addition, since crude oil price hinder government expenditure, the federal government should focus more on other source of revenue for budget apart from crude oil.

Originality: This study provides the effect of corruption, crude oil price, political stability and the type of government, as indicators for budget compliance on the variance and total actual expenditure. As a result, this study contributes to the literature in the area of budgeting system for the public sector in developing countries with specific focus on Nigeria.

Keywords: GDP, Expenditure, Variance, Revenue, Budget
JEL: M41 M49

1. Introduction

Experiences from advanced economies offer valuable insights into budget compliance practices that can be adapted and implemented in other contexts. These economies often emphasize transparency, accountability, and citizen participation in the budgeting process. They employ tools and mechanisms to enhance accountability, such as performance-based budgeting, outcome-oriented budgeting, and results-based management (Kuntadi & Velayati, 2022). Similarly, advanced economies make investments in technology-based financial reporting and management solutions, which allow for real-time budget execution and spending tracking. In addition, previous studies such as Onyiah et al. (2016), Ajibolade and Oboh (2017), Scott (2019), and Ermawati (2020) opined that increasing responsibility, fostering openness, and matching resource allocation to desired results are techniques that help to increase budget compliance.

Well-established legal and administrative frameworks governing budgetary processes are commonly found in advanced economies (Mattei et al., 2022). These frameworks specify roles, duties, and protocols for developing, approving, implementing, and overseeing budgets. Strong institutional frameworks and well-defined standards offer a disciplined foundation for financial management and responsibility, which enhances budget compliance. Similarly, advanced economies provide insightful information about strategies and best practices for accomplishing budget compliance. For example, performance-based budgeting is frequently used to improve accountability and match resource allocation with intended results. Advanced economies also place a strong emphasis on technology-enabled financial management, effective internal controls, and ongoing assessment and improvement (Kuntadi & Velayati, 2022). To increase budget compliance, these procedures can be modified and customized for the Nigerian environment. Furthermore, Kuntadi et al. (2022) stated that when it comes to budget compliance, advanced economies place a strong emphasis on accountability and openness. The author goes on to say that these economies place a high value on information accessibility, public involvement, and impartial oversight. Budget compliance can be fostered by the implementation of measures such as performance audits, open budget initiatives, and public expenditure tracking surveys, which can improve accountability and openness.

Drury (2021) enumerated the roles of budgeting to include planning annual operations, coordinating the organization's activities, communicating plans, motivating managers, controlling activities, and evaluating managers' performance. However, in most developing countries, including Nigeria, accounting practices and budget implementation have not always been followed exactly as stated (Ejumudo & Ejumudo, 2020). As a result, their Public Expenditure Management (PEM) systems have had detrimental effects that are usually underestimated (Ajibolade & Oboh, 2017). It has been observed that the absence of timely and accurate revenue and spending data necessary for budget planning, monitoring, control, and reporting has negatively impacted budget management and compliance. Because of this, there has been little control over the use of government resources, which frequently results in resource misallocation and jeopardizes the effectiveness and efficiency of service delivery. Furthermore, revenue generation is a major factor in budget compliance in the Nigerian setting. Previous studies such as Ejumudo et al. (2020) opined that budget compliance may be impacted by the trend in revenue received, changes in oil prices (which act as a baseline for the budget), and the nation's political stability. Additionally, as found by Ekhator and Chima (2015), corruption levels have a direct impact on budget compliance. Excessive levels of corruption might make it more difficult to use financial resources wisely and to follow rules and regulations.

According to Jipa and Kusumastuti (2024), Gross Domestic Product (GDP) represents the monetary value of all finished goods and services produced within a country's borders over a specified time period, typically measured annually. It reflects the final value of production within the country's geographical boundaries during the given period. The crude oil price refers to the spot price of a barrel of benchmark crude oil, which serves as a reference for transactions between buyers and sellers. Common benchmarks include Brent crude and the OPEC reference basket. Revenue, on the other hand, is the total income generated from the sale of goods and services during a specific time period. These variables, along with others, form the key components of the study.

A budget is a crucial management tool for every kind of organization. Abdulai (2020) concluded that in order to accomplish organizational goals, it is a technique for organizing and managing the use of limited financial resources. Every organization's management control approach is built on budgeting. Ejumudo et al. (2020) opined that budgeting is typically thought of as a typical accounting instrument that businesses employ to carry out their plans. Similarly, Kazeem et al. (2019) asserted that budgeting serves the dual purposes of giving aims and plans a financial value, facilitating easy measurement of success, and converting abstract strategic concepts into comprehensible operational activities. Budgeting and budgetary control systems have been discovered to be a panacea to the challenges of poor performance of public sectors in Nigeria, Ariyo-Edu and Woli-Jimoh (2024). The authors further stated that government needs to improve with overspending, inefficient use of resources, and opaque financial reporting, even after many reforms and measures to strengthen fiscal discipline and transparency. Ajibola et al. (2024) opined that Nigeria has had tremendous difficulties in the past few years in handling its public finances due to inefficiency, corruption, and insufficient budgetary constraints. The authors further stated that these concerns have made it more difficult to carry out development initiatives and have worsened socioeconomic problems in the nation, such as poverty, inadequate infrastructure, and unstable economic conditions.

