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Implication of Fiscal Deficit Financing on External Debt Sustainability in Nigeria

Olayide O. Olaoye [α] & Sunday O. Odumeru [σ]

Abstract- The accumulation of debt for developmental purpose has failed to yield the desirable transformation. So, the study investigated the impact of fiscal deficit financing on external debt sustainability in Nigeria. The dual gap theory formed the basis of the study. Using annual time series data from 1981 to 2020 and the Autoregressive distributed lag technique, the study found that lagged external debt, exchange rate and fiscal deficit significantly impacts external debt servicing in Nigeria. Therefore, it was recommended that government should use external loans productively; public policy should be geared towards export promotion; and interest rate should be very low.

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I. Introduction

Fiscal deficit is an important macroeconomic variable that gives signal about the level of vulnerability of the economy. Fiscal deficit exists when the planned total expenditure of government exceed the planned total revenue. Fiscal deficit is an indicator of the financial status of an economy. Therefore, the management of fiscal deficit is a crucial element of fiscal policy (Chukwu, Otiwu & Okere, 2020).

In developing economies, fiscal deficit has followed haphazard trends. Table 1.1 presents a six period trend of fiscal deficit in Brazil, Ghana, South Africa and Nigeria from 1991 to 2020. Table 1.1 shows that Brazil had an average deficit budget of ₦1.33million from 1991 to 1995 and maintained a budget deficit up until 2020 although it experienced fluctuations during this period. Ghana had an average budget deficit of ₦1.50million between 1991 and 1995. This kept increasing until 2001 where it had an average budget surplus of ₦0.19million. The budget surplus declined to a deficit of ₦0.69million between 2006 and 2010 and continued decreasing up until 2020. South Africa also had an average budget deficit of ₦0.81million between 1991 and 1995. This fluctuated over the years and sharply dropped to ₦1.13million between 2016 and 2020. Nigeria had an average budget surplus of ₦0.20million between 1991 and 1995 and it fluctuated and declined sharply to an average budget deficit of ₦0.25million from 2015 to 2020. Amongst these countries, Ghana had the highest average budget deficit of ₦1.50million between 1990 and 1995 while Nigeria had an average surplus of ₦0.20million. As at 2020, South Africa had the highest average budget deficit of ₦1.31million while Nigeria had the lowest deficit of ₦0.25million.

Period/ Country	1991-1995 (₦bn)	1996-2000 (₦bn)	2001-2005 (₦bn)	2006-2010 (₦bn)	2011-2015 (₦bn)	2016-2020 (₦bn)
Brazil	-1.33	-0.37	-0.60	-0.34	-1.53	-1.13
Ghana	-1.50	-1.74	0.19	-0.69	-0.66	-0.40
South Africa	-0.81	-0.31	0.03	-0.76	-0.76	-1.31
Nigeria	0.20	0.96	1.89	1.14	0.56	-0.25

Source: World Development Indicator (2020)

Goal 17 of the United Nations (UN, 2015) sustainable development goals (SDG) aims at partnership for the goals. In order to attain SDG 17 it is expected that the value of fiscal deficit must be low and sustainable. Even though Nigeria seems to be faring better than other developing countries in terms of fiscal deficit balance, fiscal deficit in Nigeria has been fluctuating at alarmingly rates (Musa, 2021). Fiscal balance growth rate increased from 13.29% in 1981 to 22.56% in 1990. Fiscal balance growth rate became negative (-100.81%) in 1995, but increased drastically to 2331.7% in 1996. Again, fiscal balance growth rate fell to 114.42% in 1997. Thereafter, fiscal balance rose sharply to 2353.23% in 1998. In 2000, there was a decline (-71.75%) and thereafter, fiscal balance growth rose to 82.69%. in 2009, fiscal balance growth plummeted to 1471.65% but fell drastically to 6.93% in 2010. As at 2020, fiscal balance growth stood at 20.88% and Nigeria has been consistently operating deficit financing since 2015 till date [Central Bank of Nigeria (CBN), 2021].

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Besides, in Nigeria, recurrent expenditure forms the larger chunk of fiscal deficit - 80 percent, while capital expenditure accounts for the remaining 20 percent (CBN, 2021). This condition seems to be at variance with the goal of achieving sustainable economic development.

