Original Research Article

BUDGET DEFICIT, BUDGET REFORM INDEX AND MACROECONOMIC PERFORMANCE IN NIGERIA

ABSTRACT

This study examines the relationship between budget deficit, budget reform index and macroeconomic performance in Nigeria between 1981 and 2023. The study adopts the Budget Reform Index (BRI) measure as a proxy for budget reform as against previous work that adopts dummy variable as a measure for BRI. The budget reform index is a more rigorous, comprehensive and quantitative measure; giving credence to this work and value addition. Therefore, the novelty of this work is the introduction of Budget Reform Index which previous studies ignored. The study employed the Auto regressive distributed lag model (ARDL) method to analyze the time series data. The reason for adopting the ARDL is to test for both short run and long run parameters of the models. Findings from the ARDL analysis showed that the impacts of budget deficit on output and employment are positive and significant in the short run and long run periods. In the short run budget deficit increases outputs and employments by 0.003 and 0.0001 per cents respectively while in the long run it raises outputs and employment by 0.096 and 0.008 per cents respectively. Similarly, in the short run, budget reform index increases outputs and employments by 0.032 and 0.004 per cents respectively whereas in the long run it increases outputs and employment by 1.096 and 0.097 per cent respectively.
. Further findings indicated positive and insignificant impacts of budget deficit on current account balance (balance of payments) in both short run and long run. The short run and long run effects of budget reform index is also consistently positive and statistically insignificant. While budget deficit raises the balance of payment position by about 0.62 per cent in the short run, it increases it by about 1.1 per cent in the long run. On the other hand, the fiscal reform index raises the balance of payment position by about 3.55 per cent in the short run and increases it by about 6.19 per cent in the long run but the effect was insignificant in both the short and long run periods. The study recommends that budget reform policies should contain quantifiable expectations/benchmarks to facilitate proper monitoring and evaluation of budget performance. Furthermore, the study calls for fiscal policy and budget administration that encourages improvement in the country's balance of payments position, etc.

Keywords: Budget deficit, Budget reform index; Macroeconomic performance; ARDL; Nigeria.

1. INTRODUCTION

Both advanced and emerging economies rely on fiscal policy for economic growth. By lowering consumption and raising the marginal propensity to save, fiscal policy in developed economies aims to accelerate the rate of capital formation. According to Popa and Codreanu (2010), the primary objective of

fiscal policy in developing countries is to create an equitable distribution of income and redirect resources from unproductive to productive uses.

Macroeconomic stability is achieved through fiscal policy by maintaining aggregate demand during recessions and limiting economic activity during booms. Additionally, more and more economies are using fiscal policy as their primary tool for stability when monetary policy proves ineffective due to deteriorating financial conditions and changes in monetary administration (Spilimbergo, 2008).

The Nigerian government adopted a decentralized and regional budgeting system in 1955, with distinct budgets for the Federal Capital Territory of Lagos as well as the North, West, and East regions. The First National Development Plan of 1962 included more extensions to this budgeting approach. Given the subsequent economic reforms, there seems to be a shift away from the predominantly socialist approach to a mixed system during the era of national plans and the 1986 adoption of the Structural Adjustment Programme (SAP).

The relationship between budget deficit, budget reform, and economic performance, particularly economic growth has been the subject of an ongoing debate with varying findings. Reports for the countries of interest, and Nigeria specifically, include Egwaikhide (1999), Onafowokan and Omoye (2006), Sawyer (2010), Rehinan (2012), Odhiambo, Momanyi, Othuon, and Aila (2013), Akosah (2013), Hassan, Nassar, and Liu, and others. Nkrumah, Orkoh, and Owusu, 2016; Okoye, Evbuomwan, and Modebe, 2016; Kurantin, 2017; Tung, 2018; Sheikh, Saeed, and Qammer, 2015; Sudhipongpracha, 2015).

This study aims to determine whether Nigeria's macroeconomic performance metrics are significantly impacted by the budget deficit and budget reform index in light of the aforementioned discussions.

Evaluating the relationship between budget deficit, budget reform index and macroeconomic performance indicators is the primary goal of this research. The paper is divided into five parts. The second section examines related literatures after this introduction. The third part talks about the methodology. The results and discussion of the findings are presented in Section 4, and the conclusions and recommendations for the future are made in Section five

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2. REVIEW OF LITERATURE

2.1 Conceptual review

In this section we shall be dwelling on the operational definitions of critical terms in this work.