The way politicians handle public financial management (PFM) determines whether a budget goal is met. Nandelenga and Ellyne (2020) opined that PFM is the body of laws, regulations, procedures, and systems that sovereign states (as well as subnational governments) employ to raise money, distribute it, carry out public spending, account for it, and conduct audits. An effective state's institutional framework must include a robust PFM system. Growth and the efficient provision of public services are directly linked to each other. Nations possessing robust, transparent, and accountable PFM systems typically have more equitable and efficient PFM systems as well as more efficient and fair market regulation. As opined by Drury (2021), all budget systems include processes for management, control, and planning. Thus, for a budget to be fully implemented in a public organization, three main goals must be met, which are: overall fiscal discipline that is accurate revenue projections and successful revenue collection; revenue instruments that comply with governmental policies; and effective revenue administration. In addition, Ayapere and Orueze (2015) concurred that reporting revenue and other government financial operations to Parliament is another efficient method of keeping an eye on budget implementation activities. This implies that the legislative branch of government is tasked with examining and endorsing the executive's draft budget and examining the reports and accounts at the end of the fiscal year. Furthermore, Parliament might carry out its oversight functions at different phases of the PFM cycle.

The way politicians handle public financial management (PFM) determines whether a budget goal is met. Nandelenga and Ellyne (2020) opined that PFM is the body of laws, regulations, procedures, and systems that sovereign states (as well as subnational governments) employ to raise money, distribute it, carry out public spending, account for it, and conduct audits. An effective state's institutional framework

must include a robust PFM system. Growth and the efficient provision of public services are directly linked to each other. Nations possessing robust, transparent, and accountable PFM systems typically have more equitable and efficient PFM systems as well as more efficient and fair market regulation. As opined by Drury (2021), all budget systems include processes for management, control, and planning. Thus, for a budget to be fully implemented in a public organization, three main goals must be met, which are: overall fiscal discipline that is accurate revenue projections and successful revenue collection; revenue instruments that comply with governmental policies; and effective revenue administration. In addition, Ayapere and Orueze (2015) concurred that reporting revenue and other government financial operations to Parliament is another efficient method of keeping an eye on budget implementation activities. This implies that the legislative branch of government is tasked with examining and endorsing the executive's draft budget and examining the reports and accounts at the end of the fiscal year. Furthermore, Parliament might carry out its oversight functions at different phases of the PFM cycle.

Based on the researchers' review of the literature, there is no study on budget compliance and budget variance in developing nations such as Nigeria; however, in the UK, Lapsley, (2010) explained the phenomenon of budget setting in political coalitions and minority governments by drawing on ideas of negotiated order (Strauss) and circuits of power (Clegg) and focusing on the activities of the Scottish parliament.

This current study differs from other studies because it examines the difference between the total amount budgeted expenditure and the total amount of actual expenditure, which is known as the variance, the political stability, crude oil price, the type of government, and the year of election. These are the gaps for this study. It also used the principal-agent theory, emphasizing that incomplete contracts and agent opportunism are common challenges in PFM. Martin, cited in Khan and Hildreth (2004), raised the issues of incomplete contracts and agent opportunism. There are weaknesses of prior studies, particularly in developing countries such as Nigeria. For example, Ejumudo and Ejumudo (2020) focus mainly on the problematic issue concerning budget implementation without looking at the variance and other determinants such as corruption, political stability, crude oil price and type of government.

Consequently, this current paper seeks to make the following contributions to the existing literature: firstly, corruption, political stability, and type of government hinder the difference between total amount of budgeted expenditure and the total amount of actual expenditure (variance); these three variables reduce the variance; however, Gross Domestic Product (GDP), which is a control variable, has a positive significant relationship with variance and increases variance. Secondly, this paper indicates that corruption and crude oil prices show a negative effect on actual total expenditure. This report suggests that corruption and crude oil prices reduce the total expenditure.

The motivation for this study is that, although the federal government budgets and allocates a certain amount for capital and recurrent expenditure to different Ministries, Departments, and Agencies each year, this does not have any impact in the daily lives of average citizen. Is this because the budget compliance does not followed? In light of the above, we examine budget compliance in the Federal public sector in Nigeria. the following objectives are derived: to examine the trend in revenue generated, the oil price from the international market, which is the benchmark for the budget each year, the political stability, the type of government (military or civilian), corruption, the year of election, and the Gross Domestic Product (GDP) on difference between the total amount budgeted expenditure and the total amount of actual expenditure which is known as the variance. We focus on Nigeria because is one of the countries in the Sub-Saharan Africa with strong economy and largest market.

The remainder of the study is as follows: Section two outlines reform in the budgeting system of the public sector, while section three presents the theoretical framework. Section four discusses the empirical review and development of hypotheses. Section five details the research design. Section six reports the empirical findings and discussion, whilst section seven presents a brief conclusion, including the implications, limitation and future research avenue for this study.

2. Reforms in budgeting system of the public sector

In Nigeria, budget reforms have been one of the cardinal areas of public service that have been pursued since the return of democracy in 1999. These include the introduction of the Medium-Term Expenditure Framework (MTEF) in 2005, the Fiscal Responsibility Act of 2007, and the introduction of the Integrated Payroll and Personnel Information System (IPPIS) (BOF, 2023). These reforms were introduced principally to identify and eliminate wasteful spending and thus improve resource management with the aim of optimizing the government's budget efficiencies.

These reforms focused attention on five major areas, which include administrative procedures, budget preparation, management of government spending, budget implementation, and budget monitoring and evaluation. The purpose of these reforms is to reduce the cost of governance, enhance the management of resources through drastic reductions in extravagances, increase the level of productivity and efficiency, and ensure budget discipline (Ben-Caleb et al., 2014). The Medium-Term Expenditure Framework (MTEF) entails an annual budgeting system in which budget decisions in relation to new projects and programs are made at every budget preparation session based on three-year fiscal scenarios. The aim is to ensure that projects financed for the next three years will be approved under the annual budget system, consistent with the baseline budgeting approach. Each annual budget thus aligns with the MTEF and provides Ministries, Departments, and Agencies (MDAs) with a hard budget constraint for them to manipulate (BOF, 2023). The Fiscal Responsibility Act (FRA) was designed to ensure prudent management of national resources, which is consistent with Section 16 of the 1999 Constitution (Ben-Caleb et al., 2014).

