ABUAD Journal of Social and Management Sciences (AJSMS),
Vol. 5, No. 2, 2024, pages 422-440 https://doi.org/10.53982/ajsms.2024.0502.11-j

Published by the College of Social and Management Sciences (SMS), Afe Babalola University, Ado-Ekiti (ABUAD), Nigeria.
E-mail: ajsms@abuad.edu.ng

e-ISSN: 3043-4173

Impact of Financial Development on Economic Growth in Nigeria

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Abstract

In Nigeria, financial development has been fluctuating and has not made significant impact on economic growth as a result of inadequate credit to the private sector that is supposed to improve investment in the economy. This study therefore examines the impact of financial development on economic growth in Nigeria, covering 1986 to 2022. The autoregressive distributed lag model was employed and the long run result reveals that interest rate (INT), lagged value of broad money supply (M2(-1)) and domestic credit to private sector (DCP) have positive impacts on GDPG while broad money supply (M2) has a negative impact on GDPG. The short run estimate indicates that INT and DCP have positive impact on economic growth, while the coefficient of M2 has negative impact on economic growth in Nigeria. In conclusion, financial development can be said to contribute to economic growth. This is because, when government allocates adequate credit to private sectors, investments are made in enhancing the productivity that will encourage investments to take place. These investments will lead to employment generation, and in turn lead to output growth. In this regard, the study recommends that the Nigerian government should increase allocation of credit to the private sector in order to improve investment and ensure the autonomy of relevant monetary authorities.

Keywords: Financial Development, Economic Growth, Money Supply, ARDL, Nigeria.

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1.Introduction

Financial development is one of the key measures of growth in developed and developing economies. It consists of various indicators such as broad money supply, credit to private sector, and interest rate, among others. The indicators measure the depth of the financial development. The component of money supply used as indicator of financial development is the broad money supply (M2). It refers to the sum of currency in circulation and demand deposit.

The ratio of M2 to GDP gives a rough estimate of the depth of financial development. Thus, when M2 and GDP increases simultaneously, the depth of the financial development is increasing. However, if GDP increases faster than money supply the financial sector is said to be shrinking, it becomes different to predict the impact of financial development on economic growth over the long run (Word Bank, 2022).

Like money supply (M2) credit to private sector is another indicator of financial development. The ratio of private sector credit to GDP is calculated as outstanding amount of debt at the end quarter, month or year compared with sum of last four quarters, months or years of nominal GDP respectively. Private sector credit is the sum of financial resources provided to the private sector inform of loans and advances. An increase in private sector credit will enhance investment which will boost productivity and in turn leads to economic growth. Likewise, a decrease in this private sector credit will reduce investment and lower the rate of growth in an economy (Word Bank, 2022).

Also, interest rate is the amount charged by a lender to a borrower for the use of assets. An interest rate is set by the Central Bank, which commercial banks use to determine the annual percentage rate (APR) range they offer. When Central Bank increase interest rate, the cost of debt rises and when the cost of debt is high, it discourages people from borrowing and slow investment and consumers' demand. However, higher interest rate will slow consumer demand which in turn lower productivity (Banton, 2023). Furthermore, an increase in the supply of money typically lowers interest rates, which in turn, generates more investment and puts more money in the hands of consumers, thereby stimulating spending. Businesses respond by ordering more raw-materials and increasing production. The increased business activity raises the demand for labour which in turn increase productivity. The lower the interest rate, the more willing people are to borrow money to make an investment.

When borrower pay less in interest, this gives them more money to spend, which can increase spending throughout the economy. When monetary authority

raises interest rates, banks make fewer loans which affects not only consumers but also businesses communities who cut back on spending on new equipment, thus slowing productivity or reducing the number of employees. In Nigeria, the relationship between financial development and economic growth has been of interest to scholars. Evidently, improved financial development is expected to have a significant effect on the economy and fasten the pace of growth. By economic growth, it means increase in real per capita income over time. It also connotes rising national income over time as a result of increase in its determinant (Banton, 2023).

Available statistics from National Bereau of Statistics (NBS, 2023) shows that Gross Domestic Product (GDP) grew by 3.46 percent (year-on-year) in real terms and in the fourth quarter of 2023. This growth rate is lower than the 3.52 percent recorded in the fourth quarter of 2022 and higher than the third quarter of 2023 growth of 2.54 percent. Other Services shows real GDP grew by 0.05 percent (year-on-year) in Q4 2023. This growth was lower by 0.01 percent points than the growth recorded in the same period of the previous year, and lower by 0.58 percent points from Q3 2023. Quarter-on-quarter growth was 62.32 percent. Also, the growth of financial sector indicator over the years have been different. For example, money supply which stood at 16.8 percent of total liquidity in 1986, rises to 19.4 percent in 1990. While it decreased to 8.6 percent in 1996 due to the banking system crises, but it picked up again to 38.0 percent in 2009 and stood at 19.9 percent in 2014. The Central Bank of Nigeria (2023) also shows that money supply as a percentage of total liquidity stood at 28.3 percent in 2010 but rises to 34.4 percent in 2021.