Budget reform

World Bank Reports, 2011 defines budget reforms as making changes to the ways and manner in which a budget is formulated, implemented and evaluated for the purpose of facilitating effectiveness and efficiency of public resources in an economy. Similarly, Ogie (2019), espouses budget reform as any budget policy in a nation that leads such nation to the attainment of improved resource allocation process, better performance of the public sector and fiscal consolidation; which is reduction of budget deficits and restraining debt levels. Therefore, we can infer that, budget reform is about restructuring the process and management of a nation's budgeting system in such a way that it improves a nation's feasibility as a fiscal policy vehicle. This clearly implies that, budget reforms must be linked to budget effectiveness, efficiency and implementation, otherwise such reform might be termed, not to be necessary.

In the same vein, Shand (2018), defined budget reform as a comprehensive policy that emphasizes the need for achieving the macroeconomic objective of fiscal consolidation while seeking to improve micro performance of the economy. He further asserts that, an improvement on the micro performance will assist the budget process in achieving macro objectives. This implies that a budget reform that leads to the achievement of a macro control without necessary attaining micro performance has not performed the complete role of budget reforms. It therefore means that budget reforms should be such that they achieve both macro performance and micro managerial performance i.e. budget deficit optimization and management. In such a situation, economic efficiency, effectiveness, higher quality fiscal consolidation and improved economic performance would be achieved.

Furthermore, the optimization of a budget reform policy in the public sector ensures that a budget performs the same allocative function price plays in the private sector. This implies that a budget reform should be such that it ensures public resource allocation gets to critical sectors that yield best result to economic progress. It therefore means that a reform should not only be qualitative but also quantitative to ensure measurements on whether it meets international best practices and standards to identified critical sectors like education, health, water, sanitation and housing (Abdullahi, 2011).

Finally, although the patterns of the budget reforms may differ, the convergence must always be towards the establishment of a new budgetary process that establishes a multi-year approach, budgetary

devolution and performance management of government ministries, departments and agencies. This is what the Fiscal Responsibility Act, 2007 envisages for the budgeting processes and systems in Nigeria.

Budget Reform Index

In the global economy currently, budget systems have been modernized to deal with the issues of performance, efficiency, economy and not just mere statutory expenditure appropriation or contact expenditure mechanism. This has been illustrated in the shift from the traditional incremental budget systems to a performance and result oriented system. The private and developmental sector began with the adoption of this performance budgeting system and the public sector joined in the trend. The application of this result-oriented system has been applied by different countries in different ways and to varying extent. For instance, Australia, United Kingdom and Sweden have fully implemented annual budgeting and accounting practices that focus on social investment impact and New Zealand fully on performance budgeting. Other countries like Netherlands have adopted impact-oriented budgeting but still maintain modified cash process while OECD countries, Canada and United States have retained a traditional modified cash program budget where performance and results are only included in the explanatory documents associated with the budget process (Obadan, 2013).

. In Nigeria, we are currently moving in line with OECD countries, USA and Canada approach to the modified cash process, zero based budgeting and multi-year pattern.

The Budget reform performance targets adopted by OECD Member countries can be grouped into three categories as set out below (World Bank Reports, 2011). Many countries use more than one target.

i. A ratio, usually expressed as a percentage of GDP or some other indicator of aggregate economic activity. The ratio may relate to the level of public debt, the budget balance or the level of government revenue or expenditure, or a combination of these factors.

ii. A rate of change of budget expenditure based on budget market approach. Here, the common target is zero real growth or the break-even budget point over the stated period. Although the target could also allow some increase or call for a reduction in real expenditure. The break-even budget point tries to measure the effectiveness and efficiency of budget funding on budget activities taking cognizance of lending rate in the economy to the private or public sector in the economy as well as economic growth and social impacts investment.

iii. Sectoral allocation to critical sectors of education, health, water/sanitation/housing sector. An absolute value for the target variable in nominal or cash terms or as component of the budget. Targets

in cash terms can be expressed as either the future level of expenditure or the deficit, or as the amount of desired change from some baseline level.

