

Impact of Deficit Financing on Economic Growth: An In-Depth Analysis of Economic Development Strategies

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Abstract: This paper examines the effect of deficit financing on Nigeria's economic growth. A descriptive and analytical design was used in the paper. The following methods were employed: the ARDL for regression analysis, the Bound test co-integration technique to confirm the long-run relationship among variables, the ADF unit root test to ascertain the stationarity properties of the variables to hedge against spurious regression, and the Error Correction test to test the short-run dynamics. The dependent variable is RGDP, while the independent variables are the following: exchange rate, external reserves, domestic debt financing, and foreign debt financing. The study found that there is no correlation between the exchange rate and GDP growth in Nigeria, and the same holds true for foreign loan financing. Foreign reserves and domestic debt financing, on the other hand, significantly impact GDP growth. As a result of the country's inconsistent application, the research found that domestic debt financing and external reserves had an unstable (asymmetrical) impact on the economy. We propose that the national debt be invested in growth-promoting economic initiatives. To prevent the flight of capital, it is important to keep an eye on how domestic debt is being used. Foreign debt funding should be discontinued by the government as it has no impact on the economy. Since external reserves are the primary means of funding developmental programs and, in most circumstances, deficits, it is important to have a strategy to build them.

Keywords: Augmented Dickey-Fuller (ADF); Foreign Debt; Domestic Debt; Real Gross Domestic Product (RGDP); External Reserves; Economic Growth; Inflationary Pressure; Foreign Debt; Auto-Regressive Distributive Lag (ARDL).

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1. Introduction

Deficit financing is an important method adopted by a country to achieve its macroeconomic objectives of economic growth, increased employment, increased income, and balance of payment surplus. The necessity to increase the economy is a major

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driver of deficit spending, as is the government's incapacity to carry out capital projects that increase the economy [1]. As a result, the government must find a way to fund its projects, which may involve borrowing money from sources within or outside the country, or using monetary instruments to encourage the circulation of capital. In times of economic downturn, when active demand is low—as it was during the Great Depression (1929–1932) and the 2008 global financial and economic crisis—the Keynesians argue that government spending should be increased beyond current income. Unemployment will fall as a result of increased demand for productive products. The use of deficit finance continues to be an effective strategy for boosting Nigeria's economy [2]. In its capacity as a representative of the people, the government relies on taxation to fund essential services like public schools, hospitals, roads, and job opportunities. Nevertheless, in carrying out this massive duty, there will be occasions when the government's revenue and/or spending needs exceed its available resources; in such cases, deficit financing will be used to bridge the gap.

Since gaining independence in 1960, the deficit has accounted for more than 85% of Nigeria's budget. The deficit is the result of the government's inability to adequately fund capital projects. Prolonged borrowing from foreign countries to fund an economy's state, however, has a domino impact on that economy's performance since high interest rates discourage individual investors. The concept of taking out loans from other countries is sparked by fiscal policy. When confronted with the conundrum of how to meet their macroeconomic goals while also funding increasing public spending, governments around the globe turn to deficit financing as a workaround.

The use of deficit finance continues to be an effective strategy for boosting Nigeria's economy. It is true that when a borrowing nation makes good use of deficit financing, it will lead to higher domestic savings and, eventually, economic expansion. Investments cannot occur unless specific macroeconomic goals are met, such as stable and fast economic development, low inflation, reasonable and affordable exchange rates, and a balanced balance of payments. A number of problems plague Nigeria's economy, including poor revenue, an ever-increasing inflation rate, and a balance of payments imbalance. Huge holes in the country's infrastructure are proof of this.

1.1. Statement of the Problem

In spite of the fact that Nigeria has just exited the menace of recession through the adoption of expansionary fiscal measures, it has resulted in a huge deficit that was financed with both foreign and domestic debts. The citizens have been witnessing the full manifestation of poverty with a low standard of living, which was accompanied by huge fiscal deficits, dwindling economic growth, inflationary pressure, high unemployment rate, balance of payments disequilibrium, low capacity and underutilization of resources and high debt burden with huge debts service payment.