Similarly, credit to private sector from Central Bank of Nigeria, CBN, (2023) revealed that the credit issued to the Nigerian private sector rose to 41.8 trillion naira as of December 2022 which represents 6.61 trillion naira in new net loans compared to 35.19 trillion as at the beginning of the year. However, financial development has been fluctuating and has not contributed significant impact on economic growth in Nigeria. Although government, over the years have introduced policies to enhance the performance of the financial development and appreciable development is yet to be achieved. This is because the indicators of financial development have been of low ebb. For example, private sector credit has been grossly inadequate and this has affected the investment potentials of the economy.

In addtion, this study will therefore contribute to existing literature by providing new empirical evidence concerning the impact of financial development on economic growth in Nigeria. The study will be significance in determining the progress made so far by the Nigerian government in improving the economy through financial development. The study will also inform policy decisions and assist policymakers to ascertain if financial development has been able to enhance economic growth. Based

on the problems stated above, this study seeks to examine the impact of financial development on economic growth in Nigeria for the period 1986 to 2022. Four sections comprise the remaining parts of this study. The literature review will be discussed in section two, and methodology is presented in section three. The analysis and discussion of results are the focus of section four, and the summary and conclusion were discussed in section five.

2. Literature Review

2.1. Conceptual Review

Economic Growth

According to Okeke (2022), Economic growth is the increase in the amount of goods and services produced by an economy over a period of time. It is conventionally measured as the percentage rate of increase in real gross domestic product (GDP). Economic growth can be measured as a percentage change in the GDP.

The major source of per capita output in any country, whether developing or developed, with a market economy or centrally planned is an increase in productivity. Oluwole (2014) define economic growth as a sustained increase in the output of the economy often termed the GDP. Similarly, Howitt and Weil (2010) define economic growth as typically measured as the change in per capita GDP.

As explained by Okeke (2022), financial development revolves around overcoming costs incurred in the financial system. It involves the methods of reducing the costs of acquiring information, enforcing contracts, and making transactions which culminates in the emergence of financial contracts, markets, and intermediaries. Financial development may be defined as the development of the size, efficiency, and stability of financial markets along with increased access to the financial markets that can have multiple advantages for the economy (Guru and Yadav, 2019). Obinna (2015) discribes financial development as the establishment and expansion of financial institutions, instruments and markets which supports the investment and growth process through improvements in the quantity, quality and efficiency of financial intermediary services.

2.2. Theoretical Review

Financial Deepening Theory

This theory was developed by Gurley and Shaw (1955 and 1967). This theory touches on three sectors, which are financial sector, the firm, and household. The theory

illustrates how these three sectors operate within the economy which in turn lead to economic growth. Household saves the income that is not spent to the financial sector, and financial sector uses their savings to create loans for the firms and the firms make use of this loans to increase their capital investments which will increase productivity and increase demand for labour and at the long run boost the economy. This theory believes that the financial sector is an intermediary between the household and the firms that provide easy access to financial assistance and investment advice to both the household and the firms (Gurley and Shaw, 1955; 1967). This theory is relevant to this study because it helps to explain the relationship between the financial sector, the firm, and household, and how this relationship will enhance economic growth.

2.3. Empirical Review

Zaheer et al. (2022) investigated the effect of financial development on economic growth, using data from 44 countries, and economic inequality, using data from 42 middle-income countries. The Estimates are obtained through a panel Autoregressive Distributed Lag (ARDL) model for a period of 23 years (1995- 2018). Results show that financial development contributes to economic growth in both groups of countries in the long run. However, the contribution financial development makes to economic growth is more noticeable in the case of upper-middle income countries. Additionally, Granger causality test based on Vector Error Correction (VEC) showed two-way Granger causality between financial development and economic growth.

Okeke (2022) investigated financial development and economic growth in Nigerian from 1986 to 2020, using Ordinary Least Square regression analysis. The findings of the study revealed that money supply to GDP and Market capitalization to GDP has positive and significant relationship with economic growth in Nigeria while private sector credit to GDP and insurance premiums to GDP ratio had negative relationship with economic growth in Nigeria.

Omankhanlen et al. (2022) investigate the effect of financial development on economic growth in Nigeria covering 1990-2019, using autoregressive distributed lag (ARDL). The main research goals were to investigate the linkages among market capitalization, money supply and credit to private sector on the economy's growth. The result showed that the market capitalization and ratio of money supply to GDP of the financial development have a bigger impact on the economic growth in Nigeria. However, Ratio of credit to the private sector to GDP of financial development is inversely not significant to economic growth in Nigeria.