In order to function effectively, the FRA set up the Fiscal Responsibility Commission, which is empowered to follow the guidelines stipulated in the FRA. The FRA provides guidelines with respect to the MTEF, the basis of the annual budget, budgetary planning of corporations and other related agencies, budgetary execution and achievement of targets, public revenue and expenditure, framework for debt management, conditions of borrowing, issues of transparency and accountability, and enforcement of the act (Ministry of Finance 2023). Notable features of the FRA show that the MTEF shall contain macroeconomic projections for the next three years, an expenditure and revenue framework, and a federal strategy paper that includes the federal government's medium-term financial objectives and policies relating to taxation, recurrent expenditure, debt expenditure, borrowings, and capital expenditure. Part of it reads that "aggregate expenditure and the aggregate amount appropriated by the National Assembly for each financial year shall not be more than the estimated aggregate revenue plus a deficit, not exceeding three percent of the estimated gross domestic product or any sustainable percentage as may be determined by the National Assembly for each financial year." Also, the annual budget must be derived from the MTEF (Ministry of Finance, 2023; BOF, 2023).

In addition, the Integrated Payroll and Personnel Information System (IPPIS), which was conceptualized as one of its reform programs, was rolled out in 2006 and aimed at improving the effectiveness and efficiency of the storage of personnel records and the administration of monthly payroll. It is a centralized platform that houses the monthly payment plan of every federal government

worker (Folorunso & Simeon, 2021). Seven pilot MDAs were used to study its effectiveness, and 23,000 ghost workers were discovered in 2006. As of 2009, eleven additional MDAs were brought on board, while as of 2018, 490 MDAs have been enrolled, with a total staff strength of over 700,000 employees (Folorunso & Simeon, 2021).

Furthermore, the Government Integrated Financial Management Information System (GIFMIS) was introduced in 2012 during the tenure of President Goodluck Jonathan to enhance the effectiveness of government financial activities. The GIFMIS sought to implement a computerized financial management information system that is efficient, effective, and helps to increase the ability of the government to execute internal control, monitor expenditures and receipts in the MDAs, and access information on its financial and operational performance. The GIFMIS kicked off with 93 pilot MDAs, which increased to 105 in 2020 (BOF, 2023).

Under the Muhammadu Buhari administration between 2015 and 2023, the Treasury Single Account (TSA), a strategic budget implementation reform that was introduced by the Jonathan administration in 2012, was implemented. The TSA is programmed to ensure that the federal government has only one central account domiciled with the Central Bank of Nigeria (CBN), where all payments are made from the single account by MDAs and revenues from them and the people at large are remitted. The TSA ensures that no other government agency operates bank accounts outside the oversight of the Treasury, and it thus ensures effective aggregate control over government cash balances (BOF, 2023).

Moreover, one of the most prominent reforms in 2023 was the increased emphasis on performance-based budgeting (PBB). This approach ties government expenditures to measurable outcomes and performance indicators. Under PBB, ministries, departments, and agencies (MDAs) are required to set clear targets and provide justification for their budget allocations based on the expected outcomes of their programs. The Nigerian government introduced more stringent monitoring frameworks in 2023 to ensure that expenditures were aligned with the achievement of these performance targets. The Ministry of Finance worked closely with the National Assembly and the Budget Office of the Federation to ensure that these performance indicators were reviewed and tracked regularly (Ministry of Finance, 2023). According to reports from the Budget Office, PBB helped improve resource allocation in sectors like health, education, and infrastructure, although challenges in data collection and analysis hampered its full implementation. Other reforms include continuing implementation of the Medium-Term Expenditure Framework (MTEF) and Open Government Partnership (OGP). This initiative aims to promote citizen participation and transparency in government budgeting by providing open access to budget data and allowing public input. In addition, civil society organizations and technology-driven platforms, such as BudgIT and Tracka, played significant roles in tracking government spending and raising awareness about budgetary allocations and projects. Reforms to the Public Procurement Act continued in 2023, and alongside procurement reforms, the Fiscal Responsibility Act (FRA) continued to guide government borrowing and expenditure, ensuring fiscal prudence (BOF, 2023, BudgIT 2023 & Bureau of Public Procurement 2023).

Furthermore, sustainability-focused budgeting, which is in line with global trends, was also introduced measures in 2023 in order to integrate sustainability into the budget process; the government began incorporating climate-sensitive budgeting, particularly in sectors such as agriculture, energy, and infrastructure; this aimed to address Nigeria's vulnerability to climate change, ensuring that public investments contribute to environmental resilience (BOF, 2023). The adoption of digitalization and the Integrated Financial Management Information System (IFMIS), a continuous process of using digital tools to manage public finances, was further strengthened in 2023 (BOF, 2023).

3. Theoretical framework

The theoretical framework of this study is based on several prior studies that concern budget compliance, implementation, and evaluation of budgets. Public expenditure management theories explain the behavior of the budget process. Transaction cost theory, in view of North (1990), clarifies that policy is fundamentally an agreement on expenditures made by elected politicians, the organization tasked with directing budgetary procedures, and the spending agency. This implies that the process of determining spending policy involves transaction costs. To guarantee the efficient and effective use of public funds, it is crucial to reduce transaction costs in the management of public expenditures. The principal-agent theory emphasizes that incomplete contracts and agent opportunism are common challenges in PFM. Martin, cited in Khan and Hildreth (2004), raised the issues of incomplete contracts and agent opportunism. Incomplete contracts refer to contracts that lack sufficient precision and specificity to cover all service delivery contingencies. Agent opportunism occurs when contractors pursue their interests rather than the interests of the government. These challenges can lead to lower-quality services, reduced efficiency, and increased transaction costs. Similarly, Ariyo-Edu et al. (2024) revealed that the public sector budgeting occurred as a contract between the principal and the agents, where the minister or any political appointee in the executive arm of government is known as the principal, and they are responsible for driving the civil servants who are the agents of government. Thus, the argument of this theory is in line with this study, where the principal is the executive arm of government and the agents are civil servants who perform the tasks on behalf of the government.