This is because, as stated by Bakare et al. [3], the country's economy is still in a worse state, with poor per capita income and high unemployment rates, even though the government has implemented multiple fiscal policy measures to reduce the excessive deficit and the massive amount of loans taken out both domestically and internationally. However, urban and rural regions alike continue to experience high rates of poverty. Most people think that developing countries shouldn't have large deficits, but nobody agrees on how a deficit affects GDP growth, therefore we need to look again at Nigeria as an example.

1.2. Aim and Objectives of the Study

The study examines the effect of deficit financing on economic growth in Nigeria. Specifically, the aim is to:

- Examine the effect of domestic debt financing on economic growth.
- Investigate the impact of foreign debt financing on economic growth.
- Analyze the effects of external reserves on economic growth.
- Examine the effect of the exchange rate on economic growth.

1.3. Research Questions

- To what extent has domestic debt impacted Nigeria's economic growth?
- How has Foreign Debt Financing impacted economic growth in Nigeria?
- How significant is the effect of External Reserves on economic growth in Nigeria?
- To what extent has the exchange rate impacted economic growth in Nigeria?

2. Literature Review

2.1. Conceptual Review

2.1.1. The concept of Deficit financing

Deficit financing can be seen as the practice of seeking to stimulate a nation's economy by increasing government expenditures beyond revenue sources. It involves the government generating funds to finance the deficit, which results from excess expenditures over revenue. The gap is covered by borrowing from the public, by the sale of bonds or by printing new money.

2.1.2. The Concept of Economic Growth

Clements et al. [4] defined economic growth as the positive trend in the nation's total output over a long period. It refers to the sustained increase in the real gross domestic product (RGDP) over a given period. This GDP is a measure of economic growth, like any other quantitative economic measure, and must be expressed in real terms. That is, it must be adjusted for the effects of inflation to provide a meaningful measure of growth over time.

2.2. Theoretical Literature Review

2.2.1. Keynesian Economic Theory

The economic theory known as Keynesian was put forth by [5]. According to this school of thought, the only way for the government to stimulate the economy was to engage in deficit financing, which entailed active participation. According to Keynes, in the near term, more government spending is the single most important factor in determining economic growth. According to this school of thought, the best way to stimulate the economy is for the government to step in.

According to Keynes, overall government spending has a significant impact on economic growth and stability in the near term. To achieve economic growth, according to this view, the government must actively intervene through spending because the economy is fundamentally unstable. In Keynesianism, monetary policy is considered secondary to fiscal policy, according to Gbosi [6]. According to Hassan and Okorafor [7], Keynesianism holds that we can learn about the factors that influence employment, output, and income by observing how spending is distributed. Government deficit spending boosts the economy in the short term by increasing private and public spending as a result of households' increased perception of prosperity. On the other hand, they contended that deficit financing encourages investment at any interest rate, boosts savings, raises aggregate demand, and supports domestic production and investment.

Keynesians acknowledge that government expenditure has the potential to raise interest rates and so discourage private investment. So, to minimize the dampening effect of rising interest rates on private investment expenditure, Iyoha [8] suggests only implementing fiscal deficits during depressions, when interest rates are expected to be unresponsive. The Keynesians go on to say that if the domestic economy can't absorb the extra liquidity through an expansion of output, then fiscal deficits could hurt the international trade sector, as seen in the balance of payment imbalances. He thinks that an increase in demand would drive growth in the economy; Keynes first thought that government spending was a vital component driving aggregate demand. During the downturn in the economy, Muhammad et al. [9] argued for deficit spending.

2.2.2. Ricardian Equivalence Theory

David Ricardo developed this theory in the early 19th century, and Harvard professor Robert Barro later elaborated upon it. According to this idea, the sum of all deficit spending is equal to the present value of all taxes that will be needed in the future to cover the increase in debt that would be caused by deficit spending. What this means is that tax and non-tax revenue must equalize the current value of expenditure, and the government must pay for expenditure regardless of when it happens. In some contexts, according to Ricardo, the two might be seen as having the same monetary impact; for example, when it comes to deficit spending, taxpayers know that their taxes won't be going up right now, but they will in the future to pay off the debt. This means they'll have to put some money aside now to pay taxes later.