Adeyemo and Chinonso (2022) investigated the nexus between financial development, trade performance and growth in Nigeria between the period 1985 to

2020. Financial development, government expenditure, inflation rate and trade openness were used as independent variables while real GDP was used as the dependent variable, using Autoregressive distributed lag (ARDL). The results show that in the long run financial development and government expenditure coefficients have positive relationships with real gross domestic product and they are also statistically significant.

Ndubisi (2017) investigated the relationship between financial development and economic growth in Nigeria, using annual data for the period 1981-2014. The study employed multivariate VAR framework approach to co-integration which used to evaluate the long-run relationships between financial development and economic growth. These financial indicators were used: deposit money bank assets as percentage GDP, ratio of liquid liabilities to GDP and ratio of private sector credit of deposit money banks to GDP. The result revealed that real GDP and financial development variables have at least one common stochastic trend driving their relationship.

Iheanacho (2016) examines the effect financial development on economic growth in Nigeria over the period 1981–2011 using the auto-regressive distributed lag (ARDL) approach to co-integration analysis. The study reveals that the relationship between financial development and economic growth in Nigeria is found to be insignificantly negative in the long-run and significantly negative in the short-run.

Monogbe et al. (2016) examined the impact of financial development on economic growth in Nigeria using time series data spanning from 1986 to 2014 and its employed parsimonious error correction model. The outcome of their study shows that in Nigeria economic growth determine financial sector development and only credit to the private sector (CPS) has a positive and significant influence on the growth of the Nigeria economy while other variables are negative and insignificant.

2.4. Gap in the Literature

Many researchers have investigated the impact of financial development on economic growth in Nigeria such as Omankhanlen et al (2022), and Ayadi (2019) among others. The empirical analysis of Omankhanlen et al (2022) shows that financial development has positive and significant impact on economic growth in Nigeria which contradicts the investigation of Ayadi (2019) that shows that financial development has a negative and significant impact on economic growth in Nigeria.

Based on this empirical review, its clear that there is no agreement on how financial development affects the economic growth in Nigeria, which shows that there is still gap in the literature. This study will then examine the impact of financial

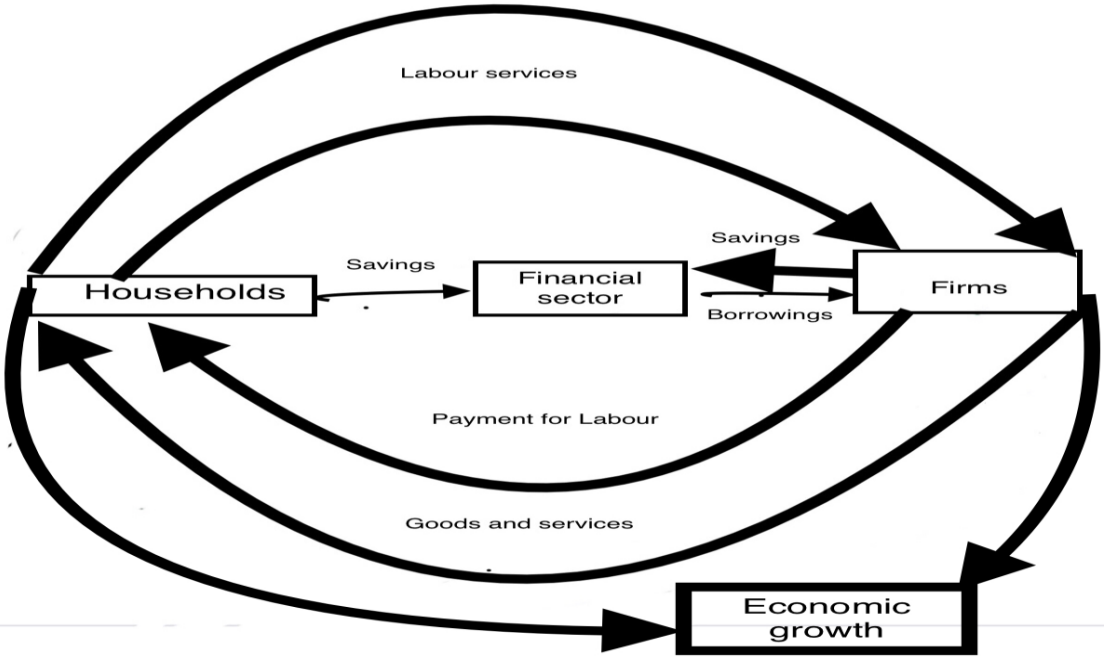
development on economic growth and how broad money supply, domestic credit to private sector and real interest rate contributes to economic growth in Nigeria.

3. Methodology

3.1. Theoretical framework

Financial deepening theory by Gurley and Shaw (1967) is adopted in this research. The theory serves as the framework for this study in order to test the impact of financial development on economic growth. The theory shows the relationship between households, financial sector and firms and how it leads to economic growth. Y=f(h, fc, f)

Where: Y is the growth, h is the household, fc is the financial sector and f is the firms. This is explained by the diagram of the circular flow of income constructed by the author below.



