

Effect of Government Deficit on the Growth of the Nigerian Economy

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Abstract

This study investigates the effects of government deficits on the growth of the Nigerian economy from 1981 to 2022. Government deficits consist of federal, state, local government as well as the quasi-fiscal deficit of the Central Bank of Nigeria represented by the claims of the commercial banks regarding loan guarantees under the Agricultural Credit Guarantee Scheme. Employing the Autoregressive Distributed Lag (ARDL) model, the research captures both short- and long-term effects of government deficits. Findings reveal that state-level deficits have a positive but modest impact on short-run economic growth, reflecting the critical role of state spending in localized development. Conversely, federal deficits do not exhibit significant short-term effects, while local government deficits, particularly when mismanaged, significantly harm macroeconomic stability. Notably, quasi-fiscal deficits of the Central Bank of Nigeria (CBN) show a mixed impact; they positively influence short-run growth but carry potential risks for fiscal sustainability in the long run. The study underscores the pressing need for comprehensive fiscal coordination across all tiers of government to mitigate the adverse effects of deficits. It also highlights the importance of increased transparency in the management of quasi-fiscal activities and a targeted approach to deficit-financed investments, particularly in productive sectors. The study recommends that Nigeria should shift spending toward infrastructure projects, fostering short-term economic output gains while addressing structural weaknesses.

Keywords: Local Deficit, State Deficit, Federal Deficit, Quasi-fiscal Deficit, and Real Output Growth. Effect of Government Deficit on the Growth of the Nigerian Economy

Introduction

Economic growth is fundamental to national development strategies, as it reflects an economy's capacity to generate wealth and improve living standards. For Nigeria, economic growth has historically been a priority for policymakers, yet the trajectory has been fraught with volatility and structural deficiencies. Periods of significant growth have been interspersed with challenges such as high unemployment, inflation, trade deficits, and over-reliance on oil exports (Chinweuba, 2023). These issues underscore the fragility of Nigeria's economic framework. Recent data highlight this instability, with GDP growth fluctuating from 2.2% in 2019 to -1.8% in 2020 due to the COVID-19 pandemic, before rebounding to 3.6% in 2021 (World Bank, 2022). This erratic growth pattern underscores the need for deeper investigation into the factors shaping economic stability in Nigeria. Economic growth, as defined by Todaro and Smith (2020), is the sustained increase in an economy's production of goods and services over time, typically measured by GDP. Barro (1990) adds that growth involves increasing an economy's capacity to produce, resulting in enhanced national wealth. This growth fosters poverty reduction, higher living standards, and job creation. However, Nigeria's economic instability has spotlighted the role of government deficits in shaping economic outcomes. Government deficits, which arise when expenditures exceed revenues, include various types such as fiscal, quasi-fiscal, budgetary, and primary deficits (Abdullah, Azad, & Siddiqua, 2018). Fiscal deficits, resulting from excess government spending over revenues (Biplob, 2019), and quasi-fiscal deficits, stemming from non-budgetary operations of government agencies (Górnicka et al., 2018), are particularly relevant to this study. Awolaja and Esefo (2019) further highlight that all gaps in the annual budget cycle are captured by budget deficits, while primary deficits indicate inadequate revenue to sustain government operations (Chandia & Javid, 2013).

Nigeria's approach to deficit financing reveals a complex pattern aimed at managing economic volatility and fostering growth. In the 1980s and 1990s, fiscal challenges led to the adoption of deficit financing, particularly during the Structural Adjustment Program (SAP) of 1986. Measures such as subsidy removal and borrowing for development projects were introduced to stabilize the economy (Saibu & Alenoghena, 2017; Iyoha & Oriakhi, 2012). Monetized deficits, where the central bank creates money to cover shortfalls, became common during this period, leading to inflation rates peaking at 72.8% in 1995 (Bawa, Abdullahi, & Ibrahim, 2016). Although monetized deficits provided liquidity, they also fueled inflation and eroded purchasing power (Aidan and Greg, 2020). In contrast, non-monetized deficits, financed through domestic and international borrowing, have gained prominence recently, though they increase debt servicing costs and may crowd out private investment (Mwamkonko, 2022; Odedokun, 2015). Economic theories provide diverse perspectives on these phenomena. The Solow-Swan model emphasizes capital accumulation and technological progress (Solow, 1956), while Romer's (1986) endogenous growth theory underscores human capital and innovation. Keynesian theory advocates fiscal intervention to stimulate demand during recessions (Keynes, 1936), whereas Ricardian equivalence posits that deficits prompt savings in anticipation of future taxes (Barro, 1990). Despite extensive theoretical and empirical research, the impact of quasi-fiscal deficits on specific economic indicators in Nigeria, such as inflation, trade deficit, private savings, and net national savings, remains underexplored. This study addresses these gaps, offering insights into the nuanced dynamics of fiscal and quasi-fiscal deficits in Nigeria.