Fiscal deficit could be financed locally or externally (Greg & Okpoiarikpo, 2015) through taxation, borrowing and monetization (Eke & Akujuobi, 2021). These sources of financing pose both short-run and long-run effects on the economy (Momodu & Monogbe, 2017). In both developed and developing countries, several measures have been taken in terms of policies to resolve fiscal imbalances (Amwe & Wuyah, 2015). However, many policies and programmes of government have resulted in tax increase and persistent public borrowing in order to meet budgetary demands (Momodu & Monogbe, 2017). One of such is the structural adjustment programme (SAP), which was embraced by many African countries in the 1980s. Notwithstanding, these economies have not experienced the desired level of economic transformation.

Borrowing could be from domestic or external sources (Adegboyo, Efuntade, & Efuntade, 2020). However, in case of developing countries where domestic saving is relatively low, governments have opted for external borrowing. Comparing the debt-to-GDP ratio in Nigeria with similar economies like Brazil (6.3%), India (9.5%), and South Africa (15.7%), it would be noted that the debt burden in Nigeria has worsened in recent years. The debt-to-GDP ratio increased from 16.3% in 2016 to 22.3% in 2020, while debt repayments-to-revenue reduced from 50.3% in 2016 to 83.0% in 2020 [Central Bank of Nigeria (CBN), 2021]. External debt burden incurred as a result of deficit financing reduces the purchasing power of citizens. This is because external debt is serviced in foreign currencies thereby increasing the units of local currencies that will exchange for a unit of foreign currencies; leading to an unfavourable exchange rate condition. Thus, fiscal deficit creates imbalance in the current account which triggers exchange rate appreciation and balance of payments disequilibrium. Hence, macroeconomic challenges such as huge debt burden, high inflation rate, heavy import dependence, high unemployment rateare generated (Amwe & Wuyah, 2015). For example, fiscal deficit rose by 137% from ₦2.36 trillion in 2017 to ₦5.60 trillion in 2021 and debt service rose by 17% from ₦2,678.81 billion in 2020 to ₦3,124.38 billion in 2021 (CBN, 2021).

Considering the risk of borrowing and debt repayment in foreign currencies, the impelling goal should be to reduce debt burden. However, due to the alarming rate of widening of fiscal deficit and debt repayment obligation, the sustainability of the Nigerian economy in terms of external debt is questionable. Therefore, this study aims at examining the level of influence of fiscal deficit on external debt in Nigeria. Specifically, the current study aims at:

i. Ascertaining the strength of the relationship between fiscal deficit and external debt in Nigeria;
ii. Determining the directional link between fiscal deficit and external debt in Nigeria;
iii. Examining the impact of fiscal deficit on external debt sustainability in Nigeria.

Previous studies in this area are mainly focused on the relationship between fiscal deficit or external debt with other macroeconomic variables such as real gross domestic product (GDP), private and public investment and economic development. For instance Akanmobi & Unachukwu (2021) explored the impact of budget deficit on gross domestic product (GDP) growth in Nigeria; Musa (2021) examined the effect of deficit financing on GDP in Nigeria; Eke & Akujuobi (2021) investigated the effect of public debt on economic growth in Nigeria; while Greg and Okoiarikpo (2015) examined the impact of political considerations and institutional quality under different administrative regimes on the growth-performance of fiscal deficit. This study stands out by examining the impact of fiscal deficit on external debt sustainability and possible feedback effects from external debt to fiscal deficit.

The study covered forty-year period; from 1981 to 2020. The start year enabled robust study of the impact of relevant policy interventions on the Nigerian economy and the end year afforded the researcher an up-to-date investigation. Time series data obtained from the Central Bank of Nigeria Statistical Bulletin (2021) and the World Development Indicators (2021) was used. The study is divided into five sections. After this introductory section, Section Two contains the review of literature. Section three handles the theoretical framework and model specification, while section four presents the results and discussion of findings. Finally, section five concludesthe study with policy recommendations.

II. Review of Literature

Fiscal deficit occurs when public expenditure on goods and services exceeds public revenue from taxation and all other sources in a particular year (Akanmobi & Unachukwu, 2021). Fiscal deficit differs from public debt; which arises from the accumulation of fiscal deficits. Usually government borrows to finance the gap between public expenditure and public revenue. Thismay lead to serious economic issues like crowding-out effect, higher interest payments and huge debt burden (Boyce, 2020).