Source: Constructed by the Author (2023)

In the above diagram, households render their services to the firms while the firms make payment for the services rendered by the households. Households save their unspent income in the financial sector for the development of financial sector. Also, firms save with the financial sector while financial sector gives loans to the firms for investment purposes. However, when the firms get loans from the financial sector,

they make use of these facilities for capital investment which may increase demand for labour and consequently enhance productivity and in the long run boost economic growth.

3.2. Model Specification

This study adapted the model of Omankhanlen et al. (2022) to investigate the impact of financial development on economic growth in Nigeria. Their model is specified as:

$RGDP = f\ (M2, CPS, MKTCAP)$

Where

RGDP = real gross domestic product

M2=broad money supply as a percentage to GDP

CPS= credit to private sector as a percentage to GDP

MKTCAP= market capitalization

However, this model was adopted because ARDL model allows the mix order of integration which makes it different from ordinary least square model that allows order of integration at level and also cointegration model which allows order of integration at first difference. Furthermore, financial development does not have a single measure therefore, instead of a single proxy; two measures will be adopted from the work of Omankhanlen et-al. (2022) which are M2 and credit to private sector. M2 was chosen because it has a significant impact on economic growth while credit to private sector was also chosen in order to know why it does not impact the economy significantly. In addition, one additional measure will be introduced in this study in order to improve the robustness of the results. In this study, Economic Growth will be proxied by Growth rate of GDP while Financial Development (FD) will be proxied by broad money supply (M2) as a percentage of GDP; domestic credit to private sector (DCP) as a percentage of GDP; and real interest rate (INT)

GDPG=f (M2, DCP, INT) ---------(i)

$$\Delta GDPG_t = a_0 + \sum_{i=1}^{N} \beta_1 \Delta LGDPG_{t-1} + \sum_{i=0}^{N} \beta_2\, \Delta M2_{t-1} + \sum_{i=0}^{N} \beta_3\, \Delta INT_{t-1} + \sum_{i=0}^{N} \beta_{4i}\, \Delta DCP_{t-1} + \varphi_1 GDP_{t-1} + \varphi_2 M2_{t-1} + \varphi_3 INT_{t-1} + \varphi_4 DCP_{t-1} + v_t \ldots\ldots\ldots\ldots (ii)$$

Similarly, the short-run ARDL model is given as:

$$\Delta GDPG_t = a_0 + \sum_{i=1}^{N} \beta_1 \Delta LGDPG_{t-1} + \sum_{i=0}^{N} \beta_2 \Delta M2_{t-1} + \sum_{i=0}^{N} \beta_3 \Delta INT_{t-1} + \sum_{i=0}^{N} \beta_{4i} \Delta DCP_{t-1} + et \ldots\ldots (iii)$$

Where:

Δ is the first difference operator

N is the optimal lag length

β_1, β_2, β_3 and β_4 represent short-run dynamics of the model.

φ_1, φ_1, $\varphi_1$and $\varphi_1$represent the long-run elasticities.

Table 1: *Source of Data and Measures of the data*

Variables	Sources of data	Measures of the data
GDPG	World Bank development indicator (2023)	Annual percentage growth rate of GDP at market prices based on constant local currency
M2	World Bank development indicator (2023)	Broad money supply as a percentage to GDP
DCP	World Bank development indicator (2023)	credit to private sector as a percentage to GDP
INT	World Bank development indicator (2023)	Lending interest rate adjusted for inflation as measured by the GDP deflator.

Source: Authors' Survey (2023)

4. Results and Discussion of Findings

This section discusses the results of the study and the results are presented below.