In another study, Ajibola et al. (2024) claimed that Keynesian theory of fiscal policy posited by Keynes (1936), zero-based budgetary (ZBB) theory introduced by Pyhrr (1970), and performance-based budget theory by Robbin (1998). The authors found that Keynes theory of fiscal policy recommended that the government should use fiscal policy, particularly taxation and spending, to ensure the economy is stable. In addition, the authors also believed that during times of economic challenges, the government could introduce more spending to stimulate demand. Furthermore, Keynesian economic theory also believed that government intervention through fiscal policy, such as deficit spending, can increase economic growth during a period of economic challenges. Similarly, zero-based budgetary theory ensures that each budget item is from the beginning of the year, and this theory is also based on the advantage that they can derive from it. It also needs to involve all government programs and activities to support their budget from the early stage and also focus on the need and the cost. The authors also opined that performance-based budget control must have a relationship with budget allocation to a particular program outcome and their performance. The aim of these theories is to ensure improvement in accountability and transparency.

Other theories that supported this study are the ones reviewed by Khoor et al. (2024). The study was based on a cultural dimension that was propounded by Hofstede in 1980. The theory explains that there is a relationship between cultural and business environments by introducing four cultural dimensions such as power distance, uncertainty avoidance, individualism, and masculinity and indulgence. The two new dimensions, such as long-term orientation and indulgence, are an addition to provide a more understanding of different cultures. The budget reforms that took place in Nigeria at different times in Nigeria make this theory related to this study. In addition, Khoor (2024) explained that pyramid theory ascertains that the idea of differences in organizational environment and motivation can affect the performance of the budget and compliance. The measurement through the evaluation of horizontally as well as vertically across the pyramid level, which is more complicated in the public sector organization

due to bureaucracy, may hide budget compliance. While the bottom level of the pyramid is to enhance the delivery and performance at a short time period and reduce waste.

4. Empirical Literature review and hypotheses development

4.1 Budget compliance and variance

Variance refers to the difference between the budgeted or planned amount of a certain expense or revenue and the actual amount incurred or earned. It can be favorable or unfavorable. While budget compliance refers to the degree to which spending or revenue generation aligns with the pre-approved budget. It's about sticking to the budgeted figures and adhering to financial plans without exceeding limits. A distinction between the dua is necessary for conceptual clarification. Moreover, quite a number of scholars have studied the area of budgeting systems, for instance. Jipa and Kusumastuti (2024) explored the influence of budgetary planning, budget clarity, reporting structures, and internal control systems on performance accountability in public organizations. Their study emphasized the significance of clear budgeting processes and efficient reporting systems in reducing budget variance and ensuring compliance. Strong internal controls were found to minimize discrepancies between planned and actual expenditure, which leads to improved accountability. Their findings indicate that proper budget clarity and well-defined reporting structures enhance transparency, making it easier for organizations to identify and rectify variances. Additionally, internal control systems act as safeguards against financial mismanagement and ensure that performance goals align with the budget.

The study also highlighted that poor budget clarity and weak reporting structures often lead to non-compliance with fiscal rules, resulting in significant variances. By strengthening these elements, organizations can achieve greater performance accountability, which ultimately leads to more efficient budget execution and reduces the likelihood of unplanned variances.

Susilawati, Sari, Wahyudi, and Hayati (2023) discussed the budget performance in Indonesian universities within a performance-based budgeting framework. Their research examined budget variance caused by a lack of clarity in budget implementation, especially during the COVID-19 pandemic, which impacted service expenditure. The findings suggest that budget performance is tied to how well the budget aligns with the organization's goals, and a lack of transparency or poor planning leads to significant variances.

In their study on non-tax state revenues (NTSRs), Halim, Sari, and Sofyani (2024) addressed how non-compliance and dysfunctional behavior contribute to budget variance in Indonesian ministries and agencies. The research found that compliance with fiscal rules and budgeting clarity play a key role in reducing variance. However, political factors, poor supervision, and inadequate capacity to implement clear budget guidelines exacerbate variance issues. The study emphasizes the need for stricter adherence to budget planning processes and increased supervision to improve compliance and reduce unplanned budgetary outcomes.

Jipa and Kusumastuti (2024) particularly stress that enhancing budget clarity and improving internal controls contribute significantly to reducing budget variance and improving performance accountability. Other studies reinforce this by showing how non-compliance and weak fiscal monitoring can exacerbate budget discrepancies. Together, these insights suggest that effective fiscal management requires both stringent compliance with fiscal rules and the implementation of clear, transparent budgeting processes.

In addition, Ejumudo et al. (2020) posited that there is a significant relationship between the politics of accommodation, poor commitment, compromised budget monitoring, the culture of corruption, and budget implementation in Delta State. Also, Nandelenga et al. (2020) revealed that the average budget compliance rate is around 54 percent and that there is significant heterogeneity among both individual rules and national compliance rates in twenty sub-Saharan African countries. Moreover, Adejumo et al. (2021) analyzed the budget variance in Nigeria and concluded that revenue generation had a significant effect on the variance; however, the study did not investigate the relationship between revenue trends and the variance. Similarly, Ajibola et al. (2024) found that government revenue budget variance analysis has a positive and significant effect on public funds in Nigeria.

