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ANALYSIS OF THE GROWTH IMPLICATIONS OF NIGERIA'S DEFICIT FINANCING BEHAVIOUR

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Abstract

The study investigated the effects of deficit financing on Nigeria's economic growth using time series data from 1980 to 2021. Gross domestic product (GDP) was used as the dependent variable to represent economic growth, while domestic debt (DMD), external debt (EXD), budget deficit (BDF), and external reserve (ETR) served as independent variables. Data was sourced from the 2021 Central Bank of Nigeria statistical bulletin since the 2022 edition hasn't been released. The autoregressive distributed lag model was utilized for estimation, and we found that in the short term, domestic debt was observed to notably influence economic growth. This conclusion is drawn from the t-statistics value, which had a p-value below the 0.05 significance level. Similarly, in the long term, domestic debt significantly impacted the growth of the Nigerian economy, as indicated by the t-statistics value being under the 0.05 significance threshold. The t-statistics for External Debt were not statistically significant, as indicated by the p-values exceeding the 0.05 significance threshold. This suggests that, in the short term, external debt didn't influence Nigeria's economic growth. Similarly, in the long term, the t-statistics for external debt remained insignificant, implying that external debt didn't affect Nigeria's economic progression. In the short run, the t-statistics for the budget deficit were statistically significant, as the p-value was below the 0.05 threshold. This indicates that the budget deficit affected Nigeria's economic growth during this period. On the other hand, in the long run, the t-statistics for the budget deficit showed a p-value exceeding 0.05, suggesting that over a longer duration, the budget deficit did not influence Nigeria's economic growth. The Nigerian government should establish a robust debt management strategy. This approach should emphasize cautious borrowing, judicious application of domestic debt, and consistent evaluation of debt viability to prevent overwhelming debt loads and guarantee continued economic development.

Keywords: ***ARDL Bounds test, Budget deficit, Debt management, Deficit financing, Economic growth.***

1.0 INTRODUCTION

The swift and enduring economic development is crucial for every modern nation globally. This significance can be easily understood. Economic growth refers to the ability of an economy to enhance the production of goods and services using its existing capital and other production resources (Nnanna, et al., 2004; Ughulu, 2021). Therefore, economic growth reflects a rise in per capita income, paving the way for a living standard similar to what's seen in developed nations (Todaro & Smith, 2011; Ughulu & Ajayi, 2020). From this perspective, one can reasonably assert that continuous economic growth powers the economic progress that every nation genuinely seeks. Yet, it's evident that no country possesses the complete financial resources required to achieve this level of economic growth. This introduces the relevance of deficit financing.

Deficit financing refers to the method of raising funds to bridge the gap that arises when expenditures surpass revenues. This shortfall can be addressed by borrowing from the public via bond sales, minting new currency, or securing foreign loans. For nations globally, deficit financing serves as a potent instrument to foster economic growth and development. When applied effectively by the borrowing nation, it can lead to an uptick in domestic savings and subsequently, economic expansion. Relatedly, a fiscal deficit emerges due to an imbalance in the national budget, which can manifest as either a surplus or a deficit (Festus & Sabiu, 2019). This trend appears to be entrenched in numerous global economies, notably in Sub-Saharan African nations. From the late 1970s onwards, Nigeria faced fiscal shortfalls and a surge in public expenditure. The budgetary deficits of the 1970s were rationalized as essential for post-war recovery, rebuilding, and reconciliation (Okolie, 2014). With significant revenue from oil, the nation indulged in lavish expenditures. The mishandling of the oil surge in the early 1970s brought back deficit financing in the subsequent decade. Between 1982 and 1983, there was a continuous drop in earnings from crude oil exports, leading to fiscal shortfalls. These deficits were financed by taking substantial loans after depleting a major portion of the country's foreign reserves (Nwanna & Umeh, 2019). Consequently, the external debt skyrocketed from $9.0 billion in 1980 to $17.8 billion in 1983, and further to $25.6 billion by 1986 (Olusegun, et al., 2020).

Governments utilize deficit financing to address their budget shortfalls, allowing them to fund various sectors, infrastructure, and human capital areas like health and education. The anticipation is that this type of financing will not only boost economic growth but also create jobs within these sectors. In the case of Nigeria, data indicates that the country has consistently financed its budget deficit through both foreign and domestic borrowing. These funds are intended to elevate infrastructure quality, sectoral outcomes, and the overall standard of living. However, in reality, the country faces challenges like decaying infrastructure, declining sectoral outputs, a low quality of life, and a significant poverty rate, all of which have posed multiple issues for the economy. In response to these challenges, the Nigerian government has, on numerous occasions, initiated measures aimed at stimulating and maintaining robust growth. For instance, Obioma (2016) stated that the primary goal of all developmental strategies in Nigeria is to ensure consistent and robust growth. In 2008, the late Yar'Adua administration introduced a long-term strategy known as Vision 20:2020. The agenda outlined the government's aspirations from 2008 to 2020, aiming to position Nigeria among the top 20 global economies with significant industrialization. As highlighted by Ojo (2010), to realize this objective, the economy needed to sustain an annual growth rate exceeding 9%. To promote consistent and robust growth, the Nigerian government has also emphasized diversifying its economic base. Okwuni (2019) mentioned that in 2017, under President Buhari's leadership, the Economic Recovery and Growth Plan (ERGP) was introduced, setting a yearly growth target of 4.5%.

