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Fiscal Deficit Financing Strategies and Human Development Outcomes in Nigeria

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ABSTRACT

The study delved into the intricate relationship between fiscal deficit financing strategies and human development outcomes in Nigeria, spanning from 1981 to 2024. By examining domestic and external debt as the main financing mechanisms and utilizing the Human Development Index (HDI) as a measure of human welfare, the research was anchored in both the Neoclassical and the Keynesian theoretical frameworks. Employing the Autoregressive Distributed Lag (ARDL) bounds testing approach, the analysis revealed a stable long-term cointegrating relationship among the variables. The findings indicated that both domestic and external debt significantly adversely affect Nigeria's HDI in both short-term and long-term contexts. Specifically, the domestic debt tends to crowd out private investment and essential social expenditure, while the long-term negative ramifications of the external debt are notably exacerbated by foreign exchange shortages, austerity measures, and an overwhelming debt servicing burden. The study concluded that Nigeria's ongoing dependence on debt to address fiscal deficits has detrimental consequences for human development, hampering advancements in vital sectors such as health, education, and living standards. To mitigate these issues, the research advocated for a comprehensive policy framework aimed at enhancing domestic revenue generation, prioritizing productive infrastructure borrowing, and promoting long-term economic diversification and institutional fortification.

INTRODUCTION

Every government develops and enforces fiscal policies to ensure the smooth operation of the economy. Fiscal policy involves actions taken by the government to adjust expenditures and revenues to achieve optimal economic outcomes (Udonwa & Ubi-Abai, 2018; Adukpo & Bethel, 2025). Usually, plans are made through annual budgets to meet expenditure and revenue goals. However, these estimated revenues can fall short because actual revenues often do not match the budget projections. This creates a deficit that can impact the government's spending plans. To fulfill these plans, the government seeks alternative ways to finance the deficit, which is essential to stabilizing the economy (Ubi-Abai & Bosco 2017; Ubi-Abai & Ekere 2018).

To finance the fiscal deficit, the government goes into public debt. Public debt refers to borrowing by the government from banks and non-bank institutions. Public debt comprises domestic debt and external debt. Domestic debt represents the gross liability of the government, including the Federal, State, and Local governments' transfer obligations to citizens and corporate firms within the country. It consists of securitized loans such as Treasury bills and certificates, development stocks, Treasury bonds, state government bonds, as well as non-securitized loans such as public sector debt to banks and local contractors. External debt refers to liabilities that require payments of principal and/or interest at some point in the future and that are owed by residents to non-residents of an economy (Uma *et al* (2013); Okon *et al.*, (2016)). Invariably, fiscal deficit can be financed through domestic and external debts.

Fiscal deficit is a persistent feature of Nigeria's economic landscape. Similar to numerous developing countries, Nigeria frequently depends on public debt to fill the gap between government expenditure and revenue. In other words, Nigeria's domestic and external debts are strategies for financing fiscal deficits. The domestic debt of Nigeria grew from 11.9 billion in 1981 to 84.09 billion in 1990. It further grew from the 1990 figures to 898.25 billion in the year 2000. The domestic debt of Nigeria maintained an upward trend, reaching 4,551.82 billion in 2010 and 8,837 billion in 2015. Furthermore, domestic debt increased to 16,023.89 in 2020, 53,258.01 in 2023, and approximately 74 trillion by the end of 2024 (CBN, 2023; NBS, 2024). External debt also experienced an upward trend. It increased from 2.33 billion in 1981 to 298.61 billion in 1990. It further increased to 3,097.38 in the year 2000 but reduced to 689.84 billion in 2010. It increased to 12,705.62 billion in 2020, with a further rise to 38,219.85 billion in 2023. External debt climaxed in 2024 with 70.63 trillion (CBN, 2023; NBS, 2024).

The upward trends in domestic and external debts since 1981 show that while fiscal deficits can be strategic for economic growth, the method of financing them can be critical. Notwithstanding, the Nigerian climate presents a perplexing paradox: immense resource wealth coexists with profound human development challenges. Despite being a top crude oil exporter, Nigeria has faced ongoing fiscal shortfalls for years, resulting in heightened borrowing and growing debt levels. Although deficit financing is frequently regarded as essential for supporting

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government initiatives and boosting economic activity, its effects on human development are not completely understood, as questions persist about the success of deficit financing in fostering human development outcomes in Nigeria.