These targets are also in line with basic IMF budget criteria such as; budgetary cycle, budget tenor, budget allocative efficiency (health, education and water/sanitation/housing sector), budget expenditure structure/mix (government capital expenditure/recurrent expenditure = government current assets/current liabilities), government expenditure/budget deficit growth in tandem with economic growth, budgetary expenditure ceiling, budgetary expenditure/government revenue index. These are global budget reforms index upon which Nigeria budget reforms can be ascertained upon (Easterly and Schmidt-Hebbel, 2014).

Macroeconomic Performance

The pursuit of macroeconomic performance is the responsibility of any government in any political and economic system irrespective of the economic philosophy or potential arrangements of that society. The primary purpose of government is to initiate reforms and policies that will lead to the achievement of basic economic performance goals. These performance goals include achieving equilibrium in economic growth, Balance of Payment (BOP) and employment. Any nation's macroeconomic performance can be assessed in terms of the achievement of these stated economic objectives. The performance objectives can either be long-term or short term viz-a-viz the strategic, medium term or annual budgets. The economic indicators ascertain how well an economy is performing against these economic objectives. For this work, economic performance objectives will cover external balance, employment and economic growth. Balance of Payment (BOP), Employment and Real Gross Domestic Product (RGDP), will be used to ascertain whether these economic performance indicators have improved or deteriorated in terms of external balance, employment and growth. Tracking these indicators will be valuable to this work, since it will assist in assessing whether budget reform intervention has worked or whether the need to redesign new budget policy direction.

2.1.1 **Budget Process in Nigeria**

The budget process in Nigeria is the yearly preparation and approval process of a budget. In Nigeria, budget preparation and approval undergo through three major phases namely: ministerial approval phase, executive council approval phase and legislative approval phase.

(a) The Pre-Treasury Board/ Ministerial Phase: The pre-treasury board stage is the initial stages where pronouncements are issued by the Executive President or Executive Governor for sub-national

government. On this basis, budgeting guidelines are issued by the Ministry of Budget and Planning, in form of call circular sent to all departments, ministries, extra-ministerial departments and agencies, then setting up of a Committee on Advance Proposals.

The Committee which serves as the pre-treasury Board is headed by the Permanent Secretary, Ministry of Budget and Planning or Ministry of Finance, Budget and Planning (at the State Level). The Committee (or Pre-Treasury Board) is given the mandate of appraisal of various budget proposals received viz a viz fund availability. The selected budget approved estimates are given provisional approval by the President and transmitted to the Presidency or Treasury Board (headed by the State Governor).

(b) Executive Council Phase: The budget estimates are presented to the Executive Council for further consideration and approval. Members of the Treasury Board are usually the Nation's President, Vice-President (Governor and Deputy Governor at the State), the Ministers (Commissioners at the State) and Permanent Secretaries of the Ministries of Finance, Works, Establishments and Training, Secretary to the Federal (or State) Government, Head of Service, Auditor-General for the Federation (or State), Accountant-General of the Federation (or State) and Planning and Budgeting Department (at the Federal Government level). The next point of the Draft Estimates is the National Assembly or the State Legislature, in the form of Appropriation Bill.

(c) The National or State House of Assembly/Legislative Phase: The President of Nigeria or State Governor presents his budget speech and budget estimate to the National Assembly (the joint meeting of the two Houses) or House of Assembly at the State Government Level. The meeting is known as the Budget Session. In each of the Houses of the National Assembly, there is a Standing Committee which considers the budget proposals. The National Assembly or the State House of Assembly then approves the budget. In a situation, where there are divergent opinions on some items, the two Houses in the National assembly shall put together a Finance Committee which will harmonize all discrepant views and the resolution of the Finance Committee is final on the differences. The final stage in the legislative phase is the consideration of the budget proposals at a joint session of the two Houses of the National Assembly.

(d) President's/Governor's Assent: The budget is sent back to the President or State Governor for his assent. It subsequently becomes the Appropriation Act. Copies of the approved estimates are printed and distributed to the ministries, extra-ministerial departments and agencies of government.

2.2 Empirical literature

Budget deficit, budget reform and economic growth

In order to ascertain the impact of government deficit spending on GDP, Hassan, Nassar, and Liu (2014) used a time series model with data from 1930 to 2010 on the United States, controlling for inflation, unemployment, and interest rates. The results of the transfer function approach to multivariate time series modeling showed that the US budget deficit and GDP had a negative and significant relationship during the study period, while the control variables had no significant relationship with GDP. Based on these findings, the authors concluded that budget deficits have a major impact on the US economy's performance.