Literature Review

Keynesian Theory

The macroeconomic factors and the budget deficit are positively correlated, according to the Keynesian paradigm, which is in contrast to neoclassical theory's belief that the budget deficit always has a negative impact on economic growth. Emphasizing the multiplicative economic impacts of the government deficit, or the "crowding-in effect", they maintain that the budget deficit has a positive impact on the economy (Hango, 2021). The paradigm also emphasizes how the budget deficit can be used to boost aggregate demand during a recession, which will increase domestic production, aggregate demand, savings, and private investment at any given interest rate (Ewubare & Maeba, 2018). This will have a positive impact on macroeconomic variables. Furthermore, deficit spending is necessary because, in the case of a high marginal propensity to consume, it will boost domestic output and investment in the economy by encouraging more investment from optimistic investors, a phenomenon known as the "crowding in effect" which raises income (Umaru & Gatawa, 2014; & Saleh, 2003). According to Brima and Mansaray-Pearce (2015), the theory suggests that economies should implement anti-cyclical economic settings for budget supervision. This implies that in times of economic recession, the government should run a deficit to boost aggregate demand, while in times of boom, the government should adopt a surplus budgetary policy.

Empirical literature

The effects of government deficits on the growth of the Nigerian economy have yielded mixed findings across studies. Keynesian economists argue that budget deficits foster economic growth by stimulating aggregate demand and encouraging private investment. Supporting this view, Biplob (2019) analyzed Bangladesh's budget deficits from 1981 to 2017 using VECM and ARDL methods. The results revealed that budget deficits positively impacted economic growth in both the short and long term, consistent with the Keynesian theory that deficits crowd in private investment. Similar findings were reported by Abdullah et al. (2018) and Hussain and Haque (2017) for Bangladesh.

Molocwa, Khamfula, and Cheteni (2018) examined the impact of budget deficits on macroeconomic variables in BRICS nations using FMOLS and DOLS estimators with data from 1997–2016. The study found that growing budget deficits positively influenced inflation and economic growth. Similarly, Nwakobi, Echekeba, and Ananwude (2018) demonstrated a positive correlation between fiscal deficits and GDP in Nigeria, highlighting that deficits increase the money supply, supporting growth.

Osoro (2016) observed a positive relationship between Kenya's budget deficits and economic growth from 1980 to 2014, with benefits maximized at an optimal deficit-to-GDP ratio of 3.7%. Magehema (2015) also identified a favorable link between budget deficits and economic progress in East African nations, attributing growth to investments in infrastructure, healthcare, and education. In Nigeria, Ayogoeze and Anidiobu (2017) found that fiscal deficits had a positive but nonsignificant impact on unemployment. Dantama, Gatawa, and Galli (2017) further identified a marginally significant positive relationship between deficits and private investment, suggesting deficits did not exclude private investment during their study period. These findings collectively underscore the potential growth-stimulating effects of government deficits.

Methodology

The ex-post facto research design, is suited for investigating government deficits in Nigeria; it relies on analyzing existing data without experimental manipulation (Shrestha & Bhatta, 2018). Researchers collect secondary data from various sources, including government reports and statistical databases. Key variables like government deficits (fiscal and quasi-fiscal) and real output growth are identified. The data to be used for this research would be collected from the Central Bank of Nigeria (CBN) statistical bulletin. This implies the use of secondary method of data collection. There are two major explanatory variables for this study which are: the fiscal deficit and quasi-fiscal deficit (proxied by the settlement payment by the Central bank of Nigeria of ACGS claims). On the other hand, the dependent variable is real output growth. In applying this theory, the functional form of the model is shown below:

$$\text{Real output Growth Rate} = f(\text{fiscal deficit}, \text{quasi} - \text{fiscal deficit}) \quad (1)$$

$$OUTGR_t = \partial_0 + \partial_1 FEDDEF_t + \partial_2 STADEF_t + \partial_3 LOCDEF_t + \partial_4 QFD_t + \mu_{3t} \quad (2)$$

Where:

$OUTGR_t$ = Real output growth at time t,

$FEDDEF_t$ = Federal government fiscal deficit as a percentage of gross domestic product at time t.,

$STADEF_t$ = State government fiscal deficit as a percentage of gross domestic product at time t.,

$LOCDEF_t$ = local government fiscal deficit as a percentage of gross domestic product at time t.