Nigeria consistently ranks low on the United Nations Human Development Index (HDI). A 10-year interval analysis of Nigeria's HDI shows that it was 0.402 in 1980. It increased to 0.404 in 1990. It further increased to 0.415 in the year 2000 and 0.462 in 2020. The HDI of Nigeria increased to 0.541 in the 2023/2024 findings by the United Nations Development Programme. The trend in Nigeria's HDI shows gradual but marginal increases. The consistently low categorization of Nigeria's HDI reflects the persistent challenges in health, education, and income despite some progress in the composite index over time.

It is essential to recognize that a heavy reliance on fiscal deficit financing through domestic and external debts may have adverse consequences. First, heavy reliance on fiscal deficit financing through domestic and external debts can fuel inflationary pressures when these resources or funds are not directed toward productive sectors. Secondly, heavy reliance on fiscal deficit financing through domestic and external debts can result in crowding out public social investment, which can stifle meaningful progress in human development in both the short run and the long run. This study investigates the often-overlooked link between how Nigeria funds its deficits and the outcomes in health, education, and living standards for its citizens. The central research question is: How have Nigeria's fiscal deficit financing strategies, such as domestic and external debts, affected key human development outcomes?

Most studies on Nigeria focus on the relationship between public debts (domestic and external) and broad macroeconomic indicators like GDP growth. This research moves beyond by examining the relationship between the fiscal deficit financing strategies (domestic and external debts) and human development outcomes. It provides a more nuanced answer to the question: It is not just debt, but which kind of debt that matters for human development. This study would assist policymakers in making informed choices regarding debt management and how public debt can be utilized to ensure human development is sustained.

Following the introduction, section two presents the literature review. Section three presents the research methodology. Section four analyses empirical data, and section five concludes the study.

LITERATURE REVIEW

Neoclassical Theory

The neoclassical theory pertains to the economic ideas of Adam Smith and his disciples, which were enhanced by the research of David Ricardo, John Stuart Mill, and Reverend Thomas, becoming widely recognized between 1800 and 1850 (Awolaja & Esefo 2020). This school of thought asserts that budget deficit negatively impacts economic growth by driving up real interest rates and displacing private investments from the economy; that government expenditures funded through borrowing must be repaid, placing a burden on future generations; that a budget deficit causes an increase in interest rates, which deters the issuance of private bonds and investments, consequently leading to higher inflation levels and negatively impacting economic growth due to resource crowding out; and overreliance on deficit financing may result in weak economic performance and does not guarantee economic growth (Okolie & Anidiobu, 2020)

Keynesian Theory

The Keynesian theory was developed by John Maynard Keynes (1883-1946) in 1936. The choice of the Keynesian framework is based on its core recommendation for counter-cyclical fiscal policy, which suggests that government deficit spending can boost aggregate demand during economic downturns through multiplier and "crowding in" effects, thereby increasing output and employment. This theoretical justification for active government intervention is especially relevant during recessions; however, its use is critically evaluated based on empirical evidence showing negative effects from both domestic and external debt buildup over the long term. Therefore, the framework is used not as an outright endorsement of deficits but as a foundational model to evaluate the short-term stimulative effects of debt-financed spending, while carefully considering the risks associated with sustained public debt.

Review of Empirical Literature

Many scholars have researched fiscal deficit financing and economic growth, while others have focused on fiscal deficit financing and economic development. This study seeks to focus on the review of related literature on fiscal deficit financing and human development.

Dagwom (2016) examined the causal nexus between budget deficits and human development in Nigeria for the period 1980 to 2013. Acknowledging the divergent theoretical perspectives in the literature, namely, neoclassical, Ricardian, and Keynesian theories the research adopted a Keynesian framework. Methodologically, the study employed a Vector Error Correction Model (VECM) to analyze long-run causality. The significance of key model statistics (Wald and error correction term coefficients) confirmed a unidirectional causal relationship from budget deficits to the human development index, a finding the study discovered to be consistent with the Keynesian theory. The study concluded that for budget planning to be an effective fiscal policy instrument, the long-run and more permanent effects of deficits on human development must be a primary consideration.

Monogbe and Okah (2017) examined the effect of deficit financing on Nigeria's economic development within the context of theoretical debates between Keynesian, neoclassical, and Ricardian schools. The study is prompted by the paradox of Nigeria's

high debt accumulation not translating into tangible development outcomes. Employing an error correction model and Granger causality tests for the period 1981 to 2015, the analysis revealed that the external debt exhibited a statistically significant positive relationship with economic development, albeit with a minimal coefficient (0.0173). Conversely, neither domestic debt nor the budget deficit itself demonstrates a causal link to development. The study, therefore, concluded that deficit financing, specifically through external debt, can act as a vital developmental stimulus, affirming the Keynesian postulate. The study recommended the prudent and coordinated management of borrowed funds, ensuring they are invested in capital and productive sectors to foster sustainable economic development.