Kumar (2020) analyzed the emerging trends of central government's major deficit indicators viz., fiscal deficit, revenue deficit and primary deficit in Indian economy from 1980-81 to 2015-16. The exponential model has been fitted to the time series data for estimating compound annual growth rate (CAGR) of fiscal indicators. The compound annual growth rate has been estimated for The finding point out that the crisis led to the burgeoning of the government deficit to unsustainable levels and encouraged the government to initiate and adopt economic reforms during the study period 1980-81 to 2002-03 and also ensure that the deficit stood at more reasonable levels. On the other hand, the central government has been more proactive and has undertaken fiscal policy reforms to ensure a steady reduction in deficit indicators of central government leading to a more resilient economy after the implementation of Fiscal Responsibility and Budget Management (FBRM) Act.

The relationship between budget size, budget deficit, and macroeconomic indicators was established by Osuka and Chioma (2014) utilizing time series data from 1981 to 2012 in addition to other variables like inflation, interest rates, and nominal exchange rates. Granger causality analysis of the data showed that there is a unidirectional granger-causality between GDP and budget deficits and budget size, with GDP granger affecting both budget deficit and budget size.

Sheikh, Saeed, and Qammer (2015) used the Autoregressive Distributed Lag Modeling Framework (ARDL) and annual time series data from 1971 to 2010 to investigate whether an authorized budget framework for Pakistan slows down economic growth. According to the study's findings, budget deficits have a detrimental impact on economic growth, whereas years with budget surpluses have a favorable impact.

Using series datasets for GDP and budget deficit in billion takas adjusted for inflation from 1993–1994 to 2015–2016, Hussain and Haque (2017) investigated the long-term relationship between Bangladesh's budget deficit and economic growth. Two sources of data were tested in the study: the World Bank and the Bangladesh Bureau of Statistics (BBS). There is a positive and significant relationship between the budget deficit and GDP growth rate, according to the BBS's VEC analysis results, which supports the Keynesian theory. In contrast, the World Bank's VEC analysis results showed a mildly negative relationship, which supports the neo-classical theory.

Kurantin (2017) examined the impact of budget deficits on Ghana's economic growth using data from 1994 to 2014. Inflation, gross domestic product, real interest rate, gross investment, and real exchange rate were among the variables that were incorporated into the time series model. The findings demonstrated that the ongoing budget deficit has a negative effect on the processes of economic development and growth.

Budget deficit, budget reform and balance of payment

One particular empirical test for Nigeria is the work of Olanipekun (2012), who used ARDL to analyze the relationship between the country's budget deficit and current account balance from 1960 to 2008. The findings of the long-term relationship indicated that there was a relationship between the budget deficit and current account balance, investment, and private savings.

A similar study for Nigeria was carried out by Iyeli and Ovat (2017) to examine the effects of budget deficits on current account disequilibrium in Nigeria. The results also made use of error correction econometric technique benchmarking on the long-run co-integration relationships between budget deficits and current account disequilibrium in Nigeria from 1981-2016. The findings showed that a change in budget deficits by 5 units gives rise to an increase in budget deficits by 696.4 units. The authors therefore concluded that any budget or fiscal policy to revamp or reform the Nigerian balance of payments must necessarily factor in budget deficits among exchange rate and foreign private investments.

Elhendawy (2014) assessed how the budget deficit, current account deficit, and budget policy interacted between 1980 and 2011. According to the results of the error correction estimation, a 10 percent increase in the government budget deficit will lead the current account deficit to increase by 8.7 percent one year later, while also emphasizing itself with a further 7 percent increase in the first lag. strongly in favor of the twin deficit theory.

Emmanuel (2015), using time series observations from secondary data, invalidated the twin deficit hypothesis for Nigeria and found significant relationships between the current account balance and budget deficits for the study period. This was done in light of the effects of budget deficits and budget size on Nigeria's current account balance using time series data from 1970 to 2013. Additionally, the current account balance and budget size revealed a strong positive correlation.

Using regression analysis and data from 1996 to 2012, Saidam (2015) discovered evidence in favor of the Keynesian analysis in the Palestinian territories. According to the analysis, current account deficits rise by US$3.08 million for every US$1 million increase in budget deficits overall.