H1: There is a positive significant relationship between *the budget compliance and variance.*

4.2 Budget compliance and expenditure

Across these studies, budget variance and expenditure patterns emerge as critical indicators of financial management efficiency in both public and private institutions. The research collectively points to common themes such as the impact of external factors (e.g., pandemics, political influences) and internal inefficiencies (e.g., budgeting practices, dysfunctional behavior) on budget variance Susilawati, Sari, Wahyudi, and Hayati (2023). The studies underscore the importance of strategic and transparent budget planning and suggest that addressing variance requires both a top-down and bottom-up approach in organizations and government agencies alike. Understanding the interplay between revenue instability, expenditure control, and compliance with fiscal rules can help mitigate the negative consequences of budget variances on overall financial health. The many authors that studied the budgeting system in the public sector globally, including Susilawati, Sari, Wahyudi, and Hayati (2023), explored budget variance and expenditure patterns within the context of a performance-based budgeting system in Indonesian universities. The study highlighted that budget performance serves as a critical benchmark for organizational success. Specifically, the research examined the variance, harmony, and growth of service spending at the University of Surabaya (UNESA) and found that the budget performance had deteriorated due to the impact of the COVID-19 pandemic between 2019 and 2020. The study emphasized the importance of evaluating budgeting strategies to ensure alignment with organizational goals, particularly in ensuring efficiency, fairness, and transparency in budget allocations. Their findings suggest that addressing variances through strategic budgeting improvements can help institutions better achieve their missions.

Moreover, Halim, Sari, and Sofyani (2024) investigated the budget variances in the context of non-tax state revenues (NTSRs) within Indonesian ministries and agencies. Their research discovered that budget variance often arises from both controlled and uncontrolled factors. Uncontrolled factors include externalities, political factors, and unexpected demands, while controlled factors include budgeting inefficiencies, such as budgetary slack, cherry-picking, and myopia. Their study also identified regulatory changes and a lack of capacity as contributing factors. These findings reveal the complexity of managing NTSR budgets, particularly in the context of dysfunctional behaviors that exacerbate budget variance. The study contributes to the literature by addressing how government agencies in developing nations face agency problems and budget control issues, adding a critical perspective on revenue management and expenditure dilemmas.

In addition, Muhammad, Chaudhry, Syed, and Saeed (2023) revealed the implications of instability in government revenues and expenditures for Pakistan's budget deficit. Using the Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model, the authors found that volatility in government revenues and expenditures had a significant effect on the budget deficit. In particular,

factors like a lack of government oversight on public expenditure, debt servicing, and inflation contribute to the budget deficit. Meanwhile, increased government revenues and GDP growth mitigate the deficit. This study underscores the importance of managing both revenue and expenditure stability to control fiscal deficits, providing insights into how government spending patterns influence fiscal health.

In a broader study on fiscal rules and budget compliance, Ulloa-Suárez (2023) explored the determinants of compliance with fiscal rules and their effect on budget variance and expenditure. The study identified misplaced efforts, such as inefficient monitoring and hidden motivations like political interests, as significant barriers to fiscal compliance. The research highlighted the importance of transparency and accountability in budgetary processes, which can help in controlling variance and ensuring proper expenditure management. Ulloa-Suárez's analysis reflects on how fiscal policies and institutional mechanisms shape budgetary outcomes in the public sector. Moreover, Ajibola et.al (2024) examined the relationship between budgetary control and government financial management in Nigeria using empirical analysis the authors revealed that government revenue budget variance analysis has a positive significant relationship on government funds, while government revenue budgets also have a positive significant effect with financial health of the government.

Khoo (2024) evaluated the effect of budgeting processes such as budget participation, preparation, implementation, and evaluation on the budget performance of the government using a cross-sectional survey administered to the budget officers from different Ministries, Departments, and Agencies (MDAs) in Malaysia. The findings show that budget participation, budget implementation, and budget evaluation are having a strong and significant influence on budget performance. Masu-Gombe and Alkali (2024) studied the impact of revenue on budget implementation in Nigeria with particular reference to the Federal Capital Territory Administration and found that actual recurrent revenue receipt has a positive and significant impact on actual total expenditure.

Udoh et al. (2023) examined the effect of budgeting on economic development in Nigeria. The study made use of an ex post facto research design, and secondary data were obtained from the CBN statistical bulletin, and multiple regressing and correlation analysis were adopted to analyze the data. The findings of the study revealed a low positive and statistically significant effect of public capital expenditure (CAXP) on per capita income. Furthermore, Ikilidih et al. (2024) investigated the effect of budget implementation on Nigeria's economic development using annual time-series data from 2010 to 2023 and found that all the budget implementation variables have positive and statistically significant effects on Nigeria's economic development.

H2: There is a positive significant relationship between budget compliance and actual total expenditure.

5. Research design

This research is a form of epistemological and deductive research that is subject to empirical investigation. This study used an ex post facto research design because the data was already available and beyond the researchers' control. The data was gathered from secondary sources which include the following variables: revenue, the corruption index, the GDP, the year of the election, the type of government (military or civilian), political stability, and variance—the difference between budgeted and actual amount of total expenditure. The Data were secondary data from the National Bureau of Statistics (NBS) in Abuja and the Central Bank of Nigeria (CBN), and the World Bank.

Quantitative data was used to ascertain the research objectives and test the hypothesis. The study has both dependent and independent variables. The dependent variables are the difference between budgeted expenditure and actual amount of total expenditure (variance) this is expressed in percentage and the total expenditure. The independent variables include trends in revenue, GDP, political stability, the type of government (military or civilian), corruption, and the year of the election. The regression model was formulated in order to answer the research questions and test the hypothesis.

