

Fiscal Deficit and Economic Growth in Nigeria

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Abstract

This study examines the effects of fiscal deficits in Nigeria using time series data collected from the Central Bank of Nigeria's Statistical Bulletin and the World Development Indicator, covering a period of 38 years (1982-2020). The study employs the Inflation Rate (INF) as the dependent variable, while budget deficits financed by Domestic Borrowing (DOMB), External Borrowing (EXTB), and Foreign Exchange Reserves (FER) serve as predictor variables. The Augmented Dickey-Fuller (ADF) unit root test and bounds cointegration were used to check the properties of the variables, while the autoregressive distributed lag (ARDL) model was applied for data analysis. The findings indicate that fiscal deficits have a positive but not statistically significant impact on Nigeria's economic growth; external borrowing also shows a positive, though not statistically significant, effect on economic growth; foreign exchange reserves have a positive and statistically significant impact on economic growth; and domestic borrowing continues to have a positive and statistically significant impact on economic growth. Based on these findings, the study recommends, among other things, that the government should focus on improving the efficiency of fiscal spending, ensuring that deficits are targeted towards sectors that will maximize economic returns such as infrastructure, education, and healthcare. It also suggests that external borrowing should be strategically directed towards projects that are likely to generate economic returns sufficient to cover the cost of debt servicing, thereby avoiding unsustainable debt levels.

Keywords: Effects, Fiscal, Deficit, Economic Growth, Nigeria

Introduction

The interplay between fiscal policy and economic growth has garnered significant attention, particularly in emerging economies such as Nigeria. This study aims to delve into the dynamics of fiscal deficits, foreign exchange reserves, and borrowing, and their collective impact on economic growth, measured by real GDP. The choice of these variables is rooted in their pivotal roles in shaping macroeconomic outcomes in Nigeria. The fiscal deficit, defined as the shortfall between government revenue and expenditure, are a double-edged sword. On one hand, they can act as economic stimuli, under the Keynesian framework, by boosting demand and driving growth during downturns (Auerbach & Gorodnichenko, 2012). On the other hand, sustained high deficits can lead to higher debt levels, potentially escalating borrowing costs and crowding out private investment, thereby stifling economic growth (Reinhart & Rogoff, 2010). In Nigeria, the management of fiscal deficits has been a critical issue, with implications for economic stability and growth.

Nigeria's reliance on both domestic and external borrowing to finance its fiscal deficits underscores the importance of understanding the relationship between these financial mechanisms and economic growth. Domestic and external borrowing are significant tools used by the Nigerian government to finance fiscal deficits. Domestic borrowing, while free from foreign exchange risk, can lead to higher interest rates and crowding out of private sector investment if the government absorbs a large share of the available credit (Panizza, et al., 2009). This can stifle entrepreneurial activities and private sector growth, which are critical for sustainable economic development. On the other hand, external borrowing provides access to foreign capital, essential for financing large-scale infrastructure projects. However, excessive external debt can lead to sustainability issues and expose the economy to global financial fluctuations and exchange rate risks (Reinhart & Rogoff, 2010).

Foreign exchange reserves are crucial for Nigeria, given its dependence on oil exports for foreign revenue. These reserves act as a buffer against external shocks and currency volatility. Adequate reserves can enhance economic stability and investor confidence, thereby promoting growth (Aizenman & Marion, 2003). However, fluctuations in oil prices can severely impact these reserves, leading to economic instability. A decline in foreign exchange reserves can result in currency depreciation, inflation, and reduced capacity to manage external debts, all of which negatively affect real GDP (Iyoha, 2004).

The relationship between fiscal deficit and real GDP has been widely debated, with some studies suggesting that fiscal deficits can drive short-term growth through increased public expenditure (Fischer, 1993), others highlight the long-term negative impact due to inefficient fund utilization and high debt servicing costs (Ezeabasili et al., 2012). Moreover, the state of foreign exchange reserves influences the capacity to manage economic shocks and maintain investor confidence, which is crucial for stable GDP growth (Adeoye & Atanda, 2012). Despite various activities done by researchers and authors in the field of study, the problems mentioned above have persisted over time. The researcher's aim in this study is to examine the relationship between fiscal deficit and Nigeria's economic growth, while the specific objectives are to examine the impact of fiscal deficit on real GDP in Nigeria; ascertain the impact of external borrowing on real GDP in Nigeria; determine the impact of domestic borrowing on real GDP in Nigeria; and to examine the impact of foreign exchange reserve on real GDP in Nigeria.