Deficit financing and economic growth have recently been pressing issues for Nigeria. As observed by Ayuba and Khan (2019), despite numerous fiscal strategies implemented by governments to reduce excessive deficits and substantial amounts of domestic and foreign borrowing, Nigeria continues to grapple with challenges. Citizens face high unemployment and insecurity rates, with pervasive poverty in both urban and rural regions. Broadly speaking, many believe that the current economic conditions in Nigeria are a result of deficit financing and poor management of both foreign and domestic debts by regional governments (Akinmulegun, 2014). A close examination of Nigeria's budget reveals that it's ineffective to have numerous redundancies labelled as "capital projects" without seeing a significant impact on the populace. Thus, debts should correspond directly to these capital projects

(International Monetary Fund, 2012). Yet, recent trends have seen a drop in per capita income, increasing hunger, and rapid environmental decline in Nigeria (IMF, 2012).

The debt burden of underdeveloped countries continues to grow, and their economic progress remains tepid, marked by environmental harm, inadequate infrastructure, persistent poverty, and civil unrest (World Bank, 1989). Moreover, the region's socio-economic challenges are intensified by the mismanagement of loans, which many governments in the area fail to handle prudently (Ndungu, 2016; Isah, 2012). Nigeria's escalating debt continues to cause apprehension regarding its developmental trajectory, especially since the borrowed funds haven't led to the anticipated surge in investments essential for growth (Bakare, et al., 2014). Consequently, increasing debt service commitments significantly restrict these nations' capacity to fund vital imports and launch new developmental initiatives.

Despite numerous studies attempting to pinpoint the exact consequences of deficit financing, many conclusions drawn by scholars seem detached from the actual state of the Nigerian economy, and don't accurately reflect its current situation (Ibrahim, 2015). While some researchers, like Nwanna and Umeh (2019) and Solawon and Adekunle (2018), argue that deficit financing has a marked impact on the economy, others, such as Sulaiman and Azeez (2012) and Nwanne (2014), believe its effects are minimal. The crux of the matter remains a topic for empirical study. The differing results could stem from varied methodologies and the specific variables chosen by these individual researchers.

Given these uncertainties, the pressing question emerges: Can we confidently assert that the substantial loans taken by Nigerian governments from 1980 to 2021 were utilized effectively for the nation's economic growth? Or, to put it another way, how has deficit financing influenced Nigeria's economic trajectory? These are concerns many continue to ponder. Driven by the need to address this crucial matter, the researcher aims to delve into the relationship between deficit financing and Nigeria's economic progress from 1980 to 2021, with the goal of determining if such financing strategies have truly fostered economic expansion in the nation.

2.0 LITERATURE

2.1 Theoretical Review

2.1.1 Keynesian Theory of Deficit Financing

During the 20th century, Keynes' (1936) insights significantly shaped economic thinking, paving the way for proactive government intervention in the economy (Ahmad, 2019). Such intervention often involved various funding means, prominently featuring deficit financing. While Keynes didn't prescribe fixed strategies for economic growth and societal well-being, his disciples delved deeper into the role of government in the economy, laying the foundation for Keynesian theory (Monogbe & Okah, 2018). This school of thought challenges the classical viewpoint that cautions against the extensive use of deficit finance. Despite the scrutiny and critique of Keynes' core concepts in recent years, many argue that his ideas continue to equip governments with relevant strategies and solutions. Keynes believed that during unemployment periods, the government's role was to borrow and subsequently inject those funds into the economy (Okoro, 2013).

Several key observations arise from Keynesian thinking: the greater a society's wealth, the more pronounced the disparity between its real and potential outputs, highlighting the glaring inefficiencies within the economic framework, less affluent societies usually consume a majority of their output, implying that minimal investments can achieve full employment, Affluent societies must identify ample investment avenues to ensure that the savings of their

wealthier citizens align with employing their less affluent counterparts. Consequently, understanding the inclination to consume, the marginal efficacy of capital, and interest rate theories is vital in grasping Keynesian perspectives (Owoye & Onofowora, 2017; Okoro, 2013).