QFD_t = Quasi-fiscal deficit proxied by claims by the commercial banks at time t to the CBN on loan guarantees of the agricultural credit guarantee scheme (ACGS).,

$\mu_{1t} - \mu_{6t}$ = stochastic (white noise) error term at time t.,

$\partial_1 - \partial_4$ = Coefficient estimates of each explanatory variable.,

∂_0 = the position of the dependent variable given absence of the explanatory variables.

Drawing from a selection of theoretical and empirical reviews, this study employs the Autoregressive Distributed Lag (ARDL) approach, also known as the Bound Testing approach, to cointegration as proposed by Pesaran, Shin, and Smith (2001). Akinola (2017) have also utilized this approach for comparable studies conducted in Nigeria. Additionally, in order to better suit the Nigerian economy, the accepted model was slightly adjusted to show evidence for both the long- and short-term dynamics between government deficit and real output growth directly in Nigeria.

Table 1 A priori Expectation

Dependent/independent variables	OUTGR
FEDDEF	-/+
STADEF	-/+
LOCDEF	-/+
QFD	-/+

Source: Researchers' Compilation (2024)

Based on the theoretical frameworks like the Keynesian and Neoclassical (crowding out) theory, deficit spending could have both negative and positive relationship with the real output growth.

Data Analysis and Results

Table 2: Descriptive Statistics Results

	Federal (% of GDP)	Deficit (% of GDP)	Local Deficit (% of GDP)	-fiscal Deficit (% of GDP)	Output Growth (%)
Mean	2.51	147.51	-0.01	0.001	3.04
Median	2.41	11.11	0.00	0.000003	3.65
Maximum	8.57	1244.52	0.01	0.002	15.33
Minimum	-0.78	-5.54	0.00	0.00	-13.13
Std. Dev.	1.84	277.97	0.02	0.003	5.39
Skewness	0.82	2.4	-3.06	5.45	-0.82
Kurtosis	4.28	8.27	12.49	33.05	4.62
Jarque-Berra	7.42	86.8	217.88	1745.73	9.07
Probability	0.02	0.00	0.00	0.00	0.01
Observations	41	41	41	41	41

Source: Researchers' computation using E-views 12.

Nigeria's fiscal deficit averages 2.51% of GDP with a standard deviation of 1.84%, reflecting significant variability. The range, from -0.78% to 8.57%, highlights periods of fiscal imbalance driven by dependence on volatile oil revenues. Revenue shortfalls during oil price declines often lead to increased borrowing, exacerbating inflation, currency depreciation, and reduced investment, underscoring the need for revenue diversification. State-level fiscal deficits show an exceptionally high average of 147.51% of GDP, indicating chronic imbalances. A median of 11.11% suggests most states have lower deficits, but a maximum of 1244.52% signals extreme outliers or possible misreporting. Positive skewness (2.40) and high kurtosis (8.27) highlight the influence of a few states with extraordinarily high deficits, while the Jarque-Bera test confirms the non-normality of this distribution. Local governments, on the other hand, exhibit near-balanced budgets with an average deficit of -0.01% of GDP. The median and maximum deficit of -0.00% indicate widespread fiscal neutrality, while the minimum of -0.08% shows small surpluses. However, a significant negative skewness (-3.06) suggests surpluses dominate,

supported by high kurtosis (12.49). The Jarque-Bera test confirms non-normality due to outliers. The quasi-fiscal deficit, primarily claims under the Agricultural Credit Guarantee Scheme, averages 0.0001% of GDP, with minimal variability. While most values are negligible, high skewness (5.45) and kurtosis (33.05) indicate a few large values skew the distribution. The Jarque-Bera test confirms significant deviations from normality. Real output growth averages 3.04%, with fluctuations between -13.13% and 15.33%. Negative skewness (-0.82) indicates pronounced economic contractions, often tied to oil price shocks, emphasizing the urgency for economic diversification to mitigate external vulnerabilities.