Fiscal deficit (budget deficit) implies that in a fiscal year, government plans to spend more funds than she intends to generate. On the other hand, budget surplus, which is a plan to generate more public revenue than expenditure within a fiscal year, seems to be more

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logical. Accumulated surpluses could be used during periods of economic recessions or war (Boyce, 2020). However, fiscal deficit is not necessarily an economic problem because government can use deficit financing as a technical tool to solve other macroeconomic problems within the economy. Fiscal deficit incurred as a result of consumption expenditures may be harmful to an economy, while fiscal deficit due to investment expenditures may be beneficial to an economy. For example, public capital expenditure on acquisition of infrastructure such as construction of roads, raillines, building of dams for the generation of electricity and water supply will yield returns not only in the present. Future generations will benefit from such investment expenditures if properly maintained. This leads to the concept of sustainability.

The concept of sustainability deals with the fact that current production and consumption activities should be done in such a way that the resources will still be available for future generations. Fiscal deficit financing leads to government decision to increase taxes, borrow or increase spending. These decisions have multiplier effects in the economy, which may be undesirable to the citizens. In the short-term, these government decisions may seem to be the way-out but the long-term effect may be detrimental to the economy. For example, increased government spending aimed at stimulating output may prove sticky. Government capital spending in building schools or health centres may necessitate further recurrent expenditure in the maintenance of such. Also, public response to cyclical fluctuations, for instance increase in government spending on unemployment benefits during economic contraction may continue after economic recovery if citizens are unwilling to take up paid jobs. Besides, interest payment on debt due to continuous deficit financing may be burdensome.

Keynes (1936) opined that increase in government spending stimulates aggregate demand and consequently spurs economic growth. Therefore, Keynes advocates for fiscal deficit financing. According to him, fiscal deficit financing will stimulate aggregate demand and domestic production; thereby crowding in investment and reducing unemployment. However, fiscal deficit can be harmful when spending is not directed towards productive activities which would lead to expansion in output (Adegboyo, Efuntade & Efuntade, 2020). So, deficit financing should be a short-run phenomenon.

On the other hand, Akanmobi and Unachukwu (2021) argued from the Ricardian perspective that fiscal deficit financing has no effect on economic growth. The authors are of the view that increases in government spending leads to decrease in public savings, which will in turn lead to increase in desired private savings. Hence, desired national savings and investment remains the same in a closed economy. In an open economy, if the desired private savings increases so much that there would be no need for external borrowing; fiscal deficit will also have no effect on the economy (Akanmobi & Unachukwu, 2021).

The neoclassical view is that increase in fiscal deficit will spur the overall consumption level in an economy; leading to a fall in national savings. This will give rise to a higher interest rate in a closed economy. Investment is adversely affected and economic activities reduce. In an open economy, increase in fiscal deficit will amount to increase in capital inflow; leading to exchange rate appreciation, reduction in net exports and crowding out of investment. Thus, fiscal deficit adversely impacts on the economy (Musa, 2021).

The dual-gap theory argues that the development of an economy depends on the level of investment; which in turn requires domestic savings. In a situation where domestic saving is insufficient to meet the investment needs in an economy, external borrowing will be necessary. Hence, the size of external debt will be equal to the domestic resource gap.

Many studies have examined the effect of fiscal deficit on economic growth but there is dearth of literature on the link between fiscal deficit and external debt. The empirical review therefore presents studies showing the effect of fiscal deficit on economic growth.

Akanmobi & Unachukwu (2021) estimated three models to examine the macroeconomic effects of fiscal deficit in Nigeria. The study used the autoregressive distributed lag (ARDL) approach which revealed that fiscal deficit significantly and positively impacted economic growth in Nigeria. Increase in government deficit spending does not harm economic growth. Also, interest rate significantly and positively influenced economic growth while inflation significantly but negatively impacted economic growth in Nigeria. Similarly, Musa (2021) analyzed dataset for the period 1980-2019 and found that fiscal deficit significantly and positively influenced economic growth in Nigeria. In addition, inflation significantly but negatively impacted economic growth. Therefore, the study concluded that fiscal deficit financing is ineffective in achieving sustainable growth. The rationale behind this is that despite huge government spending over the years, economic growth has been very low and sluggish, while inflation rate has been rising. The growth recorded in the Nigerian economy seems to be reflective of rising prices (inflation). The poor outcome of fiscal deficit financing has been blamed on poor policy implementation, wasteful spending, and high level of corruption among others.