Keynesian economists believe there's a direct correlation between deficit financing and economic growth. Lerner (1948), a leading advocate of the Keynesian view on debt, argued that government loans shouldn't place a financial strain on future generations (Onuorah & Ogbonna, 2014). He maintained that if there's a fund deficit for scheduled expenditures, the current generation should bear the responsibility.

In defense of debt financing for budgets, Lerner presents four interconnected arguments: First, public debt shouldn't grow; Second, if it does increase, the additional interest shouldn't be covered by raising existing taxes; Third, if higher taxes are used to pay the additional interest, those taxes should come solely from the benefits gained through increased government expenditure, thus not being a loss to society but a reallocation from taxpayers to bondholders; Fourth, high income tax rates shouldn't deter investment since proper tax deductions for losses will lower the investment risk in the same ratio that they reduce net investment income (Pechman, 2018).

2.1.2 Neoclassical Theory of Deficit Financing

Neoclassical economists argue that there's an inverse relationship between fiscal deficits and economic growth. According to this perspective, when government spending rises, it boosts overall demand, leading to heightened competition between the government and private investors for available credit. This competition drives up interest rates, discourages private bond issuance, reduces private investment, and curtails private consumption. Moreover, the increase in demand can also elevate inflation rates, which in turn can amplify current account deficits. All these factors together can divert resources and decelerate the economic growth rate (Osuka & Achinihu, 2014). The Neoclassical perspective posits that individuals plan their spending throughout their lifetime. When fiscal deficits transfer taxes to future generations, current consumption rises. Under the assumption of full resource employment, this school of thought asserts that a surge in consumption leads to a reduction in savings. To balance the capital market, interest rates have to rise (Omoke & Ugwuanyi, 2018). This uptick in interest rates subsequently leads to reduced private investment, a drop in domestic output, and an elevation in overall price levels.

As the public sector grows, the escalating resource prices due to heightened demand from the government will constrict the private sector, leading to diminished private investment and consumption. Consequently, the growth in the public domain is at the expense of the private sector (Evans & Egwakhe, 2016). Nonetheless, this heightened demand from the government significantly impacts the efficiency of the private sector. The migration of resources is a pivotal concern, particularly in developing nations where even the private sector can experience resource scarcity (Brender & Drazen, 2018). The notion that government borrowing detracts from private investment is central to the neoclassical perspective.

2.1.3 Ricardian Theory of Deficit Financing

Baro's (1974) concept posits that asset holders will completely account for future tax liabilities inherent in deficits. This means that deficit financing through borrowing, paired with a one-time tax reduction today, will inevitably be met with a subsequent lump-sum tax hike. Taxpayers understand that the tax is merely postponed and not eliminated. This understanding leads to a corresponding increase in private savings. Since the increase in

private savings compensates for the deficit, it doesn't influence national savings, interest rates, exchange rates, future economic output, or future national earnings (Gale & Orszag, 2004).
Governments can finance their deficits through taxation of current citizens or by incurring debt. Any tax reductions made in earlier years to cover the borrowed amount will eventually have to be increased beyond what would have originally been needed. In essence, the personal savings amassed during periods of heightened government expenditure will counterbalance the funds the government borrows for future use (Sorawon & Adekunle, 2018). Consequently, Ricardo's equivalence theorizes that any attempts by the government to manipulate demand via fiscal policies will be ineffective. As a result, deficit financing neither pushes out nor pulls in investors. From this perspective, there's neither a positive nor negative correlation.

2.2 Empirical Review

Rana and Wahid (2020) undertook a study using methods such as ordinary least squares, vector error correction model, and the Granger causality test to analyze time-series data. Their results indicated a significant negative relationship between Bangladesh's economic growth and the government's budget deficit.
Meanwhile, Aworinde (2020) explored the impact of budget deficits on inflation and current account imbalances in African nations, with a particular emphasis on the twin deficit phenomenon. Utilizing techniques like VAR, Threshold Co-integration, and the ARDL approach, he deduced that a surge in the government deficit escalates the current account deficit in countries like Botswana, Egypt, Ethiopia, Ghana, Morocco, South Africa, and Tanzania. This outcome aligns with the Keynesian absorption theory, which postulates that an upswing in fiscal deficits can boost domestic consumption.

Hassan and Akhter (2019) examined the link between budget deficit and economic growth in Bangladesh. They utilized the augmented Dickey-Fuller (ADF) and Johansen Co-integration tests for time series analysis. Based on the outcomes of these tests, they employed the Vector Error Correction Model (VECM). Their findings revealed a notable negative impact of the budget deficit on Bangladesh's GDP growth rate. This aligns with patterns observed in numerous other developing nations globally.
Okah, et al., (2019) explored the influence of deficit financing on the economic growth of Nigeria from 1987 to 2017 using autoregressive vector estimation. Their analysis indicated that while deficit financing had a positive effect on Nigeria's economic growth, the impact was not statistically significant. Given these results, they advised the government to diversify its revenue sources and maintain transparency in both monetary and fiscal activities, among other recommendations.