Employing a dual-methodological framework, Udeaja and Akanni (2024) examined the nexus between fiscal deficits and human development in Nigeria from 1990 to 2021. Their application of an ARDL model found no statistically significant linear relationship in the short run or the long run. In contrast, a multivariate adaptive regression spline analysis uncovered a critical nonlinear threshold: deficits enhanced human development below 1.34% of GDP but constrained it beyond that point, which suggested fiscal sustainability constraints. They believed that this negative effect could be reversed with robust economic capacity. The research emphasized electrification as a pivotal determinant of development and advocated for a policy framework of targeted deficit spending in priority sectors, fiscal rule enforcement, and sustained investment in infrastructure to promote sustainable human development.

Suotor *et al* (2025) adopted key variables such as the human development index (a proxy for economic development), broad money supply, deficit budget, domestic debt, and external debt as they investigated the relationship between deficit financing and economic development in Nigeria from 1980 to 2024. They employed cointegration and error correction analysis. Their findings indicated that all the variables are integrated of order 1(0). The application of an Error Correction Mechanism (ECM) further revealed a significant short-run relationship and quantified the rate of adjustment back to the long-run equilibrium. The study concludes that budget deficits, by negatively correlating with the HDI, can act as a constraint on government expenditure. Consequently, the authors recommended a comprehensive fiscal approach, emphasizing prudent management of domestic and external debt, to safeguard Nigeria's economic well-being. However, it should be noted that if all variables are integrated to order zero, I(0), the problem the ECM is designed to solve simply does not exist. This is because the entire theoretical foundation of the ECM is built on the concept of cointegration, a long-run equilibrium relationship between variables that are non-stationary (I(1)) but move together over time. Hence, using ECM to model I(0) variables is inappropriate.

MATERIAL AND METHODS

The study adopts the ex post research design. This implies analyzing and understanding the consequences of a particular event after it has occurred. It is fitting that the study seeks to analyze the effect of fiscal deficit financing strategies on human development in Nigeria.

Data and Sources

The data obtained are Nigerian data from 1980 to 2024. The data comprise the human development index, data on domestic debt, data on external debt, data on exchange rate, data on GDP growth, and population data. These secondary data were sourced from the United Nations Development Programme (UNDP), the Central Bank of Nigeria (CBN) statistical bulletin, and the National Bureau of Statistics (NBS).

Model Specification

The model is formulated based on the Neoclassical and Keynesian views on fiscal deficit. The Keynesians support fiscal deficit financing, unlike the neo-classicals. An appropriate variable to measure the multiplier effect on the welfare of people is the human development index. The HDI represents the dependent variable, while the external source of deficit financing and the domestic source of deficit financing represent the independent variables. The study includes control variables in the model to capture critical sectors of the Nigerian economy. Gross fixed capital formation was included as a proxy for investment; interest rate represents the monetary sector and a vital variable for domestic debt payments; exchange rate represents the external sector and a very important variable with respect to external debt; and population represents people who constitute the society.

The functional form of the model to capture fiscal deficit financing strategies and human development outcomes is specified in equation (1).

$$HDI = f(DDF, EDF, GDPGR, RINT, EXCH, POP) \quad (1)$$

Where HDI is Human Development Index, EDF is External Deficit Financing, DDF is Domestic Deficit Financing, GDPGR is the growth rate of GDP, EXCH is Exchange Rate, INR is Interest Rate, and POP is Population. Equation (1) states that the human development index is a function of external deficit financing. Domestic deficit financing, investment, interest rate, exchange rate, and population. Expressing equation (1) in a linear equation form, it transforms into equation (2), thus:

$$HDI = \beta_0 + \beta_1 DDF + \beta_2 EDF + \beta_3 GDPGR + \beta 4 RINT + \beta_5 EXCH + \beta_5 POP + \mu_t \quad (2)$$

Where β_0, β_1, β_2, β_3, and β_4 are parameters, and μ_t is the error term.

Method of Data Analysis

First, the study presents a pictorial analysis of the variables. Subsequently, the variables are subjected to stationarity tests, which involve testing for a unit root to

determine the order of integration. Variables are said to be stationary when the mean, variance, and covariance are constant over a given period (Gujaratti & Sangeetha, 2007). The Augmented Dickey Fuller test and the Phillips-Perron test were conducted to determine the stationarity of the variables.