In other words, there is no real or nominal difference between funding government expenditure with current taxes or deficits (and future taxes). Customers anticipate future tax increases as a result of current tax cuts funded by deficit spending and borrowing, according to the Ricardian equivalence hypothesis. Instead of spending the current tax cut, consumers are more likely to put it toward savings due to this effect. Due to low present spending and high savings, deficit financing will not impact the level of consumption or the balance of payments in the economy. since a result, the benefits of deficit financing are reduced, since economic development cannot be achieved. Budget deficit fluctuations have little effect on economic activity since they reflect a redistribution of spending power from the private to the public sectors [10]. The Ricardian equivalence, according to Nwakobi et al. [11], means that people do not see government bonds as net wealth, hence buying them doesn't change how much they spend.

2.2.3. Neo-Classical Theory

The foundation of neo-classical theory was laid by Nwanna and Umeh [12]. According to the neo-classical theory, deficit financing crowds out private investors and consumers from the loanable fund market through having a positive relationship with interest rates. Deficit financing causes increases in government borrowing from the loanable fund market, which crowds out the ability of private investors to obtain loans for investment. According to neo-classical schools, an increase in budget deficit raises interest rates. Thus, budget deficits “crowd out” private spending because private borrowing from the loanable fund market will decrease with increasing interest rates. This can reduce the level of economic growth as private sector borrowings will decrease. Taking into account some basic links among macroeconomic factors, the budget deficit could lead to slower economic growth and a reduced standard of living. The adverse causal effects start with an increase in interest rates, which, according to the neo-classical view, brings about a crowding-out effect of private investors. The crowding out effect” leads to a decline in economic growth because it causes a reduction in capital stock than would have been if the private investment had been higher.

Less capital stock means that the economy would follow a lower growth path for both output and marginal productivity of labour. The neo-classical theory criticized government deficit financing, stating that it results in a crowding effect that negates the effectiveness of fiscal policy. Many neo-classicals are wary of budget deficits, arguing that they drag on economic growth because of crowding out. They argued that increased deficit spending stimulates aggregate demand and hence creates a high level of competition in demand for loans between government and private investors given a fixed money supply, which will, in turn, skyrocket interest rates, ultimately crowding- out private investment. When the government sector expands, the private sector will contract because of the increase in prices of these resources due to an excess demand by the government; hence, this leads to a fall in investment and consumption by the private sector. Thus, the government sector’s expansion crowds out the private sector because the government with more muscle has used up the resources that the Private sector would have used.

2.3. Empirical Literature Review

Ojong [13] investigated the association between deficit financing and economic growth in 20 sub-Saharan African nations from 1991 to 2018 using an error correction model. The pooled Mean Group (PMG) calculated the variables. Results demonstrated that a budget deficit linked adversely and considerably to economic growth in the long run, but a budget deficit related favorably and significantly to economic growth in the near term. Okah et al. [14] examined the influence of deficit finance on Nigeria’s economic growth during the period 1981 to 2016 using ordinary least squares. Findings demonstrated deficit financing via external debt has a negative and significant influence on economic growth. The impact of domestic debt on economic growth, however, was favorable and statistically significant. From 1987 to 2017, Okelo et al. [15] examined how deficit financing impacted economic growth in Nigeria. The Vector Autoregressive (VAR) model yielded the estimated variables. The results indicated that deficit financing contributed to Nigeria's economic growth, although the effect was not statistically significant.

Okoro [16] assessed the impact of deficit financing on economic growth in Nigeria for the period 1981 to 2016. Autoregressive distributed lag (ARDL) is employed for variable estimation. Findings proved that deficit financing significantly influenced output growth. Okoye and Akenbor [17] examined the relationship between deficit financing and economic growth in Liberia employing ordinary least squares (OLS) and error correction model (ECM). There existed a positive and significant relationship between budget deficit and economic growth. Onwe [18] investigated the effect of fiscal deficit on economic growth in Vietnam using an error correction model (ECM) to estimate quarterly data for the period 2003-2016. Results revealed fiscal deficit had harmful effects on economic growth in both the short and long run.

By analyzing the impact of the fiscal deficit on GDP and the money supply, Onwioduokit and Inam [19] calculated the impact of deficit financing on economic growth in Nigeria. In this work, econometric methods like the unit root test, Johansen co-integration, and Granger causality test were used to analyze changes in GDP and money supply over time series data from 1981 to 2015. Variations in these variables were then regressed on fiscal deficit and exchange rate. The statistical bulletin of the Central Bank of Nigeria was consulted for secondary data pertaining to the period in question. Analysis of the relationship between budget deficit and GDP and MSP in Nigeria showed no statistically significant relationship. There is a positive, non-significant correlation, according to the results.