Nwanna and Umeh (2019) analyzed the influence of deficit financing on Nigeria's economic progress using data from 1981-2016. The OLS analysis revealed that borrowing from external debt to finance deficits has notably hindered Nigeria's economic growth. On the other hand, domestic debt contributed positively to the country's economic development. However, the act of repaying debt didn't show any significant effect on the nation's economic trajectory.

Bazza, et al. (2018) conducted an assessment of the influence of deficit financing on Nigeria's economic expansion, spanning the period from 1981 to 2016. Utilizing the ARDL approach for their analysis, their findings indicated that deficit financing by the government has had a notable effect on Nigeria's economic output over the studied years.

Ali, et al. (2018) delved into the effects of deficit financing on the economic growth of Nigeria from 1981 to 2016. They relied on secondary data sourced from the Central Bank of Nigeria's preliminary statistics. The Dickey Fuller and ARDL methods were employed for the regression analysis to assess the stationarity of the time series variables. The unit root test revealed that the integration levels of the variables varied, with results from I(0) and I(1). ARDL regression outcomes indicated that the government's deficit budgeting has significantly influenced Nigeria's enduring output growth. With an F-statistic of 56.27987 (p = 0.000), the variables in the study were also found to be significant for economic growth. Consequently, the study advises an efficient augmentation of deficit financing, advocating for government efficiency in public spending and fiscal prudence, alongside preserving macroeconomic stability to foster Nigeria's economic progress.

Ondogo (2018) analyzed how budget deficit financing strategies influence Kenya's economic growth. The study differentiated budget deficit by comparing internal versus external-internal financing ratios in terms of their impact on economic growth. Data for 1970-2014 was sourced from the Economic Survey provided by the Kenya National Bureau Statistics. Grounded in the neoclassical growth theory, the study employed a correlational research approach and estimated the models using the Ordinary Least Squares technique. The findings revealed that internal budget deficit financing positively and significantly influenced economic growth. Conversely, external budget deficit financing and the ratio of external to internal deficit financing both negatively impacted economic growth. Consequently, the study suggests the adoption of policies favoring consistent borrowing to mitigate the adverse effects of external deficit financing. It also emphasizes the need for the government to bolster its revenue sources, particularly through expanding the tax base, to lessen the deficit financed by internal borrowing.

Onwioduokit and Inam (2018) explored the connection between Liberia's budget deficits and its economic growth. Utilizing the Classical Ordinary Least Squares Technique (OLS) and the Engle-Granger Two-Step Co-integration test, alongside a streamlined Error Correction Model, their research demonstrated a lasting link between Liberia's budget deficit and its economic growth. Notably, the relationship was both positive and significant. Specifically, a rise in deficits by 1.0 percent would likely lead to a roughly 0.42 percent growth in Liberia's economy.

3.0 METHODOLOGY

3.1 Model Specification

This research utilised the autoregressive distributed lag model (ARDL) to evaluate the influence of deficit financing on Nigeria's economic growth. The preference for the ARDL model stems from its capability to capture both immediate and long-term impacts of deficit financing on economic expansion. For this study, the Gross Domestic Product (GDP) will act as the dependent variable, while the independent variables will include Domestic Debt, External Debt, Budget Deficit, and External Reserve. The mathematical representation detailing the relationship between Nigeria's economic growth and its deficit financing will be outlined as follows:

RGDP = f (DMD, EXD, BD, ETR) 1

Whereas the econometric form of the equation will be expressed as follows where,

GDP = Gross Domestic Product; DD = Domestic debt; ED = External debt; BD = Budget deficit, EXR = External Reserve; ε = Error term; bis= Parameters estimates.

The anticipation is that parameter estimates like Domestic Debt and External Reserve will have a positive correlation with economic growth. On the other hand, Budget Deficit and

External Debt are projected to be negatively associated with economic growth. Therefore, a priori, DD > 0, EXR > 0, BD < 0, and ED < 0.

3.3 Sources of Data

For this research, we will rely on secondary data. The information will be gathered from the CBN Statistical Bulletin and the World Bank, spanning the years 1981 to 2020. The selection of this timeframe is influenced by the data's accessibility from the mentioned sources, as well as its appropriateness for econometric evaluation.

3.4 Estimation Procedure

The estimation procedures to be employed for this study will be as follow below:

3.4.1 Unit Root Tests

(i) Augmented Dickey-Fuller Test

The Augmented-Dickey-Fuller (ADF) statistic is employed to determine the stationarity of the variables in this research. The ADF test statistic will be weighed against critical values at a 5% significance level. If the ADF test statistic exceeds the critical values in absolute terms, then the data at the tested order will be deemed stationary.