Chukwu, Otiwu and Okere (2020) investigated the impact of fiscal deficit on macroeconomic variables in Nigeria; from 1980 to 2012. Using two-stage least square technique, the study found that fiscal deficit negatively and significantly impacted GDP growth rate, real private investment, inflation rate, real exchange rate

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but positively and significantly impacted real interest rates. Thus, the study concluded that due to the negative impact on economic growth, fiscal deficit should be reduced. Adegboyo, Efuntade, & Efuntade (2020) used ARDL to examine the impact of fiscal deficit on economic growth in Nigeria for the period 1980 to 2018. The study found that fiscal deficit and exchange rate significantly but negatively impacted economic growth. This finding agrees with Chukwu, Otiwu and Okere (2020) but contradicts Akanmobi and Unachukwu (2021) and Musa (2021). This result implies that the Nigerian economy deteriorates as more deficits are accumulated. This position was maintained by Miftahu, Rosini, & Tunku (2017), who examined the effect of fiscal deficit on the Nigerian economy. Using the VAR technique, the study found that fiscal deficit negatively impacted economic growth rate.

Momodu & Monogbe (2017) investigated the factors responsible for public financing gap in Nigeria from 1983 to 2016. Using the Error Correction Mechanism (ECM), the study found that both public revenue and public spending positively and significantly impacted budget deficit. This suggests that as public revenue and public spending increase, budget deficit also increases, which contradicts the a priori expectation. Furthermore, the study found that economic development positively and significantly influenced budget deficit. This implies that increase in developmental projects widens public financing gap (fiscal deficit) in Nigeria. In another study, Ibrahim (2017) investigated the effect of fiscal deficit on money demand using the ECM model. The study found short-run and long-run positively significant relationship between money demand and fiscal deficit. Therefore, the study suggested emphasis on the efficiency of public expenditure.

Wuyah & Amwe (2015) analyzed the impact of fiscal deficit on some selected macroeconomic variables in Nigeria for the period 1970 to 2013. Using the Vector Auto-regression (VAR) technique, the study found that fiscal deficit positively and significantly impacts inflation but negatively and significantly impacts money supply and exchange rate. The study concluded that fiscal deficit is a major cause of macroeconomic instability in Nigeria. Further still, Greg and Okoiarikpo (2015) compared the impact of fiscal deficit on economic growth during the military and democratic regimes in Nigeria. The Chow test result revealed that fiscal deficit significantly impacted economic growth during the military regime, while it had insignificant impact on economic growth during the democratic regime. Interest rate had insignificant impact on economic growth during both regimes, while gross fixed capital formation significantly impactedeconomic growth during both regimes.

Osuka & Achinihu (2014) examined the impact of fiscal deficit on macroeconomic variables in Nigeria for the period 1981 to 2012. Granger causality result revealed unidirectional causality flowing from GDP to fiscal deficit. However, there was no causal relationship between fiscal deficit and interest rate, fiscal deficit and inflation and fiscal deficit and exchange rate. The study noted that fiscal deficit poses significant impact on macroeconomic performance in Nigeria by crowding in investment through reduction in interest rate. Hence, public spending should be directed towards capital goods in order to achieve desirable economic growth and development.

In summary, existing studies provide evidence to the fact that fiscal deficit significantly impacts the economy. However, there is need for further study to establish whether the impact is harmful or beneficial. Also, empirical studies have revealed the key role of fiscal deficit in causing macroeconomic instability, hence the need to ascertain the level of influence of fiscal deficit on the economy and map out the route to achieving sustainable economic development.