The study used the Autoregressive Distributed Lag (ARDL) approach as presented by (Pesaran & Shin 1995) and extended by Pesaran *et al* (2001). The application of ARDL helps to obviate problems associated with determining short time series data (Green, 2008) Moreover, the approach can test for cointegration among the variables regardless of whether the underlying variables are I(0), I(1), or fractionally integrated. The F bounds test for cointegration was used to ascertain the long-run relationship among the variables. Applying the ARDL to the model specification, equation (3) takes the form:

$$Y_t=\delta_0+\delta_1 t+\cdots+\delta_k t^k+\sum^{p}_{(p=1)}\emptyset_p Y_{(t-p)}+\sum^{m}_{(k=1)}\sum^{Qk}_{(j=0)}\beta_{(k,j)} X_{(k,t-j)}+\epsilon_t \quad (3)$$

Where $\delta_0+\delta_1 t+\cdots+\delta_k t^k$ is the constant and trend, $\sum^{p}_{(p=1)}\emptyset_p Y_{t-p)}$ is the autoregressive term, and $\sum^{m}_{(k=1)}\sum_{(j=0)}$ $^{(Q\_k)}\beta_{(k,j)} X_{(k,t-j)}$ is the distributed lag, Y_t is HDI, and Xk is the vector of the independent variables (DDF, EDF, GDPGR, RINT, EXCH, and POP)

It is expected that positive relationships exist between the autoregressive terms of HDI and HDI. It is also expected that domestic debt financing and external debt financing affect human development outcomes positively and significantly. It is expected that the control variables: GDP growth rate, real interest rate, and the rate at which the Naira exchanges for the dollar affect human development outcomes positively.

The study carried out diagnostic tests for the ARDL model. These diagnostics test includes statistical tests such as the Breusch-Godfrey autocorrelation test, the Jarque-Bera normality test, and the White's heteroscedasticity test.

The Breusch-Godfrey autocorrelation test is a statistical test to detect the presence of autocorrelation in the error terms (residuals) of a regression model. This test was necessary to ensure that residuals are independent of each other in the model. This avoided cases of inefficient estimates and incorrect standard errors that can make hypothesis tests (t-test and F-test) unreliable. It tests the null hypothesis that the residuals are not correlated.

The Jarque-Bera normality test is a statistical test to determine if a sample of data has skewness and kurtosis that match the normal distribution. The Jarque-Bera normality test is important because the validity of t-tests and f-tests relies on the errors being normally distributed. Moreover, models assume a normal distribution for the error term to obtain efficient estimators. It tests the null hypothesis that the data is normally distributed.

The White's heteroscedasticity test is a statistical test to determine if the variance of the errors is not constant across all observations. When this happens, it can lead to incorrect conclusions from hypothesis tests. White's heteroscedasticity test checks the violation of homoscedasticity in a model. It tests the null hypothesis of homoskedasticity, that is, the error variance is constant.

RESULTS AND DISCUSSIONS

The data analysis comprises the trend analysis of the domestic and external debt, fiscal deficit financing strategies, the stationary tests of variables used for the model, the outputs of the ARDL diagnostics, and the results of the estimation of the ARDL model in both the short run and the long run.

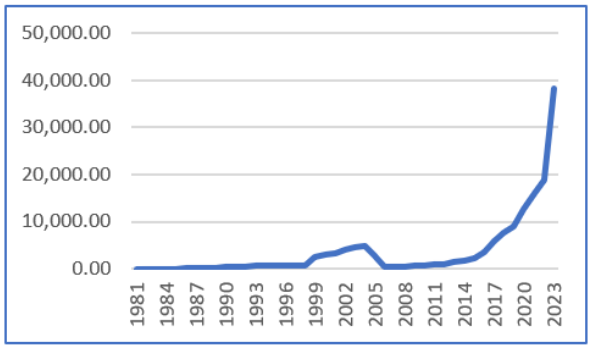

Figure 1: Trend in Domestic Debt, 1981 – 2023.