Table 3: ADF Unit Root Results

		ADF Critical Value			Model	At Levels
Variables	ADF Test Statistic	1%	5%	10%		Remarks
Dependent Variable						
OUTGR	-4.03	-3.61	-2.94	-2.61	Constant	Stationary
Independent Variables						
FEDDEF	-3.11	-3.6	-2.94	-2.61	Constant	Stationary
LOCDEF	-5.66	-4.95	-4.44	-4.19	Constant	Stationary
QFD	-5.48	-3.6	-2.94	-2.61	Constant	Stationary
STADEF	-2.88	-4.2	-3.52	-3.19	Constant	Non-Stationary
		ADF Critical Value			Integration	At FirstDifference
Variables	st Statistic	1%	5%	10%		Remarks
Explanatory Variable						
STADEF	-5.58	-4.2	-3.52	-3.19	I(1)	Stationary

Source: Researchers' computation using E-views 12.

From the results of the ADF shown above, it can be seen that there is a mixed order of integration among the variables in the model. The result of the T-statistic above shows that OUTGR, FEDDEF, LOCDEF and QFD are stationary at first difference, that is, the variables are integrated of order 1. On the other hand, STADEF is integrated of order 0. This is obviously a mixed order of integration among the variables in the model. This mixed approach according to Shrestha & Bhatta (2018) would justify the use of the ARDL as the model of estimation.

Table 4: Results of the Bound Test

Estimated Model		F-statistics	
OUTGR (OUTGR/feddef, stade, locdef, qfd)		4.59**	
		k=4	
Critical Value		Critical Value (Lower Bound)	Critical Value (Higher Bound)
1%		3.74	5.06
5%		2.86	4.01
2.50%		2.88	3.87
10%		2.45	3.52

Note: Null hypothesis: No level relationship; K = number of regressors; *, ** and *** denote significance at 10%, 5% and 1% level, respectively.

Source: Researchers' Computation using E-views 12.

The result in Table 4 above shows that since the F-statistics value of 4.59 is greater than the 5% level of significance at the higher bound, there is an existence of long-run relationship among the variables in the model.

Table 5: ARDL-ECM Results

Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Short-Run Result				
C	18.67	3.40	5.49	0.00***
D(OUTGR(-1))	-0.59	0.13	-4.50	0.00***
D(FEDDEF)	-0.37	0.35	-1.10	0.31
D(STADEF)	0.05	0.03	1.76	0.10*
D(STADEF(-1))	0.04	0.02	1.84	0.09*
D(LOCDEF)	-13.11	96.96	-0.14	0.89
D(LOCDEF(-1))	-460.71	143.30	-3.21	0.01**
D(QFD)	1.53	0.68	2.25	0.04**
D(QFD(-1))	-0.78	0.55	-1.42	0.18
ECT(-1)	-0.42	0.08	-5.39	0.00***
Long-Run Result				
FEDDEF	-4.45	3.15	-1.42	0.18
STADEF	-0.07	0.08	-0.85	0.41
LOCDEF	765.62	692.51	1.11	0.29
QFD	2.40	2.65	0.90	0.38

R-Squared = 0.74 | Adjusted R-squared = 0.62

Source: Researcher's Computation using E-views 12.

Note: *, ** and *** denote significance at 10%, 5% and 1% level, respectively.

In the long run, FEDDEF (-4.45, $p=0.18$) and STADEF (-0.07, $p=0.41$) remain insignificant, reflecting limited sustained impacts of deficits. LOCDEF exhibits a large positive coefficient (765.62, $p=0.29$), but caution is advised due to potential data issues. QFD's long-term effect is also positive (2.40, $p=0.38$) but weak. The model's R^2 of 0.74 indicates robust explanatory power. Findings suggest federal deficits lack immediate impact, while state spending offers short-term gains without long-term sustainability. Local deficits highlight detrimental fiscal practices, emphasizing the need for efficient deficit management to foster stable growth.