A vector error correction model was used by Onyeiwu [20] to analyze time series data from 1981 to 2015 in order to determine the impact of budget deficit financing on economic growth in Nigeria. The results showed that a budget deficit greatly increases GDP growth. According to the results of the VAR estimate, the federal budget deficit's lag value has affected the economy's performance this year. But the impact of the contributing quadrant has been minimal at best; these data lend credence to the Keynesian claim that there is a strong correlation between government spending and GDP growth.

Using quarterly data from 2000-2015 and an error correction model, Osuji [21] investigated the correlation between deficit financing and economic growth in Ghana through the application of ARDL estimation. The results showed that budget deficits have a detrimental impact on economic growth. Using co-integration analysis, Osuji [21] looked at how the Spanish budget deficit and GDP growth interacted. The two steady states where public debt and capital grow at the same constant pace and where an increase in the deficit ratio reduces the growth rates of gross domestic product (GDP) were shown to exist if the government's fixed deficit ratio is below a crucial level. The economy will not be in a steady state if the deficit ratio crosses the crucial level. The most important takeaways were that budget deficits were significant, but only when they aided in the expansion of money and, if left unchecked, caused inflation, which in turn warped the economy. It should come as no surprise that the budget deficit did not have an independent effect on GDP growth during that period, given that the majority of the budget imbalance was being monetized. Despite the fact that different researchers have used different methodologies, all of those studies were used as sources for this one. This publication, however, widened its focus beyond that of previous research by adapting existing models to include new factors.

The effect of deficit financing on GDP growth in Nigeria from 1981 to 2013 was studied by Owole and Olubenga [22]. Researchers in Nigeria found that the country's budget deficits are funded through a combination of domestic banking systems (DBS), non-bank public banks (NBP), and external loans (EXT). OLS was used to estimate the variables. The results demonstrated that domestically financed deficits (e.g., DBS and NBP) promoted economic growth, in contrast to deficits financed by external loans, which had a negative and non-significant effect on economic growth. The effects of deficit financing on Nigeria's GDP growth from 1970 to 2013 were studied by Paiko [23]. For the analysis, multiple regressions were employed. The evidence demonstrated that the economic stability proxy for GDP was significantly and positively affected by factors such as currency rates, non-banking public sources, and external factors. The interest rate, the banking system's ability to finance deficits, and the ways and means all worked against Nigeria's economic stability.

The authors Taiwo and Agbatogun [24] looked analyzed the correlation between Swaziland's budget deficit and GDP growth using data from 1981 to 2013. The variables were estimated using the autoregressive distributive lag (ARDL) method. The results confirmed that government investment and inflation boosted economic growth, whereas fiscal deficit and recurring expenditures had the opposite impact. The impact of funding the budget deficit on economic growth in Nigeria was investigated by Taiwo and Agbatogun [24] using ordinary least square (OLS) regression methods. Government spending is significantly correlated with economic growth in Nigeria, although government revenue is not significantly correlated with economic growth. In order to keep deficit funding to a minimal, the report suggests that the government keep governance open and honest.

Between 1970 and 2013, researchers Ubi and Inyang [25] looked at how deficit financing affected GDP growth in Nigeria. We estimated the variables using the ordinary least squares method. The economic growth was positively and significantly impacted by the exchange rate (EXR), non-banking public sources of deficit financing (NBPDF), and foreign sources of deficit financing (EXDF). On the other hand, interest rates (INTR), the banking system's deficit financing (BSDF), and the ways and means of deficit financing (WMDF) all had a negative effect on economic growth. Economic growth would be maintained by EXDF and NBPDF, and economic instability would be caused by deficit financing through BSDF and WMDF, according to the inference. From 1970 to 2006, Ubi and Inyang [25] used a modeling approach that combines structural analysis and co-integration to examine the relationship between fiscal deficit and economic growth in Nigeria. They used a 5% (0.05) threshold of significance. Using co-integration techniques, the study found that a 1% increase in the deficit can reduce economic growth by around 0.023 percent, demonstrating a negative relationship between the two variables. Government spending has a significant inverse correlation with GDP growth.