Table 2: *Result of Descriptive Statistics*

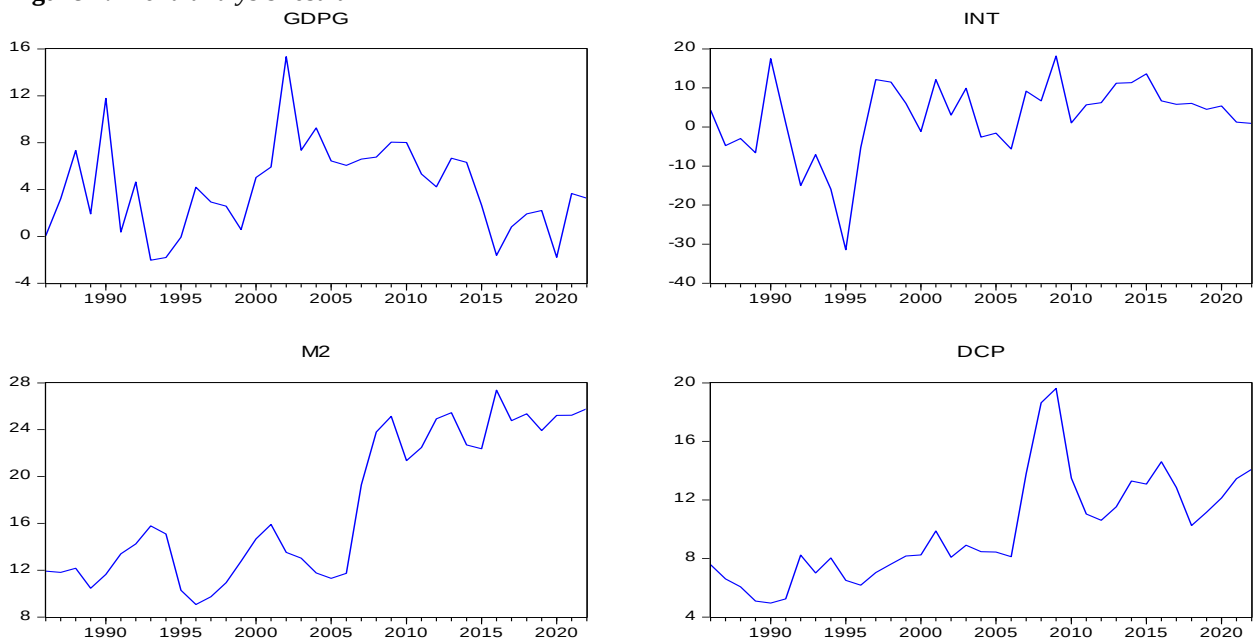
	GDPG	INT	M2	DCP
Mean	4.162427	2.467457	17.47073	9.948623
Median	4.195924	4.522188	15.09194	8.461664
Maximum	15.32916	18.18000	27.37879	19.62560
Minimum	-2.035119	-31.45257	9.063329	4.957522
Std. Dev.	3.854065	9.817880	6.156736	3.589207
Skewness	0.515553	-1.199125	0.235333	0.813254
Kurtosis	3.459191	5.310360	1.375571	3.221096
Jarque-Bera	1.964139	17.09610	4.409625	4.153882
Probability	0.374535	0.000194	0.110271	0.125313
Sum	154.0098	91.29592	646.4170	368.0991
Sum Sq. Dev.	534.7374	3470.067	1364.595	463.7667
Observations	**37**	**37**	**37**	**37**

Source: Eviews 9 output

Table 2 shows the result of descriptive statistics for all the variables of the study. From the result, the mean for all the variables over the period between 1986 and 2022 is positive with their values as small as possible except for broad money supply. Also, the standard deviations for all the variables are small, suggesting that the estimated values for all the variables are not significantly different from their true values. On the other hand, the result shows that the data varied between minimum and maximum values of -2.035 and 15.329 for GDPG. The mean for interest rate (INT) is 2.47 with a range between 18.18 and -31.45. Furthermore, the result shows that all variables except for INT are positively skewed to the right.

The estimated kurtoses for GDPG, INT and DCP for except M2 fall within the accepted limit of +3 or -3. Hence, the data do not suffer the problem of leptokurtosis. Again, the probability values of Jarque-Bera for all the variables, except INT, were insignificant at 5 per cent. This suggests that all the variables of the study, except INT, are normally distributed.

Figure 1: *Trend analysis result*



Source: Eviews 9 output

Figure 1 shows the result of trend analysis of the variables of the study over 1986-2022. Real interest rate (INT) and domestic credit to private sector (DCP) seems to have similar trending pattern, starting from a high level in 1986, dropping in 1986, and maintaining a zig-zag movement henceforth. Therefore, INT and DCP are said to be clustering over the period of the study, with unpredictable pattern. Except in 2005 when INT rises and in 1990 and 2005 when DCP rises, their trends exhibit clustering volatility. Broad money supply (M2) was low in 1986, rises sharply in 1990

falls drastically in 1995, rises sharply again in 2000 and falls in 2005. From 1990, broad money supply has maintained a downward trend henceforth. The trend of GDPG is unpredictable.

Table 3: *Result of ADF Unit Root Test*

Variables	**ADF at level**	**ADF at 1st difference**	**Order of integration**
GDPG	----------	-10.65896	**I(1)**
INT	-3.655274	----------	**I(0)**
M2	----------	-4.887361	**I(1)**
DCP	----------	-5.572885	**I(1)**
ADF Critical value (%) = -2.95			

Source: Eviews 9 output

Table 3 shows the results of ADF unit root test for stationarity. The test was conducted with intercept but no trend. This is because when intercept and trend were included in the test, only intercept was found significant while trend was insignificant. However, the result shows that INT was stationary at level (that is, they contained no unit roots at level). This is because the calculated ADF values for INT (-3.655274) are greater than the ADF critical value (-2.95) at 5 per cent level of significance. This equally implies that INT, in the raw forms, have constant variances and means, and as such, it is free from giving a spurious outcome when used in the raw forms. Also, INT became stationary at level. Hence, INT are said to be integrated of order one I(0)

However, GDPG, M2 and DCP were stationary at first difference because their calculated ADF values were greater than the ADF critical value (-2.95) at 5 per cent level of significance. This implies that the means and variances of GDPG, M2 and DCP were constant over the study period between 1986 and 2022. In other words, GDPG, M2 and DCP are stationary or integrated at order one I(1). The different orders of integration of the variables satisfy the condition necessary for using the ARDL model in this study.