(ii) Phillip-Perron test

The Phillips-Perron test statistic is employed to check for a unit root or the stationarity of a variable. This test expands on the Dickey-Fuller test, specifically for the null hypothesis p =1 in the equation $\Delta y = (y\_t-1 - p) + u$. Here, Δ represents the first difference operator. The Phillips-Perron test, similar to the Augmented Dickey-Fuller test, accounts for the possibility that the data generation process may have an autocorrelation order higher than what the test equation permits, rendering y_(t-1) endogenous and thereby making the Dickey-Fuller t-test invalid. While the Augmented Dickey-Fuller test tackles this problem by incorporating lagged Δy as regressors in its equation, the Phillips-Perron test applies a non-parametric adjustment to the t-test statistic. This test is resilient to both unspecified autocorrelation and heteroscedasticity in the disturbance process of the equation.

The assessments are carried out both with and without accounting for a deterministic trend (t) in each series. The Augmented Dickey Fuller (ADF) test's general format is represented by the following equations:

$\Delta y\_t = a\_0 + a\_1 y\_(t-1) + \sum \Delta y\_(t-1) + e\_1$ (5)

$\Delta y\_t = a\_0 + a\_1 y\_(t-1) + \sum \Delta y\_(t-1) + \delta t + e\_1$ (6)

Here, Δy_t denotes a time series, t is a linear time trend, and Δ is the first difference operator. This means $\Delta y\_(t-1) = y\_t - y\_(t-1)$. a_0 is a constant term, n represents the best number of lags for the dependent variable, and e_1 stands for the random error term. The hypothesis being tested is that a_0 is equal to zero. Should the null hypothesis be that a_1 equals zero, then it can be inferred that the series in question (y_t) possesses a unit root, indicating it's non-stationary.

3.4.2 ARDL-Bound Tests

Cointegration implies that even if individual time series are non-stationary, a linear combination of these series can achieve stationarity. Engel and Granger (1987) highlighted that a stationary linear combination might exist among two or more non-stationary variables. When such a stationary combination is present, the non-stationary time series are deemed co-integrated. This concept is leveraged to test for a long-term relationship between variables.

To scrutinize the long-term associations and immediate dynamic interplay among the selected variables, this study utilizes the Auto Regressive Distributed Lag (ARDL) or Bounds

testing approach crafted by Pesaran and Shin (1999), as well as Pesaran et al (2001). This approach is employed to evaluate both short-term and long-term relationships among the variables that are integrated to the same order.
Opting for the ARDL/Bound test is driven by its myriads of benefits, chief among them being its versatility. Specifically, it can be applied regardless.

4.0 RESULT

4.1 Descriptive Statistics

Table 1: Result of the Descriptive Statistics

	GDP	DMD	EXD	BDF	ETR
Mean	36653.81	3509.431	2256.980	-215.7595	18341.08
Median	7648.620	957.6100	640.9750	2.150000	7879.410
Maximum	176075.5	19242.56	15855.23	1076.100	58472.88
Minimum	64.20000	8.220000	1.870000	-4205.700	456.6400
Std. Dev.	50154.10	5128.646	3473.107	1073.045	17480.49
Skewness	1.317632	1.570218	2.374615	-2.615462	0.610817
Kurtosis	3.550472	4.359956	8.538878	9.618292	1.838296
Jarque-Bera	12.68337	20.49568	93.16013	124.5376	4.973403
Probability	0.001761	0.000035	0.000000	0.000000	0.083184
Sum	1539460.	147396.1	94793.16	-9061.900	770325.5
Sum Sq. Dev.	1.03E+11	1.08E+09	4.95E+08	47208473	1.25E+10
Observations	42	42	42	42	42

Notes: GDP = Gross Domestic Product, DMD = Domestic Debt, EXD = External Debt, BDF = Budget Deficit, ETR = External Reserve

Source: Researchers Compilations 2023 (See Appendices)

Based on Table 1, the range between the minimum and maximum values for each variable indicates the degree of variation in the datasets over the study duration. The variability in the datasets is further emphasized by the standard deviation results, suggesting that the data points deviate significantly from their average. The skewness figures suggest that GDP, DMD, EXD, and ETR lean towards positive skewness, indicating a rightward skew. In contrast, BDF's negative skewness coefficient points to a leftward skew. Regarding kurtosis, GDP, DMD, EXD, and BDF have coefficients exceeding 3, denoting a Leptokurtic distribution. However, ETR, with a coefficient below 3, indicates a Platykurtic distribution. The findings indicate that ETR has a Jarque-Bera coefficient of 4.973403 and a p-value of 0.083184. This suggests that we cannot confidently state that the data strays from a normal distribution. On the other hand, the Jarque-Bera results for GDP, DMD, EXD, and BDF show p-values below 0.05. This provides sufficient evidence to say that these datasets notably deviate from a normal distribution, underscoring the importance of a stationarity test.