Figure 1 shows the trend in domestic debt from 1981 to 2023. The trend in domestic debt shows that domestic debt, a fiscal deficit financing strategy, has been on the rise since 1981. It increased over 7-fold from 11.19 in 1981 to 84.09 in 1990. The domestic debt increased over 100-fold to 898.25 in the year 2000. Nigeria's domestic debt has risen consistently since 2000 due to the government's reliance on borrowing from local markets to finance recurring budget deficits. Driven by expenditure on infrastructure, subsidies, and public wages, the state has issued increasing volumes of treasury bills and bonds to banks and pension funds. This has led to high debt service costs that now consume a large share of federal revenue, crowding out private sector lending in the economy. It continued the upward movement, becoming 1525.91 in 2005 and multiplying threefold to 4551.82 in 2010. It almost doubled in 2015, amounting to 8837. It continued its increasing trend as it became 16,023.89 in 2020 and reached a peak in 2023 of 53,258. The implication of the increasing trend is that domestic debt is capable of posing a significant threat to human development. The regression outcome determines the specific effect on human development in Nigeria.

The trend in external debt as a fiscal deficit financing strategy since 1981 is displayed in Figure 2. External debt increased from 2.33 in 1981 to 17.30 in 1985. It continued the increasing trend as it rose to 298.61 in 1990, and more than doubled in 1995 to 716.87. It increased to 3,097.38 in the year 2000 and further increased to 4,890.27 in 2004. However, a decreasing trend sets in as external debt nosedived to 451.46 and 438.89 in 2006 and 2007,

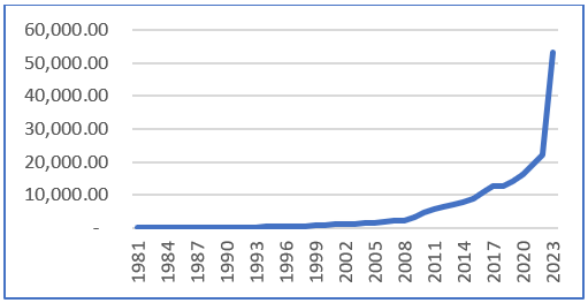

Figure 2: Trend in External Debt, 1981 – 2023.

respectively. External debt began increasing from 523.25 in the year 2008 to 1,026.90 in 2012. It more than doubled to 2111.51 in 2015. It further increased to 12,705.62 in 2020 and reached a peak at 38,219.85 in 2023. Notably, Nigeria's external debt stock increased after 2000, particularly following debt relief from the Paris Club in 2005, which cleared major arrears but also created fresh borrowing space. The post-relief period saw a cautious return to external borrowing for infrastructure projects, but debt accumulation accelerated significantly after 2015 due to a combination of factors: sharp declines in oil revenues, economic recession, and currency devaluation, which widened budget and current account deficits. The government turned to cheaper foreign financing sources, including concessional loans from multilateral institutions like the World Bank and bilateral loans from China, to fund railways, power projects, and budget support, while also issuing Eurobonds in international capital markets to access larger funds and shore up foreign reserves. The increasing trend implies that external debt can affect human development, which is determined using

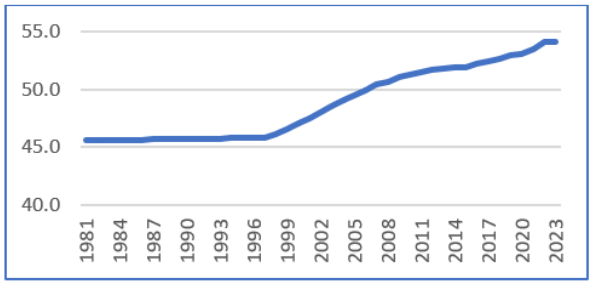

Figure 3: Trend in Human Development Index, 1981 – 2023.

the ARDL estimation. The Human Development Index (in percentage) of Nigeria in Figure 3 shows the steady increase in HDI from 1981 to 1997. It suddenly increased and reached a peak at 54.1 in 2023. The analysis of the three trend diagrams presents a scenario: the fiscal deficit financing strategies, domestic debt, and external debt, as well as the human development index, showed increasing trends. The implication is that the co-existence of rising debts and rising HDI suggests that the government is using debt-fueled public spending to drive human development. This can be a deliberate strategy, but it carries significant risks. The question is: Is this growth and development sustainable, or is it building up to a future crisis? The implication hinges on the quality, efficiency, and sustainability of this spending. The study provided the answer by estimating an ARDL model.

ARDL Model Diagnostics and Output Analysis

The specified model was subjected to ARDL estimation to examine the effect of domestic and external debts on human development in Nigeria. It is important to analyze the model diagnostics to ensure that the model is fit for interpretation and policy recommendations. Table 1 presents the Stationarity of the variables and the ARDL model diagnostics.