Table 4: *VAR lag selection result*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-394.0030	NA	172905.2	23.41194	23.59151	23.47318
1	-341.3400	89.83684*	20178.61*	21.25529	22.15315*	21.56149*
2	-326.4333	21.92160	22465.78	21.31961	22.93575	21.87076
3	-308.6812	21.92912	22667.97	21.21654*	23.55097	22.01265

* indicates lag order selected by the criterion
Source: Eviews 9 output

From table 4, Lag one and lag three requirements were met by all of the criteria, as indicated by the asterisk (*) in table 3. The lag length three (3) was then chosen in this study, in accordance with the lag length estimate criterion. Lag 3 is the optimal lag

duration in this scenario, based on the information criteria that have been established in Table 3.

Table 5: *ARDL Bounds Test of Cointegration*

Test Statistic	Value	K
F-statistic	8.300705	3

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Eviews 9 output

Table 5 shows the result of ARDL Bounds Test of Cointegration which shows that the F-statistics value 8.300705 is greater than the upper boundary (I1) at 10%, 5% and 1% level of significance. Hence, the variables of the study are said to have a long-run relationship, implying that the response variables have a long-run relationship with the dependent variable.

Table 6: Result of parsimonious long run ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDPG(-1)	0.040137	0.168162	0.238678	0.8131
GDPG(-2)	0.349771	0.154111	2.269606	0.0311
INT	0.172902	0.069168	2.499750	0.0186
M2	-0.813457	0.306943	-2.650187	0.0131
M2(-1)	0.477085	0.253282	1.883610	0.0700
DCP	0.353458	0.285681	1.237245	0.2263
C	4.811779	2.104804	2.286094	0.0300
R-squared	0.445007	Mean dependent var		4.307107
Adjusted R-squared	0.326080	S.D. dependent var		3.896667
S.E. of regression	3.198877	Akaike info criterion		5.340333
Sum squared resid	286.5188	Schwarz criterion		5.651403
Log likelihood	-86.45583	Hannan-Quinn criter.		5.447714
F-statistic	3.741847	Durbin-Watson stat		1.700120
Prob(F-statistic)	0.007371			

Source: Eviews 9 output

The parsimonious long run ARDL results as seen in table 6 show that holding other explanatory variables constant, there is a positive long-run significant relationship between real interest rate and economic growth in Nigeria. This implies that a unit change in real interest rate leads to an increase in the rate of economic growth by 17

percent, in the long run, on average, holding other things constant, at 5 percent level of statistical significance.

According to World Development Indicators (2023), Many interest rates coexist in an economy, reflecting competitive conditions, the terms governing loans and deposits, and differences in the position and status of creditors and debtors. Real interest rates are calculated by adjusting nominal rates by an estimate of the inflation rate in the economy [(i - P) / (1 + P)], where i is the nominal lending interest rate and P is the inflation rate (as measured by the GDP deflator). A negative real interest rate indicates a loss in the purchasing power of the principal. In Nigeria, interest rates are set by Central Bank of Nigeria (CBN).

This finding supports earlier findings by Afolabi (2022) and Ikubor et al. (2022). However, this contradicts the findings of Sennuga et al. (2021) and Ahmed et al. (2019) where real interest rate is seen to have a negative impact on economic growth. Similarly, the study found that real interest rate has a long-run significant relationship with economic growth in Nigeria. Furthermore, contrary to expectations, the study found a negative long-run relationship between M2 and GDPG. This implies that a unit change in broad money supply leads to a decrease in the rate of economic growth for about 81 percent, in the long run, on average, holding other things constant, at 5 percent level of statistical significance. This finding however contradicts that of Omankhanlen et al. (2022) who in a similar study found broad money supply to have a significant positive impact on economic growth. Similarly, the coefficient of the lagged value of M2 shows a positive relationship and it implies that 1 percent increase in the past values of M2 will increase the current value of GDPG for about 48 percent and it statistically significant at 10 percent level of significance. Moreover, DCP is seen to exhibit a positive impact on GDPG implying that a percentage change in domestic credit to private sector increases economic growth for about 35 percent, in the long run, on average, holding other things constant. The impact of domestic credit to private sector on economic growth is seen to be insignificant.