Discussion of the Findings

The findings reveal a complex relationship between government deficits and real output growth in Nigeria, reflecting mixed empirical evidence. Federal deficits (FEDDEF) show no significant short-run impact, contrasting with Keynesian views that deficits stimulate growth via increased aggregate demand. This aligns with studies like Nwakobi et al. (2018), which attribute limited growth effects to inefficiencies in Nigeria's fiscal management. State deficits (STADEF) exhibit a modest positive short-run effect, suggesting targeted spending at state levels can boost local economies. This aligns with Magehema (2015), who highlighted the role of deficits in improving productivity through infrastructure. However, the limited magnitude reflects inefficiencies, echoing Dantama et al. (2017), who found marginal impacts of deficits on private investment. Local government deficits (LOCDEF) show significant negative effects, likely due to fiscal mismanagement and corruption, diverging from Osoro's (2016) findings that optimal deficit management in Kenya supported growth. Quasi-fiscal deficits (QFD) positively impact

growth in the short run, underscoring the role of liquidity injection in sectors like agriculture, aligning with Magehema's (2015) conclusions. However, diminishing long-term effects highlight the importance of efficient implementation, consistent with Dantama et al. (2017). Overall, Nigeria's fiscal deficits exhibit constrained growth impacts due to inefficiencies and structural challenges.

Table 6: Post-estimation Test Results

Type	Hypothesis	Statistic	Value	Conclusion
Normality test	Normal distribution of residuals			Fail to reject H_0
Breusch-Godfrey Correlation LM Test	Serial independence			Fail to reject H_0
Breusch-Pagan -Godfrey test	Heteroscedasticity			Fail to reject H_0
Stability test	Stability Test			Fail to reject H_0

Source: Author's computation from E-views 12 software

The diagnostic tests indicate that the model is well-specified and stable. The Jarque-Bera test for normality yields a p-value of 0.14, indicating that the residuals are normally distributed. The Breusch-Godfrey LM test for autocorrelation yields a p-value of 0.83, suggesting that there is no significant autocorrelation, while the Breusch-Pagan-Godfrey test for heteroscedasticity yields a p-value of 0.83, indicating that there is no evidence of heteroscedasticity in the model. The Ramsey RESET test results, with p-values of 0.51, and 0.34, indicate that the model does not suffer from specification errors.

Conclusion

The study examines the government deficit and economic growth in Nigeria. The findings revealed that strategic deficit spending can boost short-term growth, especially through state and quasi-fiscal activities. However, mismanaged local deficits and unchecked federal spending impede sustainable development. Aligning fiscal coordination, targeting high-growth sectors, and enhancing fiscal oversight can optimize Nigeria's deficit impacts for long-term economic resilience.

Recommendations

Based on the findings, the study recommends the following:

1. The findings highlight varied impacts of deficits on Nigeria's economic output growth. Federal deficits (FEDDEF) exhibit a negative short-run relationship with growth, reflecting a focus on debt servicing over productive investments such as infrastructure. This mirrors inefficiencies in fiscal priorities, limiting growth-stimulating expenditures. Learning from Malaysia, Nigeria should shift spending toward infrastructure projects, fostering short-term economic output gains while addressing structural weaknesses.
2. State deficits (STADEF), by contrast, show a positive short-run effect, indicating the potential of state-level spending to stimulate local economies. Debt-financed projects in states like Lagos and Rivers—such as road construction and healthcare initiatives—have temporarily bolstered job creation and service access. However, high-interest burdens have necessitated loan restructuring, emphasizing the need for sustainable debt management. Drawing from Brazil's example, state governments could align deficit

spending with immediate needs and future growth targets, while maintaining fiscal discipline.

3. Local deficits (LOCDEF) have a highly significant negative impact, underscoring risks tied to fiscal mismanagement and excessive borrowing. Local governments should adopt revenue-generating measures, such as Lagos' property tax model, to reduce reliance on deficits and ensure critical services are funded sustainably.
4. Quasi-fiscal deficits (QFD) provide short-run growth benefits, particularly through agricultural sector funding. Yet, their long-term effectiveness is limited without capacity-building measures. Inspired by South Korea's targeted credit programs, the Central Bank of Nigeria should implement accountability frameworks and prioritize projects with measurable productivity goals, ensuring quasi-fiscal activities contribute sustainably to growth.

Contribution to Knowledge

This study advances knowledge by uniquely dissecting the nuanced impacts of federal, state, local, and quasi-fiscal deficits on Nigeria's economic growth. By integrating empirical findings with tailored global fiscal models, it offers actionable insights for optimizing deficit management, fostering sustainable development, and addressing Nigeria's fiscal challenges within diverse economic contexts.

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