The Augmented Dickey-Fuller and the Phillips-Perron unit root tests to determine the level of stationarity of variables are shown in Table 1. For the Augmented Dickey-Fuller test, the domestic debt financing, external debt financing, rate of gross domestic product, real interest rate, exchange rate, and population were stationary at levels, while the human development index was stationary at first difference for the Phillips-Perron test, the domestic debt financing, external debt financing, rate of gross domestic product, real interest rate, and exchange rate were stationary at levels, while population and the human development index were stationary at first difference.

The outcome of the unit roots of the variables shows that the variables were stationary at both levels and first differences using both approaches. This combination of the levels of unit roots among the variables requires the use of an estimation method that can handle both categories of stationarity of variables at the same time. Hence, the Autoregressive Distributed Lag model estimation is appropriate. Notably, the ARDL model needs some diagnostics to ensure it is fit for interpretation and policy recommendations. Table 1 shows the ARDL model diagnostics.

The ARDL diagnostics comprise the bounds test for cointegration, the Jarque-Bera test for normality, Breusch-Godfrey's autocorrelation test, and White's heteroscedasticity test. To start with, the F-statistic of the bounds test is 4.40149, which is higher than the lower and upper bounds at the 5% level of significance. This indicates that long-run relationships exist among the variables in the model. Since long run relationship exist among variables in the model, it is appropriate to tie the short-run behaviours of the variables to their long-run values. The second diagnostic, the JB test, with statistics of 1.13459 and a p-value of 0.5670, shows that the ARDL model follows the normal distribution. The third diagnostic, Breusch-Godfrey's f-statistic of 2.33817 with a p-value of 0.1042, shows that there is no serial correlation or autocorrelation of the errors in the model. Lastly, the White test with an f-statistic of 0.46144 and a p-value of 0.9374, shows that the variance of the error term in the ARDL model is the same for all observations

Table 1 : Unit Root and ARDL Model Diagnostics

Augmented Dickey-Fuller (ADF)					
SN	**Variables**	**Levels (I0)**	**1st Diff. (I1)**	**2nd Diff. (I2)**	**Remark**
1	DDF	0.0152			Stationary at Levels
2	EXDF	0.0000			Stationary at Levels
3	GDPGR	0.0000			Stationary at Levels
4	RINT	0.0000			Stationary at Levels
5	EXCH	0.0000			Stationary at Levels
6	POP	0.0333			Stationary at Levels
7	HDI	0.9477	0.0156		Stationary at 1st Diff.
Phillips-Perron (PP) Unit Root Test					
SN	**Variables**	**Levels (I0)**	**1st Diff. (I1)**	**2nd Diff. (I2)**	**Remark**
1	DDF	0.0152			Stationary at Levels
2	EXDF	0.0000			Stationary at Levels
3	GDPGR	0.0000			Stationary at Levels
4	RINT	0.0000			Stationary at Levels
5	EXCH	0.0000			Stationary at Levels
6	POP	0.7259	0.0001		Stationary at 1st Diff.
7	HDI	0.9950	0.0150		Stationary at 1st Diff.
ARDL Model Diagnostics					
SN	**Model Diagnostics**	**Statistics**	**Value**	**P-Value**	**Remark**
1	Bounds	F-Statistics	4.40149		Cointegration
2	Jarque-Bera	J-Statistics	1.13459	0.5670	Normal Distribution
3	Breusch-Godfrey	F-Statistics	2.33817	0.1042	No Serial Correlation
4	White	F-Statistics	0.46144	0.9374	Homoskedasticity

Source: EVIEWS 13.0

(Homoscedastic).

Having ascertained the stationarity of the variables and the ARDL model diagnostics, Table 2 presents the effect of the fiscal deficit financing strategies and human development outcomes in both the short run and the long run.

Having ascertained the stationarity of the variables and the ARDL model diagnostics, Table 2 presents the effect of the fiscal deficit financing strategies and human development outcomes in both the short run and the long run.

The ECM term is -0.597510. It measures the speed of adjustment from short-run disequilibrium back to long-run equilibrium. This means that approximately 59.75% of the deviation from the long-run relationship is corrected within one time period. The P-value of 0.0000 shows that the speed of adjustment is significant at the 5% level. Since it is significant at the 5% level, the null hypothesis that the adjustment coefficient is zero is rejected. This confirms that there is a valid error correction mechanism, that is, the variables are cointegrated or have a stable long-run relationship. This supports the model's validity because short-run dynamics are influenced by deviations from the long-run equilibrium. In terms of policy impact, with respect to the variables, shocks that push the system out of equilibrium will be corrected quickly (since about 60% of the disequilibrium error is eliminated each period).