The R^2, that is, the goodness of fit is about 0.445007 and it means that about 45 percent variations in gross domestic product growth rate are explained by real interest rate, broad money supply and domestic credit to private sector while the remaining 55 percent variation is explained by error term. Thus, the estimates are reliable and can be used for economic predictions. The F-statistic value of 3.741847 shows that the variables are jointly statistically significant at 5 percent level of significance. The Durbin- Watson (DW) statistic suggests that the model is free from autocorrelation since the value of DW (1.700120) is close to 2.

Table 7: *Result of parsimonious short-run ARDL model*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPG(-1))	-0.413888	0.159894	-2.588516	0.0149
D(INT)	0.168088	0.055360	3.036276	0.0050
D(M2)	-0.565498	0.238659	-2.369485	0.0247
D(DCP(-1))	0.117618	0.274382	0.428667	0.6713
ECM(-1)	-0.491572	0.212069	-2.317982	0.0277
C	0.290271	0.541036	0.536509	0.5957
R-squared	0.559383	Mean dependent var		0.001473
Adjusted R-squared	0.483415	S.D. dependent var		4.369445
S.E. of regression	3.140489	Akaike info criterion		5.281439
Sum squared resid	286.0174	Schwarz criterion		5.548070
Log likelihood	-86.42518	Hannan-Quinn criter.		5.373480
F-statistic	7.363368	Durbin-Watson stat		1.692841
Prob(F-statistic)	0.000146			

Source: Eviews 9 output

The parsimonious short-run ARDL results presented in table 7 reveal that INT has positive significant impact on economic growth. Also, broad money supply (M2) has a negative significant impact on economic growth, while domestic credit to private sector has a positive insignificant impact on economic growth which suggests that lag dependency is important for the short-run relationship between economic growth and domestic credit to private sector as regressors for this study. Specifically, a percent change in domestic credit to private sector leads to a short-run increase in economic growth for about 12 percent on average, holding other explanatory variables constant at a 5 percent level of significance.

The short-run impact of domestic credit to private sector on economic growth, like in its long-run case is also seen to be insignificant. Moreover, the short-run impact of real interest rate is significant at 1 percent level of significance, while broad money supply short-run impact economic growth at 5 percent level of significance. The error correction coefficient (ECM) parameter is -0.491572 which indicates that about 49 percent of errors generated in the previous years are corrected in the current year. This highly significant at 5 percent level of significance and negative ECM coefficient also supports evidence that there is a stable long-run relationship between economic growth and the variables considered in the regression model.

Table 8: *Breusch-Godfrey Serial Correlation LM Test*

F-statistic	0.472341	Prob. F(2,26)	0.6288
Obs*R-squared	1.227102	Prob. Chi-Square(2)	0.5414

Source: Eviews 9 output

The test of Breusch-Godfrey was conducted to establish if there is serial correlation in the model or not. The result as indicated in Table 4.8 shows that the probability value of F-statistic (0.6288) is greater than the critical value at 5 percent. The null hypothesis which states that there is no serial correlation in the model is thus accepted.

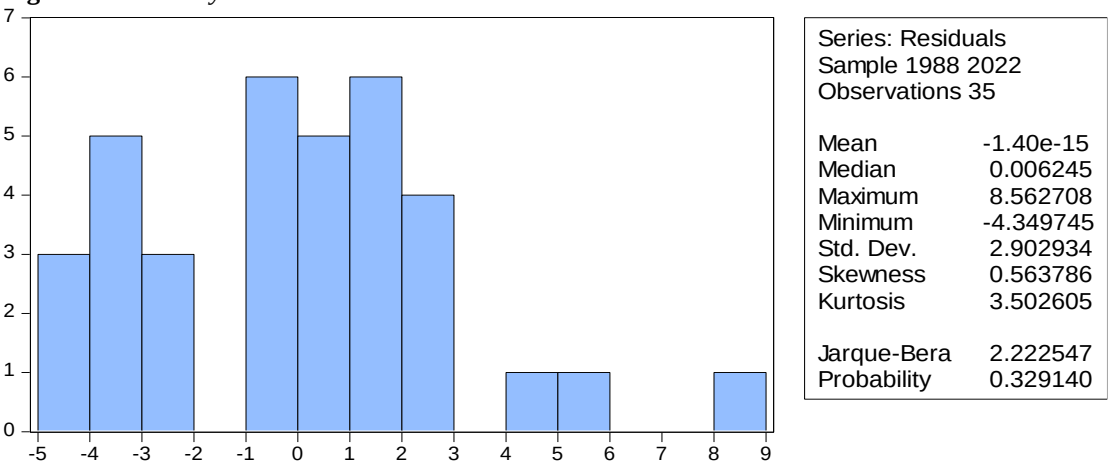
Table 9: *Heteroskedasticity Test: Breusch-Pagan-Godfrey*

F-statistic	0.544074	Prob. F(6,28)	0.7702
Obs*R-squared	3.654486	Prob. Chi-Square(6)	0.7233
Scaled explained SS	2.926635	Prob. Chi-Square(6)	0.8180

Source: Eviews 9 output

The result in Table 9 shows that there is no heteroscedasticity in the model. This is because the probability value of F-statistic (0.7702) is greater than the critical value at 5 percent. This therefore leads to the rejection of the null hypothesis and the study concludes that the model is homoscedastic.