Literature Review

Theoretical Review

The Keynesian theory of fiscal deficits, developed by John Maynard Keynes during the 1930s Great Depression, advocates for active government intervention to stimulate demand during economic downturns. This approach contrasts with classical economics, which favors minimal government involvement. Keynesianism stresses the importance of government spending on public works, social programs, and infrastructure during recessions to boost the economy, create jobs, and lay the foundation for long-term growth. A key concept in Keynesian theory is the multiplier effect, where initial government spending leads to increased consumption and investment, thus magnifying overall economic demand. Keynesians view budget deficits as necessary during downturns, arguing that they stimulate growth and employment, with the deficits offset by future economic growth and higher tax revenues. Keynesian economics also emphasizes reducing unemployment through fiscal policy by increasing aggregate demand, prompting businesses to expand and hire. Keynes advocated for counter-cyclical fiscal policies—saving during booms and spending during recessions—to stabilize economic cycles. Despite its impact, Keynesian theory is critiqued for potentially causing inefficient resource allocation, crowding out private investment, and concerns over long-term debt and the challenges of implementing fiscal stimulus. (cite)

Neoclassical Theory of Fiscal Deficits

The Neoclassical theory of fiscal deficits offers a perspective that contrasts sharply with Keynesian economics, focusing on the potential negative impacts of government deficits. Neoclassical economists emphasize the importance of fiscal discipline and balanced budgets for sustainable economic growth, citing the efficiency of government operations and the risks of excessive spending. A key concern in Neoclassical theory is the crowding-out effect, where heavy government borrowing to finance deficits competes with the private sector for capital, driving up interest rates. This increase in borrowing costs can deter private investment, the primary driver of economic growth in Neoclassical models, potentially leading to reduced productivity and slower growth.

Neoclassical economists also critique government spending for inefficiencies and mismanagement, arguing that resources could be more productively employed by the private sector. They highlight the long-term consequences of fiscal deficits, particularly the burden of debt on future generations, which could necessitate higher taxes, further dampening investment and consumption. Additionally, large fiscal deficits may erode investor confidence, leading to capital flight, currency depreciation,

and economic instability. While recognizing that deficits may be necessary during severe economic crises, Neoclassical economists generally advocate for a swift return to fiscal discipline as recovery begins. Cite

Empirical Review

Momodu and Monogbe (2017) examined the impact of Nigeria's fiscal deficit on economic growth from 1981 and 2015. The collected data were analyzed using VAR and granger causality estimation techniques. The VAR result revealed that the budget deficit has a positive impact on economic growth, and the granger causality result suggested that the budget deficit and economic growth in Nigeria have a bi-directional relationship.

Biplob (2019) investigated the effect of budget deficit on economic growth in Bangladesh over the period of 1981 and 2017 using the autoregressive distributed lag (ARDL) model. The study revealed that the budget deficit promotes economic growth in Bangladesh.

Goher, et al. (2011) researched the impact of fiscal deficit on the economic growth in Pakistan's economy between 1980 and 2009 using the two-stage least squares method (2-SLS) technique. The study revealed that the fiscal deficit deters economic growth in Pakistan. Similarly, Choong, Lau, Liew, and Puah (2010) examined the effect of different types of debts on the economic growth in Malaysia during the period 1970 – 2006. Using Co-integration test, the findings suggest that all components of debts have a negative effect on long run economic growth. The Granger causality test reveals the existence of a short-run causality linkage between all debt measures and economic growth in the short-run.

Ewubare, et al. (2017) explored the influence of public borrowing on growth of the Nigerian economy spanning from 1980-2015. ARDL method of analysis was used. Result indicated that external debt had direct and significant impact on growth. Domestic debt significantly slows down growth in Nigeria both in the long and short runs. Total debt services stock was found to be negative and insignificant to economic growth whereas net foreign direct investment and foreign exchange reserves has influence on economic growth positively and was both significant at 5 percent level.