In order to confirm or refute the Keynesian or Ricardian arguments, Abbassi, Baseri, and Alavi (2015) made an effort to determine how Iran's budget strategy affected the country's budget deficit and current account deficit. Utilizing the Generalized Method of Movement (GMM) technique, the study examined annual time series data from 1981 to 2012. According to the analysis, a unit increase in the budget deficit results in a 0.09 increase in the current account balance, confirming the Keynesian theory that a rise in the budget deficit causes a rise in the current account deficit.

A study was carried out in Pakistan by Wajid et al. (2017) to confirm the connection between the budget, budget deficit, and balance of payments. According to the results of the VECM for Pakistan, the Keynesian thesis is supported because a budget deficit considerably accelerates a trade deficit over the long and short terms.

Budget deficit, budget reform and employment

. Using time series annual data from 1981 to 2014, Okoye, Evbuomwan, and Modebe (2016) aimed to ascertain the connections between Nigeria's fiscal deficits and macroeconomic performance. The results of the vector error correction technique (VECM) demonstrated a substantial negative link between unemployment and the budget deficit, while the results of the causality test specifically indicated a one-way causation running from unemployment to the budget deficit.

From 1986 to 2015, Ayogueze and Anidiobu (2017) evaluated the effect of government budget deficits on Nigeria's unemployment rate. According to the Ordinary Least Square (OLS) econometric approach, Nigeria's unemployment rate was positively but marginally impacted by the budget deficit.

The question of whether Nigeria's fiscal deficit boosts employment was examined by Chinwenduu, Eme, and Otonye (2017). In order to inculcate data, the study employed a vector autoregressive model

(VAR). Nigeria's unemployment rate and budget deficits were positively and significantly correlated, according to the econometric data. In particular, the report claimed that the growing public debt burden makes it difficult to start important new economic initiatives that may create jobs.

Ene (2018) used Vector Error Correction Mechanisms (VECM) to study the employment-budget deficit relationship for Nigeria from 1997 to 2017. The findings showed that Nigeria's unemployment rate was significantly positively impacted by the government's annual deficit. The authors deduced from the data that a higher budget deficit lowers Nigeria's unemployment rate.

2.3 Theoretical framework

Lerner's Theory

The Lerner's theory clearly anticipates how a budget deficit will affect any number of economic performance metrics over the long term. It suggests that the impact of deficit budgeting and budget reforms on economy results is shifting throughout generations. Nonetheless, the axioms assert that while external debt prevents future generations from growing more quickly, internal debt does not burden them. According to Wawire (2016), it sees domestic budget deficit financing as a system of funding in which future generations only owe each other this kind of debt.

According to Lerner's theory, a budget deficit or reform is the intentional alteration of budget expenditure levels in order to achieve national economic objectives like full employment, economic growth, and balance of payments equilibrium, but in a way that can be domestically right. Public debt, often known as government borrowing, is an additional tool for the budget and should only be used when spending actions in the pursuit of these goals create a deficit. Furthermore, it states that the financing deficit's origin, not its magnitude, should be the primary focus of budget reform (Okunrounmu, 2008). Therefore, Lerner's theory concludes that, rather than focusing on the amount of debt, any country should be more aware of the potential influence that any chosen method of financing the budget deficit may have on achieving the country's economic performance goals (Lerner, 2008).

3. METHODOLOGY

Model Specification

In line with Pesaran et al. (2001), we present the Autoregressive Distributed Lag (ARDL) model as follows:

$$\Delta y_t = \alpha + \rho y_{t-1} + \beta_1 deficit_{t-1} + \beta_2 bri_{t-1} + \beta_3 x_{t-1} + \sum_{j=1}^{p} \vartheta_j \Delta y_{t-j} + \sum_{j=0}^{q} \lambda_{1j} \Delta deficit_{t-j} + \sum_{j=0}^{q} \lambda_{2j} \Delta bri_{t-j} + \sum_{j=0}^{q} \varphi_j \Delta x_{t-j} + \varepsilon_t \quad (3.1)$$

$$\Delta gdp_t = \alpha + \rho gdp_{t-1} + \beta_1 deficit_{t-1} + \beta_2 bri_{t-1} + \beta_3 x_{t-1} + \sum_{j=1}^{p} \vartheta_j \Delta gdp_{t-j} + \sum_{j=0}^{q} \lambda_{1j} \Delta deficit_{t-j} + \sum_{j=0}^{q} \lambda_{2j} \Delta bri_{t-j} + \sum_{j=0}^{q} \varphi_j \Delta x_{t-j} + \varepsilon_t \quad (3.2)$$