4.2 Stationarity Test

Table 2: Unit Root Test for Stationarity

Variable	ADF (trend and intercept)				PP (trend and intercept)			
	Level	5% Critical Value	First Difference	5% Critical Value	Level	5% Critical Value	First Difference	5% Critical Value
LGDP	0.216517	3.523623	5.435324	3.526609	0.216517	3.523623	5.451123	3.526609
LDMD	1.404704	3.523623	4.958658	3.526609	1.531557	3.523623	4.977109	3.526609
LEXD	2.722168	3.526609	4.659807	3.526609	1.307054	3.523623	4.659807	3.526609
BDF	2.640350	3.529758	4.84021	3.562882	1.098721	3.523623	6.055283	3.526609
LETR	4.847946	3.533083	----------	----------	4.321344	3.523623	----------	----------

Notes: GDP = Gross Domestic Product, DMD = Domestic Debt, EXD = External Debt, BDF = Budget Deficit, ETR = External Reserve, L = natural log
Source: Researchers Compilations 2023 (See Appendices)

The data in Table 2 presents the stationarity unit root test. It encompasses the outcomes from the two methods utilized: the augmented Dickey-Fuller (ADF) and the Philip-Perron (PP) techniques. From both methods, it becomes clear that among the selected variables, only the external reserve (ETR) was stationary at the base level, as both ADF and PP values exceeded the 5% critical value. Conversely, the other variables - GDP, DMD, EXD, and BDF - required differencing to achieve stationarity. This indicates that ETR is stationary at level I(0), while GDP, DMD, EXD, and BDF reach stationarity at first differencing I(1). As a result, the study employs the Autoregressive Distributed Lag (ARDL) estimation model, with its findings outlined subsequently.

4.3 ARDL Bound Test

The ARDL bound test was conducted to examine the long-term associations among the selected variables. The findings are presented below;

Table 3: ARDL Bound Test

F-Bound	**Critical Value @ 5%**		**Critical Value @ 1%**	
F-Statistic	Lower Bound I(0)	Upper Bound I(1)	Lower Bound I(0)	Upper Bound I(1)
16.08369	2.56	3.49	3.29	4.37

The data in Table 3, representing the bound test for the long-term relationships among the variables, shows that the F-statistics have a coefficient of 16.08369. This value surpasses both the upper and lower bound values at the 5% and 1% significance levels. This suggests a long-term relationship exists among the study's chosen variables.

4.4 ARDL Long-run and Short-run Estimation

After confirming a long-term relationship among the study's variables using the bound test, the associations between the variables in both the long and short term are detailed below.

Table 4: Long-run and Short-run Estimation Result

PANEL A: SHORT RUN					**PANEL B: LONG RUN**				
Variable	**coefficient**	**Std Error**	**t-value**	**p-value**	**Variable**	**coefficient**	**Std Error**	**t-value**	**p-value**
C	0.357353	0.378261	0.944726	0.3515	**LGDP(-1)**	-0.347447	0.072533 2	-4.790231	0.0000
ΔLDMD	1.048150	0.053856	19.46214	0.0000	**LDMD(-1)**	0.300970	0.077525	3.882243	0.0005
ΔLEXD	-0.033145	0.037967	-0.872993	0.3888	**LEXD(-1)**	0.016403	0.015670	1.046785	0.3030
ΔBDF	0.000082	0.000039	2.087359	0.0444	**BDF**	0.000028	0.000016	1.771717	0.0860
LETR	-0.187384	0.066270	-2.827588	0.0078	**LETR(-1)**	0.098465	0.032872	2.995443	0.0053
ECM(-1)	-0.074577	0.031802	-2.345041	0.0207	**C**	-0.272466	-0.162213	-1.679687	-0.1028
Regression Statistics					**Diagnostic Test**				
R^2	0.99	**DW**	1.96		**SERIAL CORRELATION**				
					F-Statistics	1.170142	**Prob F(2, 30)**	0.3241	
S. E of Regression	0.225490	**F-stat**	901.6847		**Obs*R-Squared**	2.966938	**Prob Chi-Sq**	0.2268	
		P-Value	0.000000						
					HETEROSCEDASTICITY				

F-Statistics			0.0669
Obs*R-Squared	2.278753	**Prob F(8, 32)**	0.0615
	14.88016	**Prob Chi-Sq**	

Notes: GDP = Gross Domestic Product, DMD = Domestic Debt, EXD = External Debt, BDF = Budget Deficit, ETR = External Reserve, L = natural log

Source: Researchers Compilations 2023 (See Appendices)

Table 4, detailing the estimation results for both short and long-term periods, indicates that in the short term, domestic debt (DMD) had a positive coefficient of 1.048150. This coefficient was statistically significant, given its p-value (0.0000) was below the 0.05 significance threshold. This suggests that a unit rise in domestic debt results in a GDP increase of ₦1.048150 billion. Conversely, external debt registered a negative coefficient of -0.033145, which wasn't deemed statistically significant.