Table 2 presents the short-run and long-run relationships between fiscal deficit financing strategies and human development outcomes in Nigeria during the period under study. The relationship between domestic debt and HDI is negative in both the short-run and long-run. This means that as one goes up, the other tends to go down. The findings are that an increase in domestic debt is associated with a decrease in HDI. The number -0.63836 suggests the relationship is moderately strong. Also, an increase in domestic debt is associated with an even larger decrease in HDI. The number -1.06835 suggests a very strong and more damaging effect over time. The p-value is less than 0.05, which indicates that the relationship isn't random or weak; it's statistically robust, meaning we can be confident that domestic debt is genuinely linked to these changes in HDI.

This finding points to several critical economic problems that arise when the government relies heavily on domestic borrowing to finance its deficit. When the government needs to borrow, it issues bonds and offers high interest rates to attract lenders. Nigerian banks and other financial

Table 2: ARDL Short Run & Long Run Estimates.

Short Run Coefficient				
Variable	**Coefficient**	**Std. Error**	**T-Statistic**	**Prob.**
COINTEQ*	-0.597510	0.088167	-6.77706	0.0000
D(DDF)	-0.638360	0.170301	-3.7484	0.0010
D(EXDF)	-0.438390	0.140970	-3.10983	0.0041
D(EXDF(-1))	0.500422	0.168929	2.962319	0.0059
D(EXDF(-2))	0.120473	0.074400	1.619273	0.1159
D(GDPGR)	1.541097	1.855372	0.830614	0.4147
D(RINT)	0.006289	0.003557	1.768207	0.0872
D(RINT(-1))	**-0.008930**	**0.003764**	**-2.37175**	**0.0243**
D(EXCH)	**0.544265**	**0.146250**	**3.721455**	**0.0008**
D(EXCH(-1))	-0.565710	0.187779	-3.01262	0.0052
D(EXCH(-2))	-0.198990	0.090022	-2.21046	0.0348
D(POP)	-0.790060	0.287461	-2.7484	0.0114
Long Run Coefficient				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DDGR	-1.068350	0.350356	-3.049340	0.0046
EXDGR(-1)	-2.015890	0.507593	-3.971460	0.0004
GDPGR	**2.579186**	**2.804790**	**0.919565**	**0.3647**
RINT(-1)	**0.035499**	**0.012600**	**2.817392**	**0.0082**
EXCH(-1)	2.409521	0.649022	3.712539	0.0008
POP	-1.322240	0.418210	-3.161670	0.0034
C	4.038517	1.111831	3.632311	0.0010

Source: EVIEWS 13.0

institutions, seeing a safe and high-yielding investment in government securities, pour their money into them. The consequence is that this crowds out the private sector. With less money available for lending to businesses, interest rates for private loans skyrocket. Small and medium-sized enterprises (SMEs), entrepreneurs, and even large corporations find it too expensive to borrow money to expand their businesses, build new factories, invest in new technology, and create new jobs. The implication on the impact on HDI is that less private investment leads to stagnant job creation, lower incomes, and reduced economic growth. This directly harms the "decent standard of living" component of the HDI.

Another economic problem is that a large domestic debt stock means the government must spend a significant portion of its budget just on paying interest (servicing the debt), not on repaying the principal. The consequences are that very little money is available for critical social and developmental expenditures like healthcare, building hospitals, training doctors, providing vaccines, education, building schools, paying teachers, providing scholarships, building infrastructure such as roads, providing clean water, and stable electricity. The implication on the effect on HDI is that underfunding these sectors directly reduces the health and education components of the HDI, leading to a less educated and less healthy population.

Another issue is inflationary pressures. If the government borrows directly from the Central Bank of Nigeria, it effectively prints new money to cover its deficit. The consequence is that this increases the money supply without a corresponding increase in goods and services, leading to inflation. The impact on HDI is that inflation erodes the purchasing power of citizens, especially the poor. People can afford less food, healthcare, and education, pushing more people into poverty.