3. Research Methodology

3.1. Description of Variables

There were two categories of study variables: dependent and independent. Deficit financing, as evaluated by external reserves, exchange rates, domestic deficit financing, and international deficit financing, is the independent variable in this study. While this is true, real GDP growth serves as the study's dependent variable. Using time series data collected from 1981 to 2020 from the Central Bank Statistical Bulletin and the World Bank's development indicators, this research used a descriptive and analytical approach.

3.2 Methodological Framework

This paper's framework is based on functional finance theory and the Keynesian model. According to these schools of thought, the best way to get the government involved and spend money is to print more of it. Deficit financing, according to the Keynesian model, increases disposable income, which in turn boosts aggregate demand and, via the multiplier effect, speeds

up economic growth. Using the national income model, this research attempted to quantify economic growth, trade, consumption, investment, and policymaking. According to this idea, the National Income Identity is:

$$Y = C + I + G + (X - M) \quad (1)$$

Where,

- Y = RGDP,
- C = Household consumption or personal expenditures,
- I = investment expenditures
- G = government expenditures.
- X = Gross export.
- M = Gross imports.

Assuming;

$$\text{Aggregate Demand} = C + I + G + (X - M) \quad (2)$$

Active government intervention in the economy in the form of deficit financing will boost aggregate demand, which will stimulate investment and output through the multiplier process in the economy and lead to the achievement of economic growth.

Therefore,

$$\begin{aligned} Y &= f(AD) \\ \Delta Y &= f(\Delta AD) \end{aligned} \quad (3)$$

Substituting deficit financing variable into eqn. 3, we arrive at the model below.

$$Y = f(FDF + DDF + EXR + EXTRN) \quad (4)$$

Eqn. 4 gives us the model upon which our present work will be built.

Where,

- Y = RGDP,
- FDF = Foreign Domestic Financing,
- DDF = Domestic Deficit Financing,
- EXR = Exchange rate (₦),
- EXTRN = External Reserves (₦).

3.3. Model Specification

We use multiple regression econometric models to estimate the correlations between the independent variables (external reserves, exchange rate, domestic debt financing, and foreign debt financing) and the dependent variable (real gross domestic product). This paper's models are superior to those of other researchers since they account for both external reserves and exchange rates, which are considered control variables.

For this paper, the model used by [13], which carried out a similar study in Nigeria for the period 1981–2012, was employed as our model and modified to suit this work and specified that real gross domestic product is significantly influenced by total domestic debt and total external debt. That is,

$$RGDP = f(TDD, TED) \quad (5)$$

Considering the Keynesian and functional finance theory as our anchor theory for our model, we modified the model above to suit this work, and we arrived at the model below,

$$RGDP = f(FDF, DDF, EXR, EXTRN) \quad (6)$$

Transforming the model above to a regression model, we have,

$$RGDP = \beta_0 + \beta_1 FDF + \beta_2 DDF + \beta_3 EXR + \beta_4 EXTRN + \mu \quad (7)$$

Where,

RGDP= Real gross domestic product

FDF= Foreign debt financing

DDF=Domestic debt financing

EXR=Exchange rate (₦)

EXTRN = External Reserves (₦)

μ = Error term.

β_0 — β_4 =Parameter estimates.

4. Result Analysis and Discussions of Findings

4.1. Descriptive Statistics

Table 1 illustrates the descriptive statistics of the time series data used in the estimation of the budget. The relationship between deficit financing and economic growth in Nigeria from 1981 to 2020.

Table 1: Descriptive Statistics

	LOG(RGDP)	DDF	FDF	LOG(ETRN)	EXR
Mean	10.26146	703.4067	64.88807	12.59399	106.6165
Median	10.10501	110.2805	0.371200	13.73882	101.6973
Maximum	11.28210	6248.587	1240.402	16.65703	450.0000
Minimum	7.559591	-39.87500	-16.45960	5.091032	0.617708
Std. Dev.	0.730095	1343.670	255.0100	3.316960	120.0751
Skewness	-1.012828	2.701023	4.135707	-0.591152	1.359430
Kurtosis	5.656032	10.26955	18.30844	2.223232	4.202694
Jarque-Bera	18.59631	136.7142	504.6076	3.251968	14.36284
Probability	0.000092	0.000000	0.000000	0.196718	0.000761
Sum	410.4585	28136.27	2595.523	491.1658	4158.045
Sum Sq. Dev.	20.78852	70412537	2536173.	418.0844	547884.7
Observations	40	40	40	39	39