Table 1: Definition and measurement of budget compliance variables

Variables	Definition of Variables
Dependent variables:	
Variance	This is measured by the difference between the Total amount Budgeted expenditure and the Total amount actual expenditure
Actual Total Expenditure	This include the sum of recurrent plus capital expenditure
The Independent variables: GDP	Gross Domestic Product
Corruption	Corruption index
Crude oil Price	Crude oil price at the world market
Revenue	Revenue from Non-Oil and Oil sources
Political stability	World data indices concerning political stability
Type of government	Dummy variable = 1 or zero
Year of Election	Dummy variable =1 or zero

Model Specification

Model 1: $Variance_t = \beta0 + + \beta2 Corruption_t + \beta3 Crude\ Oil\ price_t + \beta4 Revenue_t + \beta5 Political\ stability_t + \beta6 Type\ of\ government_t + \beta7 Year\ of\ Election_t + \beta1 GDP_t + eu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)

Model 2: $Actual\ Total\ Expenditure_t = \beta0 + \beta1 GDP_t + \beta2 Corruption_t + \beta3 Crude\ Oil\ price_t + \beta4 Revenue_t + \beta5 Political\ stability_t + \beta6 Type\ of\ government_t + \beta7 Year\ of\ Election_t + \beta1 GDP_t + eu_t \dots\dots\dots\dots(2)

6. Empirical findings and discussion
This section provides the analysis and interpretation of data on assessment of budget compliance in the public sector in Nigeria.

6.1 Descriptive statistic
The descriptive statistics showed the distribution pattern of the data used for the study and this is presented in Table 2.

Table 2: Descriptive statistic of the variables

Variable	Mean	Std. Dev.	Jarque-Bera	Kurtosis
Variance	384732.9	6065540.1	3.06	2.86
GDP	3.24E	1.22E	2.70	1.43
Corruption	1.32	0.56	176.60	14.19
Crude Oil Price	57.82	32.04	1.66	2.01
Type of Govt.	0.88	0.33	40.74	6.80
Revenue	5923.11	3635.12	2.02	1.66
Political Stability	-1.73	0.43	8.23	3.84
Year of Election	0.23	0.43	7.22	2.63

Source: Authors' computation 2024

6.2 Empirical findings

Units Root Co-integration

This test is conducted in order to establish if there is a correlation between several times series in the long term.

Table 3   ADF test (Units root Test) of the variables

Variables	Level	First Difference	Order of Integration
Variance	-4.28**	-5.00***	I(0)
Gross Domestic Product (GDP)	-3.70**	-3.35**	I(1)
Corruption	-3.66	-0.394	I(0)
Crude oil Price	3.67***	-5.07***	I(0)
Revenue	-3.67***	-5.49***	I(I)
Political Stability	-3.77***	-4.62***	I(0)
Type of government	-3.67***	-5.47***	I(0)
Year of Election	-3.74***	-3.59***	I(1)

Source: Authors computation using E-view

The result of the co-integration test for all the series and models is presented in table 4.

83

Table 4: Result of Engle-Granger co-integration test

Variables	Variance Dependent variables (Model 1)	Actual Total Expenditure Dependent variable (Model 2)
Constant (C)	-7.30** 348269.8 (2.10)	1470455 932695.6 (1.58)
GDP	4.60E** 1.61E (2.86)	7.60E* 4.32E (1.76)
Corruption	-426779.5** 151105.0 (-2.82)	-1059574** 404671.8 (-2.62)
Crude Oil Price	-4793.03 5630.91 (-0.85)	-67893.67*** 15080.04 (-4.50)
Political stability	-884444.8** 450607.6 (-1.96)	-486678.7 1206765 (-0.40)
Type of govt.	-822915.3** 429029.2 (-1.92)	-1664303 1148976 (-145)
Revenue	-48.11 77.63 (-0.62)	917.41*** 207.91 (4.41)
Yr. of Election	-256448.7 159589.2 (-1.61)	-48749.99 427393.3 (-11
R-Squared	0.81	0.93
Number of yrs	33	33

** and *** imply significant levels at 5% and 1%, respectively. The numbers with significant levels are coefficient values, and the middle numbers are the standard errors. The numbers in parentheses refer to T-statistics.

In Table 4, Model 1, Column 1, we estimated the effect of corruption, GDP, crude oil price, revenue, political stability, type of government, and year of election on variance (the difference between the total amount of budgeted expenditure and the total amount of actual expenditure). The results of the estimate show that GDP has a significant positive relationship with variance. This finding suggests that the gross domestic product (GDP) increases the variance (the difference between the total amount of budgeted expenditure and the total amount of actual expenditure). The positive and significant relationship between GDP and variance can be economically interpreted as follows: as the GDP increases, it generally indicates higher economic activity and a larger tax base or income base, which in turn leads to an increase in government revenue through non-oil revenue sources such as taxes and oil sources of revenue. As a result, the government may have a greater capacity to undertake projects and spend on public services, resulting in higher government actual expenditure. However, due to factors such as inefficiencies, unforeseen circumstances, or inaccuracies in budgeting, the actual expenditure may

deviate from the budgeted amount of expenditure, leading to a higher variance. However, corruption, political stability, and type of government indicate a significant negative relationship with variance; this report implied that these three variables reduce the difference between the total amount of budgeted expenditure and the total amount of actual expenditure, and this may likely affect the implementation of budget processes. In model 2, column 2, we regressed corruption, GDP, crude oil price, revenue, political stability, type of government, and year of election on actual total expenditure. The result is interned with studies of Halim, et al, (2024). However, this study adopted more indicators such as crude oil price, corruption, GDP and political stability, which made the study more comprehensive than the previous studies.