Fukuda and Kon (2012) using an unbalanced panel of 135 developing countries, examine the effect of foreign exchange reserves accumulation on macroeconomic variables. The results of the study indicate that foreign exchange reserves shorten debt maturity and increase external debt outstanding. Foreign exchange reserves are also expected to negatively impact consumption while enhancing investment and economic growth when the tradeable sector is capital intensive.

Methodology

Research design refers to the courses of action followed by a researcher in the carrying out any empirical investigation. In other words, given that this study relied on secondary time series data, the ex-post facto research design was adopted. The researcher used only a secondary method of data collection in obtaining data for the study. It relied heavily on time-series data from the Central Bank of Nigeria Statistical Bulletin, and World Development Indicators spanning from 1982 to 2020. Keynesian theory of fiscal deficit is employed in this study. To achieve the objective of the study, the Autoregressive Distributed-Lag model is adopted to estimate the macroeconomic performance of the fiscal deficit in Nigeria. The model that would be estimated in the course of this study is stated below:

To capture objectives of this study; the following functional model were developed thus:

$$GRGDP = f(FD, DOMB, EXT B, FER) \quad (1)$$

This equation (1) can be stated as an econometric equation thus:

$$GRGDP_t = \beta_0 + \beta_1 FD_t + \beta_2 DOMB_t + \beta_3 EXTB_t + \beta_4 FER_t + \mu_t \quad (2)$$

Where:

INF = inflation rate

FD = fiscal deficit

DOMB = domestic borrowing

EXTB = External borrowing

FER = foreign exchange reserves

β_0 is the constant or intercept.

β_1 - β_4 , are matrices of coefficient to be estimated

μ_t = stochastic error term. Autoregressive Distributed Lag (ARDL) model of equation (3) is re-specified as below:

$$\Delta INF_t = \alpha_0 + \sum_{i=1}^p \Delta_1 FD_{t-1} + \sum_{i=1}^k \Delta_2 EXTB_{t-1} + \sum_{i=1}^k \Delta_3 DOMB_{t-1} + \sum_{i=1}^k \Delta_4 FER_{t-1} + \Delta_5 \pi ect_{t-1} + \lambda_1 INF_{t-1} + \lambda_2 BD_{t-1} + \lambda_3 EXTB_{t-1} + \lambda_4 DOMB_{t-1} + \lambda_5 FER_{t-1} + \varepsilon_{1t} \quad (3)$$

Where:

α_0 = constant parameter to be estimated

$\alpha_1 - \alpha_5$ = short run parameters

$\lambda_1 - \lambda_5$ = long-run multipliers

p = optimal lag for the dependent variables

k = optimal lag of the independent variables

Δ = first difference operator

ε_{1t} = error term.

Data Analysis, Results, and Discussion of Findings

In this study, the Augmented Dickey Fuller (ADF) unit roots test was employed to test for the time series properties of model variables.

Table1: Unit Root Test

Variables	ADF Level	at Critical value 5%	ADF at 1 st Diff.	Critical value 5%	Order of Integration
GRGDP	-3.8020	-2.9411	NA	NA	I(0)
DOMB	-6.1624	-2.9411	NA	NA	I(0)
EXTB	-1.20145	-2.9434	-3.3374	-2.934	I(1)
FD	3.8020	-2.9411	-3.3756	-2.9434	I(1)
FER	-2.9434	-2.9434	-4.5431	-2.9434	I(1)

Source: Author's Computation (2022) using E-views 10

The results in the Table 1 shows that all variables, except for domestic borrowing (DOMB) and the growth rate of real gross domestic product (GRGDP), are non-stationary in their level forms, as their ADF values are greater than the critical values at 5%. However, at their first difference forms, the other variables were confirmed to be stationary. Thus, the series used in the study are a mixture of I(1) and I(0), as depicted in the table above.