The mean value for the real gross domestic product is 10.26146, while the median value is 10.10501. The closeness of the mean value to the median means that real gross domestic product (RGDP) does not disperse from its mean value and can withstand external pressure in the long run. The maximum value and minimum values are 11.28210 and 7.559591. The skewness value of -1.012828 shows that the series has a long left fall, while the kurtosis value of 5.656032 indicates that the series in question is leptokurtic relative to normal distribution. The Jarque-Bera statistic is valued at 18.59631, while its probability value is 0.000092. This implies that the residual of real gross domestic product (RGDP) is not normally distributed. The mean value for domestic debt financing is 703.4067, while the median value is 110.2805. The dispersion of the median value relative to the mean implies that domestic deficit financing cannot sustain growth in the long run. The maximum and minimum values of the series are 6248.587 and -39.87500. The skewness value of 0.701023 indicates that the series has a long-right failure, while the kurtosis value of 1.269550 indicates that domestic deficit financing is lypokurtic relative to normal distribution. Finally, the Jarque-Bera statistic value of 3.714216 and its probability value of 0.07418 show that the residual has a normal distribution likened to a Gaussian condition.

The mean value of foreign debt financing (FDF) is 64.88807, while the median value is 0.371200. The maximum and minimum values are 1240.402 and 16.45960. The skewness of 0.135707 indicates that the series has long-right failures, and the kurtosis of 1.308448 indicates that foreign debt financing is plytokurtic in comparison to the normal distribution. The Jarque-Bera statistic value of 4.607650 and its probability value of 0.05514 indicate that the series has a normal distribution in line with the gaussian condition. The average external reserve measured in naira is 12.59399, while the median value is 13.73882; the closeness of the median value to the mean value means that the variable didn't disperse from its mean value and can withstand external aggression to sustain the Nigerian economy. The maximum and minimum values are 16.65703 and 5.091032, respectively. The skewness value of -0.591152 indicates that the series has a long-left failure, while the kurtosis value of

2.223232 indicates that external reserves are mesokurtic (normal distribution). The Jarque-Bera statistic is 3.25198, while the probability value is 0.196718, and it is greater than 0.05.

The mean value for the exchange rate is 106.6165, while the median value is 101.6973. The maximum and minimum values of the distribution are 450.0000 and 0.617708, respectively. The skewness of 0.359430 indicates that the series has a long-right failure, while the kurtosis of 4.202694 indicates that the exchange rate is platykurtic in comparison to the normal distribution. The Jarque-Bera statistic value of 14.36284 and its probability value of 0.00761 show that the series does not have a normally distributed residual.

Table 2: Unit Root Test (ADF)

No.	Variables	Level		First Diff.		Order
	T-Stat.	Crit. Value	T-Stat.	Crit. Value		
1.	Log(RGDP)	-1.845814	-2.938987	-30.07666	-2.941145	1(1)
2.	DDF	16.2938987	-2938987	-3.471874	-2.941145	1(1)
3.	FDF	-3.457418	-2.938987	-	-	1(0)
4.	EXR	-4.493302	-2.943427	-	-	1(0)
5.	ETRN	-2.222615	-3.533083	-6.694924	-536601	1(1)

Table 2 illustrates the stationarity test of all the variables in the model. The unit root test was conducted using the augmented Dickey and Fuller test (ADF). The test statistics showed that foreign debt financing and exchange rates were mean-reverting or stationary at their level. In contrast, the real gross domestic product (RGDP), domestic debt financing (ADF), and external reserves measured in naira became stationary after being subjected to the first difference.

Table 3: Bounds Co-integration Result

Test Statistic	Value	k
F-statistic	6.995727	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	3.03	4.06
5%	3.47	4.57
2.5%	3.89	5.07
1%	4.4	5.72

Table 3 illustrates the bounds of co-integration output for the study. The f-statistic is 6.995729, while the upper bound critical value at 5% is 4.57. This implies that the variables in the model have a long-run relationship or that there will be convergence in the long run.