III. Theoretical Framework and Model Specification

This study draws from the dual-gap theory which holds that due to low domestic saving and the resultant financing gap, external borrowing is inevitable in an economy in order to meet budgetary needs. Therefore, external debt (EDT) can be expressed as resulting from private domestic resource gap (I - S), public domestic resource gap (G - T) and trade gap (M - X). Considering the fact that external debt is mostly denominated in foreign currency and attracts interest payment, the study will allow for the impact of exchange rate (EXR) and interest rate (INT). Hence, the functional form of the model is presented as:

$$EDT = f(FSD, ISG, CAD, EXR, INT) \quad 3.1$$

In econometric form, the ARDL model can be specified thus:

$$EDT_{i,t} = \alpha_0 + \alpha_1 \Delta \ln FSD_{i,t} + \alpha_2 \Delta \ln ISG_{i,t} + \alpha_3 \Delta \ln CAD_{i,t} + \alpha_4 \Delta \ln EXR_{i,t} + \alpha_5 \Delta \ln INT_{i,t} + \beta_1 \ln FSD_{i,t} + \beta_2 \ln ISG_{i,t} + \beta_3 \ln CAD_{i,t} + \beta_4 \ln EXR_{i,t} + \beta_5 \ln INT_{i,t} + \mu_{i,t} \quad 3.2$$

Where EDT represents external debt, FSD represents fiscal deficit or public financing gap (G –T), ISG represents private financing gap (I – S), CAD represents current account deficit (M – X), EXR represents exchange rate, INT represents interest rate. α_0 is the intercept, α_1 - α_5 represents the elasticities of the corresponding variables. Δ is the difference operator and is the error term; representing all other

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variables influencing external debt which are not captured in the model.

EDT is a measure of public debt servicing in billion naira, FSD is captured by the overall surplus/deficit in billion naira, ISG is the difference between gross capital formation and saving; measured in billion naira, CAD is the difference between imports and exports; measured in billion naira. EXR is the rate at which a unit of the local currency exchanges for the dollar. EXR is measured as the local currency units per dollar. INT is the rates of return on investment set by the monetary authority. INT is measured as the difference between the lending rate and deposit rate.

To achieve the stated objectives, annual time-series data from the period 1981 to 2020 was sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (2021). The study expects apriori that the wider the fiscal deficit, private financing gap and trade gap, the higher the external debt burden based on the dual-gap theory. FSD, ISG, CAD and EXR are expected to be positively related to external debt while INT is expected to be negatively related to external debt.This is because the greater the value of foreign currency relative to the local currency, the more the liability of external debt and the poorer the capacity for debt repayment. On the other hand, the lower the interest rate, the greater the desire to accumulate more external debt.

IV. Results and Discussion

The study started with descriptive statistics to know the characteristics of the variables. Table 4.1 presents the summary statistics for external debt (EDT - dependent variable) and the independent variables – current account deficit/balance (CAD), fiscal deficit/ balance (FSD), exchange rate (EXR), real interest rate (INT), and investment-savings gap (ISG). The standard deviations of CAD, EDT, FSD, EXR, INT, and IS are greater than 1. This means that the level of variance in the data for current account deficit, external debt, fiscal deficit, exchange rate, investment- savings gap, and real interest rate are high. The high variance indicates that the means of current account deficit, external debt, fiscal deficit, exchange rate, investment-savings gap, and real interest rate are not reliable representatives of their individual observations. From 1981 to 2019, the minimum and maximum values for current account deficit, external debt, fiscal deficit, exchange rate, investment-savings gap, and real interest rate were -7.22 and 21.97 percent of GDP, 1.26 and 59.82 percent of GDP, 0.61 and 306.92 naira per dollar, -5.99 and 0.85 percent of GDP, -65.86 and 18.18 percent, and -22.04 and 7.35 percent of GDP respectively.

Table 4.1: Descriptive Statistics

Variables	CAD	EDT	EXR	FSD	INT	IS
Mean	2.87	20.52	100.02	-2.34	0.35	-4.31
Median	2.12	12.10	100.80	-2.06	4.31	-2.85
Maximum	21.97	59.82	306.92	0.85	18.18	7.35
Minimum	-7.22	1.26	0.61	-5.99	-65.86	-22.04
Std. Dev	6.04	20.24	89.52	1.62	14.62	5.74
Skewness	1.03	0.67	0.76	-0.26	-2.63	-1.07
Kurtosis	4.27	1.96	3.02	2.49	12.23	4.52
Jarque-Bera	9.49	4.69	3.71	0.87	183.66	11.20
Probability	0.0087	0.96	0.16	0.65	0.00	0.0037
Sum	111.79	800.27	3900.76	-91.23	13.52	-168.07
Sum Sq. Dev	1388.53	15571.92	304542.6	99.25	8122.43	1252.16