Table 2: ARDL Bound Cointegration Test Result

Model	F-Statistics	K	Critical value Lower bound 5%	Critical value Upper bound 5%
GRGDP	6.667404	4	2.86	4.01

Source: Author's computation (2022) using Eviews 10

With the admixture of order 1(1) and 1(0) series, the study applied the ARDL bound cointegration test to the model. The results show that the F-statistic of 6.667404 is greater than the upper and lower bounds at the 4.01 and 2.86 percent critical values, respectively. This implies that there is a long-run relationship between the dependent and independent variables. Model estimation:

Table 3: ARDL Short and Long-run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.817096	0.526973	1.550547	0.1347
D(GRGDP(-1))	-0.096255	0.159459	-0.603634	0.5520
D(GRGDP(-2))	0.237643	0.135670	1.751623	0.0932
D(GRGDP(-3))	0.230841	0.115194	2.003923	0.0570
D(FD)	2.194859	0.744991	2.946154	0.0072
D(EXTB)	-0.283787	0.214589	-1.322467	0.1990
D(FER)	-0.038781	0.032972	-1.176186	0.2516
DOMB	0.023278	0.007011	3.320159	0.0030
CointEq(-1)*	-0.952709	0.201699	-4.723425	0.0001

Long-run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FD	0.537096	0.460405	1.166573	0.2553
EXTB	0.255286	0.137290	1.859467	0.0758
DOMB	0.024434	0.010420	2.344880	0.0280
FER	0.070464	0.020815	3.385243	0.0025

$R^2 = 0.753768$; F-Statistic = 9.948946

Source: Author's Computation using E-views 10

The short and long-run ARDL econometric analysis presented in the Table 3 indicates that in the short run, fiscal deficits have a positive and statistically significant impact on economic growth in Nigeria, suggesting that a unit increase in fiscal deficits increases economic growth by 2.194 units. However, in the long run, the impact of fiscal deficits on Nigeria's economic growth is positive but not statistically significant, implying that a unit increase in fiscal deficits enhances Nigeria's real GDP by 0.537 units. This finding aligns with the Keynesian theory of fiscal deficits and empirical findings from Momodu and Monogbe (2017) and Biplob (2019), which suggest that fiscal deficits enhance economic growth. However, it contrasts with the results from Goher et al. (2011), who found that fiscal deficits deter economic growth. Furthermore, in the short run, external borrowing negatively impacts Nigeria's economic growth, implying that a unit increase in external borrowing decreases economic growth by 0.283 units. Conversely, the long-run results indicate that external borrowing has a positive, though not statistically significant, effect on Nigeria's economic growth, with a unit increase in external borrowing increasing economic growth by 0.255 units.

Additionally, in the short run, foreign exchange reserves have a negative and not statistically significant impact on Nigeria's economic growth, implying that a unit increase in foreign exchange reserves decreases economic growth by 0.038 units. In contrast, the long-run results show that foreign exchange reserves have a positive and statistically significant impact on Nigeria's economic growth, with a unit increase in foreign exchange reserves increasing economic growth by 0.070 units. This finding is consistent with empirical results from Fukuda and (Kon, 2012). Moreover, the short-run results reveal that domestic borrowing has a positive and statistically significant impact on Nigeria's economic growth, indicating that a unit increase in domestic borrowing enhances economic growth. Similarly, the long-run results show that domestic borrowing continues to have a positive and statistically significant impact on Nigeria's economic growth, with a unit increase in domestic borrowing enhancing economic growth by 0.024 units in the long run. The CointEq (-1) value of -0.952709 is particularly noteworthy as it indicates a rapid speed of adjustment towards long-run equilibrium, with about 95% of any short-run disequilibrium being corrected relatively

quickly. The Breusch-Godfrey LM statistics is used to test for the presence of autocorrelation of order q in the models. The autocorrelation results for domestic value added is presented as:

Table 4: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.159387	Prob. F(2,21)	0.8537
Obs*R-squared	0.523345	Prob. Chi-Square (2)	0.7698

Source: Author's Computation (2021) using Eviews 10

From the table above, the probability values of F-statistic 0.8537, and Obs*R-squared 0.7698 are greater than 0.05 per cent level of significance. This indicates that the variables used are not serial correlated.