$$\Delta emp_t = \alpha + \rho emp_{t-1} + \beta_1 deficit_{t-1} + \beta_2 bri_{t-1} + \beta_3 x_{t-1} + \sum_{j=1}^{p} \vartheta_j \Delta emp_{t-j} + \sum_{j=0}^{q} \lambda_{1j} \Delta deficit_{t-j} + \sum_{j=0}^{q} \lambda_{2j} \Delta bri_{t-j} + \sum_{j=0}^{q} \varphi_j \Delta x_{t-j} + \varepsilon_t \quad (3.3)$$

$$\Delta bop_t = \alpha + \rho bop_{t-1} + \beta_1 deficit_{t-1} + \beta_2 bri_{t-1} + \beta_3 x_{t-1} + \sum_{j=1}^{p} \vartheta_j \Delta bop_{t-j} + \sum_{j=0}^{q} \lambda_{1j} \Delta deficit_{t-j} + \sum_{j=0}^{q} \lambda_{2j} \Delta bri_{t-j} + \sum_{j=0}^{q} \varphi_j \Delta x_{t-j} + \varepsilon_t \quad (3.4)$$

The models estimated in Equations 3.1 to 3.4 identify the variables as a combination of stationary and nonstationary series, which are better confronted with the ARDL method. The explanatory variables are the logged series of GDP, employment and BOP ($log(GDP_t)$, $log(emp_t)$ and bop_t in Equations 3.2, 3.3 and 3.4 respectively. $deficit_t$ is the budget deficit variable measured as $deficit_t = 100 * log(rev_t - exp_t)/gdp_t$ such that rev_t is federal government revenue, exp_t is the federal government expenditure, gdp_t is the gross domestic product. bop_t is the balance of payments (BOP) measured as current account balance BRI is the budget reform index and x_t is the vector of control variables.

4. ANALYSIS AND DISCUSSIONS OF RESULTS

4.1 The Role of Budget Reform Index in the nexus between Budget Deficit and Economic Performance Indicators of Output, Employment and Balance of Payment in Nigeria

In Table 1, two components point towards the evidence of Cointegration (i.e. long run relationship) among the variables. The formal Bounds test and the coefficient of error correction (ECT) are two examples. The error correction terms (ρ-1) behave as they should, meaning they are statistically significant, negative, and have absolute values less than 1. Formally, cointegration is always preferred above the null hypothesis of no cointegration in the Bounds tests.

This validates the long-term link, allowing for the estimation and interpretation of both the short- and long-term. Both output and employment are positively and significantly impacted by the budget deficit, as was previously established; however, output is still more affected than employment, and the long-term effects are stronger than the short-term ones. This supports the earlier claim that output is initially impacted by fiscal deficits, which then have an effect on employment. Additionally, the budget reform index has a favorable and significant effect on the two macroeconomic performance indicators throughout the long and short terms. Additionally, output is higher than employment, and the magnitudes are larger over the long term than the short term. Because the analyses were conducted using quarterly data, the coefficient of error correction, ρ-1, shows that less than 1% of the system shocks will be adjusted for in a quarter.

The findings demonstrate the short- and long-term impacts of a budget deficit on the current account balance, or balance of payments. Additionally, the impacts of the budget reform index are continuously positive and statistically insignificant in both the short and long term. It's interesting to see that the long-term impact on the budget deficit and the budget reform index nearly doubles the short-term impact. A budget deficit raises the balance of payments position by roughly 1.1% over the long term, but only by about 0.62% in the short term. On the other hand, the fiscal reform index improves the balance of payments situation over the long term by roughly 6.19% and in the short term by roughly 3.55%. The twin deficit theory for Nigeria is therefore thoroughly established, according to which a larger budget deficit may result in higher current account balances and, hence, a better balance of payments situation for the nation. Korsu (2009),

Javid et al. (2010), Olanipekun (2012), Bukarr (2016), Elhendawu (2014), Saidam (2015), Wajid et al. (2017), and Abbassi, Baseri, and Alavi (2015) are among the earlier studies that established the same for the budget deficit-budget reforms and balance of payments nexus. They also found support for the twin-deficit hypothesis. Our results contrast with those of Aloryto (2016) and Emmanuel (2015), who were unable to demonstrate a significant relationship between Nigeria's current account balance and budget deficit.