The results provided that GDP and revenue have a positive effect on actual total expenditure. This is the fulfillment of the much-known Wagner's Law (as public expenditure increases, national income increases), which posited a positive effect of income on the size of government expenditure. Also, revenue has a positive effect on actual expenditure, which is the normal expectation, as revenue provides the wherewithal for financing government expenditure needs, with the only other sources of financing government expenditure being fiscal deficits. We also provide evidence of higher revenue that suggests increases in sources of revenue from non-oil sources such as taxes and from oil sectors. As a result, the government becomes more ambitious in its spending plans, but the execution of those plans may not always align perfectly with initial budget estimates. Moreover, in column 2 of Table 4, corruption and crude oil prices show a negative effect on actual total expenditure. This report suggests that corruption and crude oil prices are reducing the total expenditure. This finding suggests that the oil price is not stable, resulting in a weak economy; however, corruption practices result in higher government spending. This goes in line with Susilawati et al (2023) emphasizes the need for stricter adherence to budget planning processes and increased supervision to improve compliance and reduce unplanned budgetary outcomes.

7. Summary and conclusion

The study provides important insights into how various economic and political factors influence government spending and budget compliance in Nigeria. One of the key conclusions is the positive relationship between GDP and budget variance, actual total expenditure, and recurrent expenditure. As the economy grows, generating more revenue from both oil and non-oil sectors like taxes, the government's ability to spend increases. This, in turn, leads to a higher budget variance, reflecting the difference between what was initially budgeted and what is actually spent. In essence, when the economy is doing well, the government tends to spend more, driven by increased income.

However, the study also highlights the damaging role of corruption. Corruption was found to reduce budget variance and actual expenditure. When corrupt practices are prevalent, government funds are often misused or siphoned off, which leads to lower actual spending than what was budgeted. Corruption distorts fiscal responsibility and reduces the effectiveness of government spending, often resulting in inflated costs and inefficient use of public resources. Another significant finding is the negative impact of fluctuating crude oil prices on government expenditure. Since Nigeria relies heavily on oil revenue, unstable or falling oil prices can severely weaken the economy, restricting the government's ability to spend as planned. This volatility makes it difficult for the government to maintain consistent spending levels, as revenue shortfalls occur when oil prices drop. The study also explores the relationship between political stability and budget management. Interestingly, it concludes that political stability, whether under civilian or military rule, tends to reduce budget variance. When the political environment is stable, there is more fiscal discipline, and the government exercises greater

control over spending. In contrast, political instability can lead to erratic or excessive government spending, increasing the gap between budgeted and actual expenditures. The study reveals that economic growth enhances the government's capacity to spend, but this can be undermined by corruption and the volatility of oil prices. Additionally, political stability contributes to more disciplined and predictable government spending. These findings suggest that Nigeria needs to focus on reducing its dependence on oil, combating corruption, and promoting political stability to improve budget compliance and achieve more effective fiscal management.

The policy implication for this study is that the government should use all the institutions at their disposal to minimize corruption since corruption reduces the variance, actual total expenditure, and total recurrent expenditure. This indicates that corruption practices lead to larger government spending. Also, there is a need for proper enforcement and compliance with rules and laws that will reduce or eliminate corrupt practices in Nigeria. Moreover, there is a need for political stability and the type of government that can promote the budgeting process and the implementation of budgets that can enhance variance in government expenditure through a proper democratic process. The stakeholders in the budget processing should ensure that there is proper budget approval and implementation. The limitation of this study is that the kind of data we used was secondary; there was no data for the moderating effect of public sector governance structures, such as the role of the Federal government's Public Accounts Committee on the link between budgeting and compliance, moderating or mediating variables. Our future research for this study will be an evaluation of the effect of public sector governance structures on budget compliance.

Conflict of Interest: The authors declared that there is no conflict of interest.

References

Abdulai, M.S. (2020). Government of Ghana's Budget: An Assessment of Its Compliance with Fundamental Budgeting Principles. *International Journal of Economics and Management Engineering*, 14 (10), 1018-1036.

Ajibola, I, Ojeme, S S. & Olusegun, A. A. (2024). Budgetary control and public sector financial management in Nigeria *International Journal of Advanced Multidisciplinary Research and Studies*, 4(4), 603-608

Ajibolade, O. S. & Oboh, C.S. (2017). A critical examination of government budgeting and public funds management in Nigeria. *International Journal of Public Leadership*. https://doi.org/10.1108/IJPL-11-2016-0045

Ariyo-Edu, A. A., & Woli-Jimoh, I. A. (2024). Budgeting and budgetary control and public sector performance: A study of public sector in Kwara State, Nigeria. *Fuoye Journal of Finance and Contemporary Issues,* 6(1), 15-30.

Ayapere, P. & Orueze, O. (2015). "Functional Impact of Public Accounts Committee on Public Accountability over Financial Crimes in Nigeria" *Journal of Poverty, Investment and Development*, 8 (1), 53-83

Budget Office of the Federation (2023). "2023 Budget Performance Report

BudgIT (2023). "Tracking Government Expenditure in Nigeria: A Citizen's Guide."

Bureau of Public Procurement (2023). "Public Procurement Reform and E-Procurement Implementation

Drury, C. (2021), Management and Cost Accounting, 11th ed., Cengage Learning, Hampshire

Ejumudo, K.B.O. & Ejumudo, T. B. (2020). The problematic of budget implementation in Nigeria: a study of Delta state government. *RSC,* 12 (1) 38-56.

Ekhator, V. E. & Chima, P. (2015). Budget and Implementation of Public Policy in Nigeria. *British Journal of Economics, Management & Trade,* 10 (3) 1-8.