Heteroskedasticity Test

Table 5: White Heteroskedasticity Test

F-statistic	0.601918	Prob. F(11,23)	0.8081
Obs*R-squared	7.823427	Prob. Chi-Square(11)	0.7290
Scaled explained SS	6.644156	Prob. Chi-Square(11)	0.8271

Source: Author's Computation (2021) using Eviews 10

From our test result in the table below, the White test for Heteroskedasticity shows that F-statistic, Obs*R-squared and Scaled explained SS values of 0.601918, 7.823427, and 6.644156 have their respective probabilities as 0.8081, 0.7290, and 0.8271, with all the three greater than 0.05, the study concludes that the assumption of homoscedasticity is not violated, indicating that the assumption of constant variance is not violated

Discussion of Findings

The aim of this study is to examine the relationship between fiscal deficit and Nigeria's economic growth. The short-run results indicate that fiscal deficits positively and significantly impact Nigeria's economic growth. This supports the Keynesian theory, which suggests that government spending, particularly deficit financing, stimulates economic growth by increasing aggregate demand. The empirical findings of Momodu and Monogbe (2017) and Biplob (2019) also align with this result, indicating that fiscal deficits can be a useful tool for enhancing economic output in the short term. However, the long-run impact of fiscal deficits is positive but not statistically significant. This implies that while deficit spending may provide immediate growth benefits, its long-term impact diminishes, possibly due to factors like debt sustainability concerns or crowding out of private investment. The results diverge from Goher et al. (2011), who found that fiscal deficits could impede economic growth.

External borrowing presents a contrasting picture. In the short run, it negatively affects economic growth, where a unit increase in external borrowing reduces GDP growth. The adverse effect may be attributed to the high costs associated with debt servicing, which diverts resources away from productive investments that could stimulate economic growth. However, the long-term analysis reveals a positive impact of external borrowing, albeit not statistically significant. This finding supports the Neoclassical theory of fiscal deficits, which posits that external borrowing can finance growth-enhancing investments, leading to increased productivity over time (Ewubare, Nteegah, & Okpoi, 2017). Nonetheless, it contrasts with Manasseh et al. (2022), who argued that external debt accumulation might pose a risk to economic stability and hinder growth. Foreign exchange reserves

also display different short-run and long-run dynamics in their impact on Nigeria's economic growth. The short-run results show a negative but not statistically significant effect. This could be due to the opportunity costs of holding large reserves, where funds could otherwise be used for immediate investment in the economy. In the long run, however, the relationship turns positive and statistically significant. This result aligns with the findings of Fukuda and Kon (2012), suggesting that maintaining adequate reserves helps stabilize the economy and supports growth by buffering against external shocks, such as currency crises. Domestic borrowing has consistently positive effects on economic growth in both the short and long run. In the short run, a unit increase in domestic borrowing significantly enhances economic growth, and this positive impact persists in the long term. These findings imply that domestic borrowing, when managed effectively, can serve as a reliable source of financing for growth-oriented projects, especially since it may be more manageable than external debt due to reduced exposure to foreign exchange risks. This outcome diverges from Mohsin et al. (2021), who argued that domestic borrowing could crowd out private sector investment, thus negatively impacting economic growth.

Conclusion

The study focuses on the relationship between fiscal deficit and economic growth in Nigeria, which is that their nexus is not statistically significant, suggesting that these factors alone may not be reliable for robust economic enhancement. Conversely, foreign exchange reserves and domestic borrowing exhibit both positive and statistically significant effects on economic growth. This highlights the critical role of managing foreign reserves effectively and utilizing domestic borrowing strategically to foster sustainable economic development in Nigeria. These findings underscore the importance of a balanced and prudent fiscal and monetary policy framework to support sustained economic growth. Based on the findings, the study concludes that while fiscal deficits and external borrowing positively influence economic growth,

Recommendations

Following the findings, this study makes the following policy recommendations that:

1. Government should focus on improving the efficiency of fiscal spending, ensuring that deficits are targeted towards sectors that will maximize economic returns such as infrastructure, education, and healthcare.
2. External borrowing should be strategically directed towards projects that are likely to generate economic returns sufficient to cover the cost of debt servicing, thereby avoiding unsustainable debt levels.
3. Since domestic borrowing has shown a positive and statistically significant impact on economic growth, the government should consider leveraging this tool effectively. However, it is essential to ensure that such borrowing does not crowd out private sector investment.

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