Table 4: Error correction regression and short-run causation Included observations: 36

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(RGDP(-1))	0.747581	0.309007	2.419303	0.0287
DLOG(RGDP(-2))	0.571942	0.235125	2.432497	0.0280
D(DDF)	-0.000099	0.000338	-0.292611	0.7738
D(DDF(-1))	0.000060	0.000635	0.094746	0.9258
D(DDF(-2))	0.000101	0.000739	0.136139	0.8935
D(DDF(-3))	0.001050	0.000581	1.807763	0.0907
D(FDF)	-0.000604	0.000653	-0.925586	0.3693
DLOG(ETRN)	-0.601938	0.213477	-2.819691	0.0129
DLOG(ETRN(-1))	0.023910	0.130328	0.183459	0.8569
DLOG(ETRN(-2))	-0.017368	0.124088	-0.139963	0.8906

DLOG(ETRN(-3))	0.554850	0.142845	3.884268	0.0015
D(EXR)	-0.004540	0.004176	-1.086957	0.2942
D(EXR(-1))	-0.000046	0.006701	-0.006846	0.9946
D(EXR(-2))	0.005232	0.007294	0.717327	0.4842
D(EXR(-3))	-0.010797	0.006529	-1.653673	0.1190
D(@TREND())	-2.079529	0.380595	-5.463888	0.0001
CointEq(-1)	-0.454651	0.093770	4.848578	0.0002

R-squared	0.816975	Mean dependent var	0.048423
Adjusted R-squared	0.572941	S.D. dependent var	0.555247
S.E. of regression	0.362852	Akaike info criterion	1.101556
Sum squared resid	1.974927	Schwarz criterion	2.025276
Log-likelihood	1.171985	Hannan-Quinn criteria	1.423959
F-statistic	3.347795	Durbin-Watson stat	2.436955
Prob(F-statistic)	0.010347		

Table 4 depicts the error correction regression and the short-run causation. On the statistical front, the R-square is 0.816975, while the adjusted R-square is 0.57241. This implies that 57 percent of the changes in economic growth are associated with the interplay of the variables in the model, while variables in the error term externally determine the remaining 32 percent. The f-statistic value of 3.347795 and the significant probability value of 0.010347 show that the entire model has a good fit.

Table 5: Long-Term Outcome

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DDF	-0.000957	0.000248	-3.858154	0.0015
FDF	-0.000291	0.000320	-0.907846	0.3783
LOG(ETRN)	-0.558299	0.119921	-4.655550	0.0003
EXR	0.005358	0.002177	2.461688	0.0264
C	12.739831	0.820222	15.532182	0.0000
@TREND	0.218632	0.039037	5.600647	0.0001

Table 5 depicts the long-run effect of deficit financing on economic growth in Nigeria when controlled by the exchange rate factor. In contrast to short-run output, there is a negative and significant link between domestic debt financing and economic growth in Nigeria, which is statistically significant at 5%. The nature of that link is built on a probability value of 0.0015. Therefore, an increase in domestic debt financing will, all things being equal, lead to a 0.000957-unit reduction. In Nigeria, economic growth falls by 0.0957 percent as contracted domestic debts rise. The above causation is not consistent with the prior expectation.

An increase in domestic debt in financing economic activities is an injection back into the economy, and it is expected that such funds, when properly utilized, will create stronger value addition that will stimulate economic growth and development. The possible reason for such a difference could be that the funds contracted through the local or domestic sources (banks and non-banking public) are not used for production activities that will drive the country's economic growth or that the quality of the infrastructure is not effective in driving the desired level of economic growth.

In the long run, the coefficient of foreign debt financing (FDF) influenced real gross domestic product (RGDP), the proxy for economic growth, negatively, but it is not statistically significant. Therefore, we assert that foreign debt financing is not a significant determinant of economic growth in Nigeria when controlled by inflation. In the long run, the coefficient of external reserves has a negative impact on real GDP, and it is statistically significant at 5%.