Similarly, Table 2 presents the relationship between external debt and human development in both the short-run and long-run. In the short run, the coefficient of -0.438 shows a negative relationship between external debt and human development in the short-run. This shows that an increase in external debt is associated with a decrease in HDI. A critical finding in the long run shows a negative correlation between external debt and human development. This relationship more than quadruples in magnitude (-2.015). This indicates that the harmful effects of external debt on human development are severe over time. The finding is reliable because the relationship is significant at the 5% level of significance. While both domestic and external debts show a negative relationship with HDI, the long-run coefficient for external debt is dramatically larger (-2.015 compared to -1.068). This suggests that the long-term consequences of relying on external debt are potentially twice as severe for human development.

A primary cause and perhaps the most destructive mechanism unique to external debt is the foreign exchange

and debt servicing trap. External debt is borrowed in foreign currencies (US Dollars, Euros, etc.). Nigeria must earn these currencies, primarily through exports, to repay the debt and its interest (debt service). The consequences are that if Nigeria's export earnings (e.g., from oil) are insufficient or volatile, it creates a severe crunch. A huge portion of the nation's scarce foreign exchange reserves must be used to service debt, rather than for importing essential medicines and medical equipment, inputs for factories and agriculture (e.g., machinery, fertilizers), and books, educational technology, and other materials. The implications for human development outcomes are that external debt directly cripples the health and education sectors and stifles the economy, leading to job losses and lower incomes. The long-run effect captures the cumulative damage of years of diverting foreign exchange away from vital imports towards debt repayment.

It is important to know that a high level of external debt can scare away foreign investors, leading to capital flight. It also puts persistent downward pressure on the Naira, as the country constantly needs dollars to service its debt. The coefficients of exchange rate in previous years, in the short run, show that the rate at which the Naira exchanges for the Dollar does not support human development. The consequence is that a depreciating Naira makes the debt burden even larger in local currency terms and makes all imported goods more expensive, fueling inflation. The implications for human development outcomes are that sustained high inflation devastates the poor, destroying savings and making necessities unaffordable. This severely erodes the standard of living of people living in Nigeria.

Another piece of evidence to support the relationships in both the short-run and the long-run is the consequences of the loans from institutions like the IMF and World Bank that often come with Structural Adjustment Programs (SAPs) or policy conditions. These conditions mandated austerity measures such as government spending cuts, direct reductions in budgets for health, education, and social safety nets; privatization, which entails selling state-owned assets, which can lead to higher costs for essential services like electricity and water; and currency devaluation, which requires the official lowering of the currency's value, which has the inflationary effects earlier discoursed. The implications for human development outcomes are that these policy prescriptions directly and deliberately cut funding to the very sectors that the HDI measures. The long-run effect captures the lasting damage from the dismantling of public health and education systems.

Sadly, the debt overhang effect might set in if the country's future debt burden is perceived as unsustainably high, which can discourage both domestic and foreign private investment. As a result, Investors may fear that the government will eventually have to raise taxes significantly or cause high inflation to repay the debt, making the investment climate risky, exactly what is happening in the recent tax reform of the government, taking full effect by January 2026. The implications for human development outcomes are that inadequate investment leads to economic stagnation, no job creation, and lower government revenue, creating a vicious cycle of underdevelopment.

CONCLUSION

Having analyzed the relationship between fiscal deficit financing strategies and human development outcomes, the study concludes that both debt sources are harmful. The study conclusively shows that using either domestic or external debt to finance Nigeria's fiscal deficit is detrimental to human development. External debt is the greater long-run threat. While domestic debt is harmful, the extremely strong negative long-run relationship with external debt suggests it is a far more dangerous strategy over time.

To reduce the crushing debt service burden, the government must aggressively mobilize domestic revenue. This requires broadening the tax base by using technology like the Tax Identification Number (TIN) to integrate the informal sector and targeting wealthy individuals and corporations for evasion. Tax administration must be improved by strengthening the FIRS and state services with data analytics and automation to boost efficiency and curb corruption. Additionally, all tax incentives, especially in oil and gas, should undergo strict cost-benefit analysis to eliminate wasteful waivers.

Simultaneously, the government must cut recurrent expenditure waste to prioritize critical health, education, and infrastructure. New external loans should be halted immediately, with any essential borrowing restricted to highly concessional loans for specific, high-return projects. In the medium term, a law should mandate that all new borrowing is exclusively for self-liquidating infrastructure. To fix underlying weaknesses, the private sector must be stimulated by crowding-in investment through performance-based incentives for agriculture and manufacturing, and by encouraging banks to provide credit to SMEs. Finally, diversifying the export base beyond oil by supporting agriculture and light manufacturing is the only sustainable way to manage external debt vulnerability. Strengthening anti-corruption institutions will ensure fiscal discipline.

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