Budget deficit exhibited a positive coefficient of 0.000082, which was statistically significant. This suggests that for every unit increase in the budget deficit, there's a corresponding GDP boost of ₦82 billion. Additionally, the external reserve displayed a positive coefficient of 0.187384, also statistically significant. This indicates that a unit hike in external reserve results in a GDP surge by ₦187384 billion. The error correction model presented a coefficient of -0.074577, signifying a 7% rate of realignment from short-term variations to long-term equilibrium.

In the long-term analysis, the prior GDP level exhibited a negative coefficient of -0.347447, which was statistically meaningful, given its p-value (0.0000) was below the 0.05 significance threshold. This suggests a 1% growth in the historical GDP level results in a 34% rise in the present level. DMD displayed a positively significant coefficient of 0.300970, denoting a 30% GDP increase for every 1% growth in DMD. EXD had a positive coefficient of 0.016403, but this was not statistically significant since its p-value (0.3030) surpassed the 0.05 significance level. Similarly, the budget deficit's coefficient was deemed insignificant as its p-value exceeded the 0.05 threshold. In conclusion, the external reserve displayed a positive coefficient of 0.098465 that was statistically meaningful, with a p-value (0.0053) below the 5% significance level. This indicates that a 1% rise in external reserve corresponds to a 9.8% growth in GDP. The coefficient of determination (R^2) for the result stood at 0.99, signifying that the independent variables account for 99% of the variations in GDP. With an Obs*R-squared coefficient of 2.966938 and a p-value of 0.2268, exceeding the 0.05 significance level, the model appears free of serial correlation. As highlighted by Ogbuabor, et al., (2018), the LM test follows the chi-square test. The heteroscedasticity test's F-statistics showed a coefficient of 2.278753 and a p-value of 0.0669, which surpasses the 0.05 significance threshold. This suggests that the model maintains a steady variance, indicating homoscedasticity.

4.5 Test for Hypotheses

Hypothesis One

H_{01}: External Debt has no impact on economic growth in Nigeria

Based on the ARDL long-term estimation, external debt's t-statistics yielded a p-value of 0.3030, surpassing the 0.05 significance level. Similarly, in the short term, the t-statistics for external debt was 0.3888, which is also above the 0.05 significance level, rendering it insignificant. Thus, the research upholds the null hypothesis, suggesting that external debt doesn't influence economic growth in both the long and short terms.

Hypothesis Two

H_{02}: Domestic Debt has no significant impact on economic growth in Nigeria

From the ARDL analysis, in the long term, the coefficient for domestic debt displayed a t-statistics having a p-value of 0.0005, which is below the 0.05 significance threshold, indicating the significance of domestic debt. Similarly, in the short term, the domestic debt's coefficient exhibited a t-statistical value with a p-value of 0.0000, also beneath the 0.05 level of significance. Therefore, the research negates the null hypothesis, confirming that domestic debt influences GDP in both short and long-term scenarios.

Hypothesis Three

H_{03}: Budget Deficit has no impact on economic growth in Nigeria

From the ARDL analysis, in the long term, the coefficient for the budget deficit wasn't deemed significant as its p-value (0.0860) exceeded the 0.05 significance threshold. Conversely, in the short term, the budget deficit's coefficient displayed a t-statistics with a p-value (0.0444) that's below the 0.05 level of significance. As a result, the research upholds the null hypothesis that, in the long term, the budget deficit doesn't influence Nigeria's economic growth. However, in the short term, the null hypothesis is refuted, indicating that the budget deficit does have a short-term effect on Nigeria's economic growth.

4.6 Discussion

Based on the ARDL estimation analysis, it's clear that external debt doesn't significantly affect Nigeria's economic growth in either the short or long term. This result aligns with Chukwu's 2023 study, which concluded that external debt did not significantly influence Nigeria's economic growth. However, other studies, like the one by Jarju, et al., (2016), determined that external debt negatively and significantly impacted Nigeria's economic growth. Such discrepancies in results might arise because the present study is more recent. The findings suggest that Nigeria's external debt hasn't been aptly structured to achieve its intended goals. This suggests that the debts have been misallocated, as they should be earmarked for capital expenditure. Using them for operational costs won't yield substantial benefits. Domestic Debt was identified to influence in both the short and long term, a finding in line with Umaru, et al., (2016). They observed a notable and positive effect on Nigeria's economy across both timeframes. This indicates that domestic debts are being wisely allocated in ways that benefit the nation's economic growth.