Furthermore, because there doesn't seem to be any connection between the two, our findings don't support the triple deficit concept for Nigeria. Remember that the triple deficit hypothesis is a development of the twin deficit thesis, which explains the role of the saving-investment gap in the economy. In a developing nation like Nigeria, the triple deficit hypothesis will arise when the budget deficit and savings gap are contributing to the current account deficit. Since our findings indicate that the savings gap has a statistically insignificant impact both in the short and long term, we may conclude that our research does not support the triple deficit thesis for Nigeria. This finding is not in line with the findings of Rosensweig and Tallman, 2003; Catao and Terrones, 2003; Funke and Nickel, 2006; Zietz and Pemberton, 2011; Hassan, Nassar and Liu, 2014).

Table 1: Budget Deficit, Budget Reform Index and Economic Performance Indicators of Output, Employment and Balance of Payment

	Output model		**Employment model**		**BOP model**	
	Short run	Long run	Short run	Long run	Short run	Long run
Constant	0.1604***	5.5914***	0.0513***	3.5837***	-20.8402	-36.3221
	(0.0285)	(0.3694)	(0.0068)	(0.0571)	(17.1920)	(30.142)
Deficit	0.0027***	0.0958**	0.00011**	0.0076*	0.6174**	1.0761**
	(0.00079)	(0.0373)	(0.00005)	(0.0039)	(0.2837)	(0.4354)
BRI	0.0315***	1.0962***	0.0014***	0.0966**	3.5501*	6.1873*
	(0.0081)	(0.3547)	(0.00047)	(0.0370)	(1.9851)	(3.4352)

Savings	0.0201***	0.6993***	0.0011***	0.0768***	2.4264	4.2289
	(0.0040)	(0.0465)	(0.00022)	(0.0059)	(2.4507)	(4.2982)
ECT (-1)	-0.0287***		-0.0143***		-0.5737***	
	(0.0016)		(0.0004)		(0.1087)	
Bounds test	62.8545***		251.1037***		5.0955***	

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The relationship between budget deficit, budget reform index and Nigeria's macroeconomic performance from 1981 to 2023 was examined in this paper. The study came to the conclusion that while the effects of the budget deficit on employment and output are both positive and significant, as was previously established, the long-term effects are larger than the short-term ones, and output still has a stronger impact than employment. This supports the earlier claim that output is initially impacted by fiscal deficits, which then have an effect on employment. Additionally, the budget reform index has a positive and significant effect on the two macroeconomic performance indicators throughout the long and short terms. Additionally, output is higher than employment, and the magnitudes are larger over the long term than the short term. The findings demonstrate positive and insignificant short- and long-term impacts of a budget deficit on the current account balance, or balance of payments. Additionally, the benefits of the budget reform index are continuously positive and statistically insignificant in both the short and long term. Furthermore, the findings of this study reinforces the Lerner's theory which states how budget deficit or budget reforms will affect a country's macroeconomic performance metrics over the long term. In the case of Nigeria, budget deficit or budget reforms results in significant effects on outputs and employment in the country.

Recommendations

Based on the findings, the study recommended that budget reform plans ought to include measurable benchmarks and objectives in order to enable appropriate budget performance monitoring and assessment. In this regard, the share of capital expenditure to recurrent spending, which should be such that it meets the criteria for a rapid acid test ratio of at least moderate performance, should receive the appropriate attention based on the benchmark of the budget reform index. Effective budgeting should also make sure that there are connections between public debt to budget balances, foreign debt to current account balances, government revenue, and expenditure ceilings. Furthermore, we found that the impacts of fiscal policy variables (budget reform index and budget deficit) are less pronounced on balance of payment which was statistically insignificant in both the short run and long run periods. These may indicate that our growth in Nigeria is not inclusive as found in relevant studies. Hence, we push for fiscal policy and budget administration that encourages improvement in the country's balance of payments position.

Authors' contributions

Author ODE designed the study, performed the statistical analysis wrote the protocol and the first draft of the manuscript, and managed the analyses of the study, while Author EEB conducted the literature searches, read and approved the final manuscript.

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