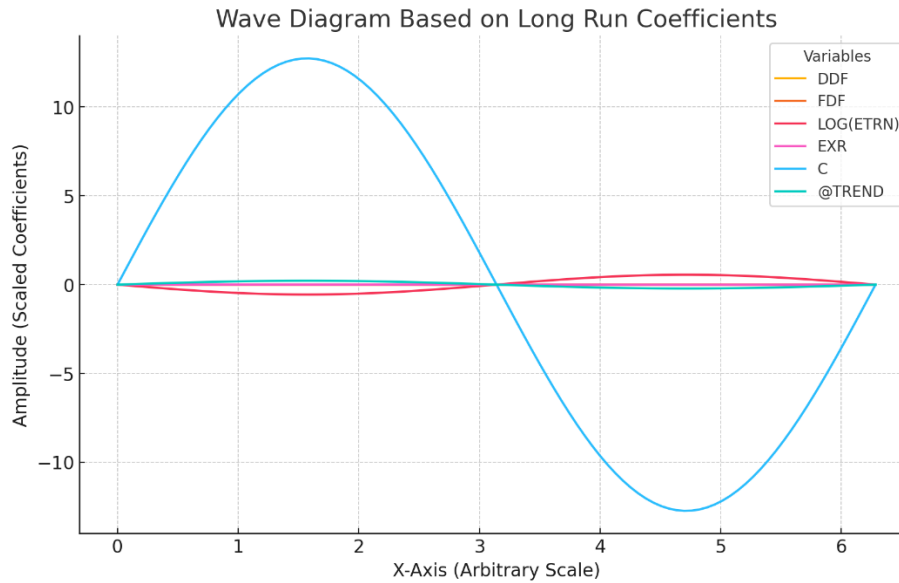


Figure 1: Wave Diagram Based on Long Run Coefficients

Figure 1 is based on the long-run coefficients from the provided data. Each variable's coefficient is represented as a sine wave, showing their relative amplitudes and variations for easy comparison. Therefore, an increase in external reserves will, all things being equal, amount to a 0.558299 reduction in economic growth in Nigeria. This implies that the recorded decline in economic growth in Nigeria is attributed to the external reserve factor. This causality is not consistent with economic theory.

5. Summary, Conclusion and Recommendations

5.1. Summary

The paper on the effect of deficit financing on economic growth in Nigeria is premised on the suspicion of mounting debts and the oscillation of economic growth over the study period (1981–2020). The paper was intended to identify the debt financing sources that have a mere impact on economic growth in Nigeria, and the study is anchored on theories such as Keynesian and functional finance theory. This paper is an empirical study, and it follows the three-step procedures required in empirical analysis, such as pre-estimation, estimation, and post-estimation tests. The pre-estimation was conducted with augmented Dickey-Fuller (ADF), while the main estimation adopted the autoregressive distributed lag (ARDL) approach to dynamic time series modelling.

5.2. Conclusions

The empirical investigation of the impact of deficit financing on Economic Growth in Nigeria was estimated using time series data sourced from World Bank development indicators and the Central Bank of Nigeria statistical bulletin. The following resolutions were inferred from the estimation of Auto-Regressive Distributive Lag (ARDL). The paper, therefore, concludes that domestic debt financing and external reserves have an unstable effect (asymmetric effect) on economic growth in Nigeria. This unstable effect was due to inconsistency in its application, which has hampered growth in the country. If domestic debt and external reserves are properly channelled into the economy, it is observed that there would be tremendous improvement in the country through multiplier effects, as Keynes advocated.

Evidence from the long-run and short-run tests shows that foreign debt does not affect economic growth in Nigeria. Therefore, the null hypothesis, which posits that foreign debt financing does not affect growth, is accepted. Since foreign debt financing does not have a significant effect on the country, it should be discouraged, and government agencies should be sensitized to reduce the external loans collected from other countries. Also, the lag value of external reserves is the most significant determinant of economic growth in Nigeria. External Reserves in the country should be increased in order to be used for financing huge expenditures of the government in situations where the revenue sources have declined.

5.3. Recommendations

Considering the observed findings, it is recommended that,

- Domestic debts should be channelled into economic activities that will stimulate the economy's growth.
- There should be a deliberate attempt to monitor the usage of domestic debt to avoid capital flight.
- The government of Nigeria should put a stop to foreign debt financing because it doesn't affect the nation's economy.
- There should be a deliberate plan to increase the external reserve since it serves as the one critical channel of financing developmental programmes and augments deficits in most cases.

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