5.0 Conclusion

The budget deficit was determined to notably influence Nigeria's economy in the short term, but it didn't have a significant long-term effect. This might be due to the mismanagement and misappropriation of funds meant to bolster economic growth, reflecting the ongoing challenges and events in the Nigerian economic landscape. Based on the findings, the study recommends as follows.

1. Considering the notable influence of domestic debt on Nigeria's economic growth over both short and extended periods, it's imperative for the Nigerian government to establish a robust debt management strategy. This approach should emphasize cautious borrowing, judicious application of domestic debt, and consistent evaluation of debt viability to prevent overwhelming debt loads and guarantee continued economic development.
2. Having found that external debt didn't significantly influence Nigeria's economic growth, it remains crucial for decision-makers to meticulously assess decisions related to external borrowing. While external debt might not manifest immediate growth implications, it can introduce long-term economic risks like currency volatility and

challenges in debt repayment. As such, decisions to borrow should be rooted in comprehensive evaluations, factoring in the nation's capacity to manage the debt down the line.

3. The research showed that while budget deficits influenced economic growth in the immediate term, they didn't have the same effect over a prolonged period. Hence, it's essential for the government to uphold fiscal responsibility and refrain from overspending. By prioritizing sound fiscal practices and aiming to curtail budget deficits, the government can bolster economic stability and foster sustained growth in the future.

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APPENDIX I

DATA

YEAR	GDP(₦'B)	DMD(₦'B)	EXD(₦'B)	BDF(₦'B)	ETR(₦'B)
1980	64.20	8.22	1.87	1.8	4,567.17
1981	94.33	11.19	2.33	2.7	4,682.9
1982	101.01	15.01	8.82	0.3	1,027.03
1983	110.06	22.22	10.58	1.5	597.62
1984	116.27	25.67	14.81	1.4	456.64
1985	187.83	27.95	17.30	2.4	981.81
1986	198.12	28.44	41.45	0.3	1,576.84
1987	244.68	36.79	100.79	0.5	5,212.86
1988	315.62	47.03	133.96	-3.8	6,022.24
1989	414.86	47.05	240.39	-10.3	3,662.77
1990	494.64	84.09	298.61	1.9	3,357.77
1991	590.06	116.20	328.45	-7.4	4,051.67
1992	906.03	177.96	544.26	0.2	2,782.66
1993	1257.17	273.84	633.14	-10.7	4,902.01
1994	1768.79	407.58	648.81	0.6	7,944.09
1995	3100.24	477.73	716.87	122.1	2,695.42
1996	4086.07	419.98	617.32	245.0	2,157.97
1997	4418.71	501.75	595.93	264.7	6,124.34
1998	4805.16	560.83	633.02	175.6	7,814.73
1999	5482.35	794.81	2,577.37	212.9	5,309.10
2000	7062.75	898.25	3,097.38	135.7	7,590.77
2001	8234.49	1,016.97	3,176.29	217.6	10,277.49
2002	11501.45	1,166.00	3,932.88	20.0	8,592.01
2003	13556.97	1,329.68	4,478.33	39.0	7,641.81
2004	18124.06	1,370.33	4,890.27	220.8	12,062.75
2005	23121.88	1,525.91	2,695.07	437.0	24,062.75
2006	30375.18	1,753.26	451.46	547.0	37,456.09
2007	34675.94	2,169.64	438.89	744.4	45,394.31
2008	39954.21	2,320.31	523.25	1076.1	58,472.88
2009	43461.46	3,228.03	590.44	515.0	44,702.35
2010	55469.35	4,551.82	689.84	-20.2	37,355.70
2011	63713.36	5,622.84	896.85	239.0	32,580.28
2012	72599.63	6,537.54	1,026.90	304.5	38,092.16
2013	81009.96	7,118.98	1,387.33	342.8	45,612.95
2014	90136.98	7,904.03	1,631.50	324.8	37,220.33
2015	95177.74	8,837.00	2,111.51	-400.9	29,805.48
2016	102575.42	11,058.20	3,478.91	-975.4	26,054.37
2017	114899.25	12,589.49	5,787.51	-1932.7	32,226.12
2018	129086.91	12,774.41	7,759.20	-1489.5	44,525.07
2019	145639.14	14,272.64	9,022.42	-2103.2	42,249.06
2020	154252.32	16,023.89	12,705.62	-4205.7	35,791.14
2021	176075.50	19,242.56	15,855.23	-4099.7	36,632.03

SOURCE: CENTRAL BANK OF NIGERIA STATISTICAL BULLETIN, 2021