Source: Author's Computation (2022)

Table 4.2 shows the results of correlation, which captured objective one. The correlation coefficients of external debt (EDT) with fiscal deficit/balance (FSD), current account deficit/balance (CAD), exchange rate (EXR), real interest rate (INT), and investment-savings gap (ISG) are negative. This implies that an inverse relationship exists between external debt and the independent variables - Nigeria's fiscal balance, current account balance, naira to dollar rate, real interest rate, and investment-savings gap. The correlation coefficients further show the strengthof the relationship. Fiscal deficit and exchange rate are moderately related to external debt, while current account deficit, real interest rate and investment-saving gap are weakly related to external debt.

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Table 4.2: Correlation Matrix Result

	EDT	FSD	CAD	EXR	INT	ISG
EDT	1.00					
FSD	-0.59	1.00				
CAD	-0.01	0.43	1.00			
EXR	-0.49	0.25	0.12	1.00		
INT	-0.09	0.05	0.20	0.38	1.00	
ISG	-0.06	-0.22	-0.62	-0.11	-0.08	1.00

Source: Author's Computation (2022)

The study proceeded to examine the level of stationarity of the variables because most macroeconomic variables have been found to be non-stationary at level (Engle & Granger, 1987). Table 4.3 shows that external debt (EDT) and exchange rate (EXR) are stationary at first difference, while current account deficit/balance (CAD), fiscal deficit/balance (FSD), real interest rate (INT), and investment-savings gap (ISG) are stationary at level. This is because the absolute values of the computed ADF test statistics are greater than the absolute value of the tabulated ADF critical values of the variable at 5% level of significance.

Table 4.3: Augmented Dickey Fuller Test Results

Variable	Level Test Statistics	Critical Value @5%	Prob. Value	1st Diff.Test Statistics	Critical Value @5%	Prob. Value	Integration Rank
CAD	-3.18	-2.94	0.03**	-	-	-	I(0)
EDT	-1.44	-2.94	0.55	-4.48	-2.94	0.00***	I(1)
EXR	1.40	-2.94	0.99	-4.27	-2.94	0.00***	I(1)
FSD	-2.99	-2.94	0.05**	-	-	-	I(0)
INT	-7.25	-2.94	0.00***	-	-	-	I(0)
ISG	-4.58	-2.94	0.00***	-	-	-	I(0)

*Note: ** and *** represent 5% and 1% significance levels respectively*
Source: Author's Computation (2022)

Then the study proceeded to ascertain the directional flow between the variables. Table 4.4 presents the result of the granger causality test which captured objective two. Table 4.4 shows that fiscal deficit which is the key independent variable is a significant predictor of changes in Nigeria's external debt as well as interest rate. The fact that there is no causality between FSD and the independent variables - ISG, EXR suggests that ISG and EXR have strong exogeneity in the external debt model.

Table 4.4: Granger Causality Test Results

Null Hypothesis	F-Statistics	Prob. Value	Remark
FSD to EDT EDT to FSD	4.01 1.14	0.03** 0.33	Unidirectional causal flow from FSD to EDT
CAD to EDT EDT to CAD	4.79 0.11	0.02** 0.90	Unidirectional causal flow from CAD to EDT
ISG to EDT EDT to ISG	1.55 0.30	0.23 0.75	No causality
INT to EDT EDT to INT	0.57 3.13	0.57 0.06*	Unidirectional causal flow from EDT to INT

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EXR to EDT EDT to EXR	1.51 0.05	0.24 0.95	No causality
INT to FSD FSD to INT	2.17 9.94	0.13 0.00***	Unidirectional causal flow from FSD to INT

*Note: *, ** and *** represent 10%, 5% and 1% significance levels respectively*
Source: Author's Computation (2022)

To establish the existence of long-run relationship in the series, ARDL Bounds test was used. If the F-statistic is greater than the critical value there is long-run relationship among the variables. From Table 4.5, the F-statistic is greater than the critical values even at the 1% significance levelhence, the existence of long-run relationship.