Ezeoha, A. E., Ifelunini, I. A., & Ezeoha, S. L. (2020). Budget implementation and economic growth in Nigeria: An empirical analysis. Economic and Social Development: Book of Proceedings, 369-379.

Folorunso, O., & Simeon, A. (2021). The Gains and the Pains of Integrated Payroll and Personnel Information Systems (IPPIS) Policy Implementation in Nigeria. *Journal of Human Resource and Sustainability Studies*. https://doi.org/10.4236/jhrss.2021.94035.

Halim, A., Sari, P. D., & Sofyani, H. (2024). Why are the Other Non-Tax State Revenue Budget Variances in Ministries and Agencies in Indonesia Large? Any Dysfunctional Behaviour?. *The Indonesian Journal of Accounting Research*, 27(1), 39-64.

Ikilidih, J. N., Dibua, E. C., & Bainamai, J. N. (2024). Effect of Budget Implementation on Nigeria's Economic Development. *African Journal of Business and Economic Development*. 4 (6), 1-12. DOI: 10.5281/zenodo.12007752

Jipa, E. S., & Kusumastuti, R. (2024). The Influence of Budgetary Planning, Budget Clarity, Reporting Structures, and Internal Control Systems on Performance Accountability. *Jurnal Ekonomi dan Bisnis*, 2(8), 1058-1075

Kazeem, N. Bwala, J. N. & Dunga, S.Y (2019). Constraints to budget implementation in Nigeria. *World Journal of Innovative Research,* 7 (4) 74-80. doi.org/10.31871/WJIR.7.4.31.

Khoor, S. V., A.Rahman, N.H. & M.Kamil, N. L.. (2024). An evaluation of the influence of budgeting processes on budget performance in Malaysia. *Public Administration and Policy,* 27 (1), 31-44.

Kuntadi, C., & Velayati, E. (2022). Factors Affecting the Implementation of Performance-Based Budget. Eduvest-Journal of Universal Studies, 2 (9), 1931-1942.

Lapsley, I. Midwinter, A. Nambiar, T. & Steccolini, I. (2010). Government Budgeting, Power and Negotiated Order. *Management Accounting Research*, 22 16-25.

Martin L. L. (2004). Bridging the gap between contact service delivery and public financial management: Applying theory to practice. In, Khan A. & Hildreth W. B. (Eds.) *Financial management theory in the public sector* (pp.55-70)*.* Westport, CT: Praeger Publisher*s.*

Masu-Gombe, B. & Alkali, A. M. (2024) Impact of revenue on budget implementation in Nigeria: An Appraisal of FCTA. *Lapai Journal of Economics*, 8 (1), 153-164. DOI: https://dx.doi.org/10.4314/lje.v8i1.10

Mattei, A., Santolamazza, F., & Grandis, L. (2022). Budget management in advanced economies: Evidence from a comparative study. International Journal of Public Administration, 45(1), 32-50.

Mattei, G., Santolamazza, V., & Grandis, F. G. (2022). Design of the participatory budget: how to turn citizens into process protagonists. *International Journal of Public Sector Management*, *35* (3), 294-316.

Ministry of Finance (2023). "Fiscal Responsibility and Debt Management in Nigeria: 2023 Update."

Muhammad, M., Chaudhry, M. A., Syed, S. H., & Saeed, M. (2023). Instability of government revenues and expenditures: implications for budget deficit in Pakistan. *Quality & Quantity*, 57(6), 4971-4983.

Nandelenga, M. W. & Ellyne, M. J. (2020). Fiscal rules and the compliance debate: Why do Countries adopt Rules and fail to comply?", *Economic Research Southern Africa working paper 815*

North, D. C. (1990). A transaction cost theory of politics. *Journal of Theoretical Politics*, *2* (4), 355-367.https://doi.org/10.1177/0951692890002004001.

Ogunbayo, B. F., Ohis Aigbavboa, C., Thwala, W. D., & Akinradewo, O. I. (2022). Assessing maintenance budget elements for building maintenance management in Nigerian built environment: A Delphi study. *Built Environment Project and Asset Management*, *12* (4), 649-666.

Ogundipe, A. A., Alege, P. O., & Ogundipe, O. M. (2018). Budget implementation in Nigeria: challenges and way forward. Covenant University Public Lecture Series, 14 (1), 16-31.

Onyiah, I.A. Ezeamama, N.C. Ugwu, J. N. & Mgbodile, C. C (2016). Nigerian budget mplementation and control reforms: Tool for macro-economic growth. *British Journal of Economics, Management & Trade*, (2) 1-13.

Scott, G. K. (2019). Influence of public financial management practices on service delivery: a case of District Assemblies of Ghana. *Journal of public Administration and Governance*, 9 (2), 71-92.

Su, Tsai-tsu (2018). Public budgeting system in Taiwan: Does it lead to better value for money in Value for Money by Podger, Andrew, Wanna, John Chan Hon and Niu Meili.

Susilawati, N., Sari, T. D., Wahyudi, T., & Hayati, M. N. (2023). The Description of University Budget Variance, Equality, and Expenditure Matter Toward Services. In *International Joint Conference on Arts and Humanities 2022 (IJCAH 2022)* (pp. 1566-1575). Atlantis Press.

Udoh, I. I., Chegwe, C. P., Nyema, C. G. & Ndaburoma, G. O. (2023). Empirical analysis of budgeting and economic development in Nigeria. *International Journal of Business,*

Ulloa-Suárez, C. (2023). Determinants of compliance with fiscal rules: Misplaced efforts or hidden motivations?. *European Journal of Political Economy*, 78, 102399.