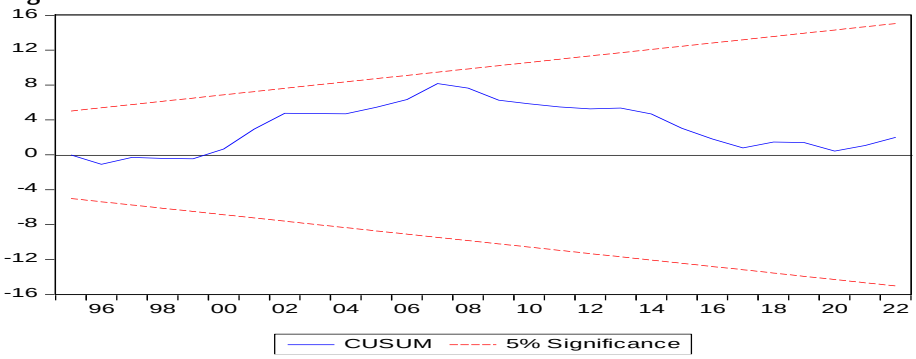
Figure 2: *Normality Test*



Source: Eviews 9 output

The result presented in figure 2 shows that the model is normally distributed because the value of Jarque-Bera probability test (0.329140) is higher than 5 percent significance level.

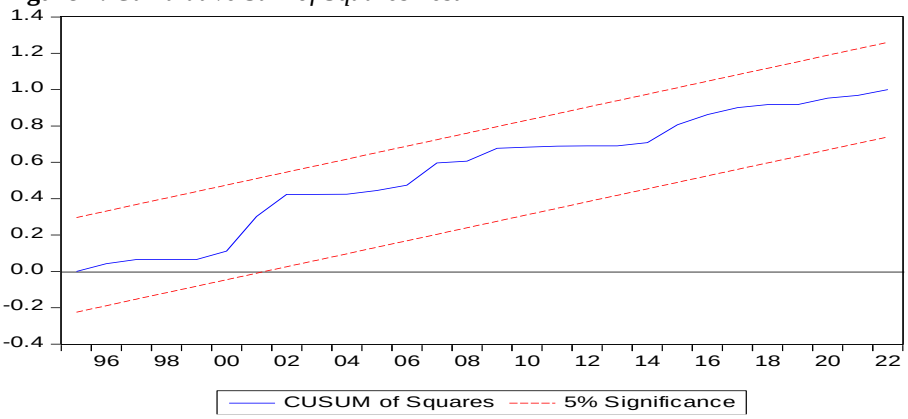
Figure 3: *Cumulative Sum Test*



Source: Eviews 9 output

The result in Figure 3 shows that our model is stable since the base line (blue line) fall within the 5 percent boundary level (red lines). Based on the decision rule, the study accepts the null hypothesis which states that the model is stable.

Figure 4: *Cumulative Sum of Squares Test*



Source: Eviews 9 output

The output of stability test using CUSUM of Squares test in Figure 4 shows that the model is stable since the base line (blue line) falls within the boundary level at 5 percent (red lines). The study therefore concludes that the model is stable and properly specified because none of the two tests go outside the five percent boundary level of significance.

5. Conclusion and Recommendations

The study examined the impact of financial development on economic growth in Nigeria between 1986 and 2022, using Autoregressive Distributed Lag Model (ARDL). The study shows a negative impact of broad money supply on economic growth both in the long and short run. The implication is that money supply is inadequate to stimulate economic growth in Nigeria.

This is due to activities of informal financial sector, interference of government and corruption. Due to this reason inflation rate in Nigeria has no control. The positive impact of real interest rate both in the long run and short run indicates that INT has the capability to transform the economy. This is because when interest rate is low it will encourage private sector to borrow more money from commercial bank for investment purpose. Similarly, domestic credit to private sector has a positive but insignificant impact on economic growth both in the short run and long run. This implies that adequate credit to private sector is required to enhance economic growth and the result of this study affirms that between 1986 and 2022, domestic credit to private sector contribute positively to economic growth in Nigeria.

In conclusion, financial development can be said to be a contributing factor to economic growth. This is because, when government allocate adequate credit to private sectors, investments are made to enhance productivity. These investments will lead to employment generation which in turn lead to output growth. In this regard, the study recommends that Nigeria government should increase allocation of credit to private sectors and also government should take adequate measure to reduce the interference of government in the affairs of monetary authorities. Since this study cannot cover all the aspects of research, it is therefore suggested that future researchers can focus on sub-Saharan African country and employ methods like generalized methods of moments (GMM) or dynamic panel least square model. Future researchers can also focus on financial inclusion and financial aids to examine the impact on economic growth.

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