Table 4.5: ARDL Bound Test

Test Statistic	Value	k
F-statistic	5.29	6
Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Author's Computation (2022)

Table 4.6 presents the result of the ARDL test. The Durbin-Watson statistic 1.932 is greater than the R^2 0.889 and less than 2. It shows that there is no false regression result and absence of serial correlation respectively. The probability value of the F-statistic is less than (<) 0.01. This means that all the predictor variables EDT(-1) FSD, CAD, INT, ISG, and EXR are jointly significant in explaining variations in external debt in Nigeria. The R-squared value is 0.889. This implies that approximately 89% of the changes in the dependent variable is explained or accounted for by EDT(-1) FSD, CAD, INT, ISG, and EXR.

Table 4.6 shows that external debt in the previous year positively and significantly impacted external debt in the current year at the 1% significance level. This implies that 1% increase in external debt in the previous year will lead to an approximately 0.76% rise in external debt in the current year. Exchange rate negatively and significantly impacted external debt in Nigeria at the 10% significance level. This implies that 1% increase in the naira to dollar rate will lead to an approximately 0.03% reduction in external debt. This tally with the correlation result and also testifies to the fact that less importation and more exportation will reduce the trade gap arising from exchange rate exposure and consequently reduce external debt. However, the causality test result shows that exchange rate does not directly impact external debt.

Current account deficit/balance negatively but insignificantly impacted external debt. 1% increase in CAD will lead to an approximately 0.16% decrease in external debt. The data on CAD obtained from the CBN's statistical bulletin shows that the years of surplus exceeds the years of deficit and this is due to huge gains from oil trade. This result is best interpreted in termsof current account surplus and external debt. By implication, efforts to close deficits or increase surpluses in current account will reduce external debt in Nigeria.

FSD negatively and significantly impacted external debt at the 5% significance level. The result shows that 1% increase in FSD will lead to an approximately 3.04% decrease in external debt. The result further shows that FSD is the key predictor variable. This result aligns with the correlation matrix and the granger causality. Moreso, the standard deviation from the descriptive statistics which is 1.62 and is relatively not far from 1, shows that FSD is fairly stable. The negative relationship between external debt and fiscal deficit suggests that if excess expenditure is productively used, external debt burden will be significantly reduced. In addition, since external debt variable entered the model with positive values, in absolute terms, it can beinterpreted that 1% reduction in FSD will reduce external debt in Nigeria by 3.04%. There was no significant impact between external debt and INT but the coefficient was positive. This showsthat real interest rate is positively associated with external debt. This implies that as external debt increases, interest rate increases. This will further expand the investment-saving gap because literature supports an inverse relationship between interest rate and investment. Also, no significant impact existed between external debt and ISG, whose coefficient was negative. This shows that an indirect relationship exists between external debt and investment. Therefore, external debt will impact investment through the influence of interest rate.

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Table 4.6: Auto regressive Distributed Lag (ARDL) Regression Results

Variable	Coefficient	Prob. Value
C	0.20	0.95
EDT(-1)	0.76	0.00***
EXR	-0.03	0.05**
CAD	-0.16	0.61
FSD	-3.04	0.01***
INT	0.15	0.32
ISG	-0.33	0.24
R-squared 0.89 Adjusted R-squared 0.87	F-statistics 41.68 Prob (F-statistics) 0.00***	Durbin-Watson stat. 1.93

*Note: ** and *** represent 5% and 1% significance levels respectively*
Source: Author's Computation (2022)

V. Conclusion and Recommendations

Based on the dual gap theory, the study examined the impact of fiscal deficit, private financing gap, current account deficit and other control variables on external debt in Nigeria; from 1981 to 2020. Correlation analysis, granger causality test and ARDL results showed that fiscal deficit is astrong predictor of external debt in Nigeria. The study concludes that fiscal deficit, exchange rate, previous debt profile significantly impacts external debt servicing in Nigeria. Hence, government should ensure that excess expenditure leading to fiscal deficit should be efficiently used for productive and income generating public investments. Public policy should be directed towards export promotion in order to check the exposure to exchange rate fluctuations and devaluation effects on import dependent economies like Nigeria. Finally, in order to close the investment-saving gap, interest rate should be reduced.

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