# FINANCIAL SECTOR DEVELOPMENT AND ECONOMIC GROWTH IN NIGERIA

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## ABSTRACT
The study examined the impact of financial sector development on economic growth using selected banking sector variables such as broad money supply, total bank credits, total bank liabilities and private sector credits in Nigeria from 1981 to 2021. The supporting theoretical argument behind the study is that development of the financial sector will positively impact economic growth. Relevant econometric techniques such as unit root, OLS regression, autoregressive distributed lag, Johansen co-integration and the error correction tests were applied at significance level of 0.05. The results showed that the independent variables except private sector credit, had positive and significant relationship with real gross domestic product on the short-run and all the variables had significant impact on growth of the economy in the long-run with a speed of adjustment of 77.75%. In conclusion, the study agrees on the existence of a significant relationship between selected banking sector variables on economic growth and recommends that the monetary authorities should put measures and policies in place to consolidate on previous banking reforms, which will make the sector stronger, stable, virile and globally competitive in line with upward revision of the capital base and shareholders fund.
Keywords: Banking Sector; Financial Institution; economic growth; Financial Development
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## 1. INTRODUCTION
One of the recent evolutions of Nigeria's growth drive is a conscious development of the financial sector. Earlier before now, in the seventies the sector was highly regulated with the government holding controlling shares in most of the banks. The financial crisis of the 80's led to the introduction of the Structural Adjustment Programme (SAP) in 1986, with the aim of reviving the financial sector, with the introduction of financial liberalization which serves as a major component of (SAP). During this period of study, financial sector through banking sectors undergo series of reforms in order to strengthen sector, such reforms as consolidation exercise of 2004, privatization, commercialization and merger and recapitalization process, ever since then, various financial reform had been taking place to consolidate the sector with a view to maintaining economic growth (Obianagwa & Eze, 2020 and Akintunde, & Olaniran, 2022).

Financial sector development implies improvements in the functioning of the financial sector, these ranges from enhanced access to banks, enlarged diversification avenues, better quality of information and incentives for cautious borrowing and supervision (Alege & Ogunrinola, 2008; Akinlo & Egbetunde, 2010; Okodua & Ewetan, 2013, Ewetan & Ike, 2014). Developing the financial sector stimulates the economy and reduces poverty. The financial sector comprises a set of institutions, markets and instruments which include a legal and regulatory framework to allow transactions and credit extensions to take place. The sector basically helps to mop up funds and make them available to the private and public sectors as investable capital

According to new growth theory, a financial system that is well developed will facilitate high and sustainable economic growth (World Bank, 2001; Hicks, 1969; CBN, 2009). Studies on this related area in the continent are relatively few. Some studies that relates to this study such as Adelakun (2010) ;Oluitan (2012), George Adu, Marbuah &Mensah (2013); Nwosu and Metu; (2015), Osuji (2015), Adejoh. (2021), Ibrahim (2021) and Mbaeri, Uwalake & Gimba, (2021) utilized banking sector variables to measure economic growth in Nigeria with inconsistent outcomes. Against this background, the main objective of this study is to examine the impact of the financial sector development indicators on economic growth in Nigeria.

## 2. LITERATURE REVIEW

### 2.1 Concept of Economic Growth

This could be regarded as a positive change in the national income or the level of production of goods and services by a country over a certain period of time. It could be measured using level of production, total factor productivity, technological change, Schumpeterian measure, etc. (Odedokun, 1998; King & Levine, 1993; Oluitan, 2012)

Economic growth means an increase in the average rate of output produced per person usually measured on per annum basis.

### 2.1.1 Financial Sector Development Concept

This entails all the wholesale, retail, formal and informal institutions in an economy offering financial services to consumers, businesses and other financial institutions. International Development department (2004), define the subject to include stock exchanges, insurance, credit union, Microfinance institutions, money lenders and commercial banks. Financial sector is the set of institutions, instruments, and markets; It also includes the legal and regulatory framework that permits transactions to be made through the extension of credit (Oluitan, 2012 ). Two key fundamentals for establishing financial sector is existence of financial instruments, markets and intermediaries with cost reduction objectives (George, George & Justice, 2013).

### 2.1.3 Composition of Nigerian Financial Sector

There are four major sub-compartments of a financial system, namely: financial institutions, the regulatory authorities, financial markets, and financial instruments. The Nigeria system is inundated with significant changes when viewed from various perspectives including structure of ownership, features of instruments engaged, economic and regulatory environment in which it functions and it includes banks, discount houses, pension, asset managers, bureau de change etc and CBN statistics records over 902 financial institutions by the end of 2018 operating in Nigeria.

### 2.1.4 Financial Market

Financial market consists of money market and capital market, below is the brief explanation.

**i. Money Market**

Money market primarily exists as a channel of liquidity adjustment between different layers of short-term funds or funds less than one year. In this market, borrowing and lending of short-term financial assets, having high liquidity are transacted.

Ezirim (2005) observed two types of financial markets namely, primary and secondary markets. While the primary markets caters for new financial instrument issues, the secondary markets focuses on established financials instruments that are in liquefied form and easily transferrable. Rigg and Zibell (2009), identified liquidity management and monetary policy transmission are capable of enhancing the efficiency and impact of the CBN on Nigeria economy. As a matter of fact, the finance-growth nexus has offered a much daring appraisal of the causal relationship at the firm-level and industry-level. Since finance is made available to businesses through money market operations, it exerts a large, positive impact on economic growth. Efficient money market contributes to savings and investment flows in the economy in a way that grows capital for productive purposes and positively affecting GDP. Jalloh (2013) believes that money market will encourage short-term debt instruments trading in meeting short-term financial needs of numerous users of funds including banks, governments and related institutions.

## 2.2 Theoretical Literature

The nexus between finance and growth seems incontestable as many researchers who have worked on the issue, positively confirmed it, what is debatable is the nature of causality between the variables. The direction of causality has been described by Patrick (1966) as supply-leading and demand-following hypothesis.

**Finance Sector Development and Economic Growth Theory**

Modern growth theory identifies two specific channels through which the financial sector might affect long-run growth: which are as follows- through its impact on capital accumulation (including human as well as physical capital) and through its impact on the technological progress rate. These changes emanates out of the intermediation function of financial institutions which assists the sector to: mobilize savings for investment; activate and stir inflows of overseas capital (including FDI, portfolio investment and bonds, and remittances); and optimize the allocation of capital between competing uses, ensuring that capital goes to its most productive use.

## 2.3 Empirical Literature

The relationship between finance sector development and growth of the economy has been studied enormously in the literature, but with different approach and outcomes, to support this work various empirical literature were reviewed, such as ;

Osinubi (2002) examined the effect of the finance sector development in Nigeria from 1980 to 2000 using the OLS technique. The result showed a positive relationship between growth of the Nigeria economy with the use of capital market development variables. The findings showed that 98% of the variation in economic growth is caused by the explanatory variables based on his findings. Ahmadu (2009) examined the nexus between finance sector development and growth of the economy of 35 developing countries from 1970-2003. Using the GMM (Generalized Method Moment) technique, they observed that financial sector development affects per capital GDP mainly through its role in efficient resource allocation rather than its effect on capital accumulation.

Jayaramam (2007) examined impact of the finance sector development on the growth of the economy of Fiji. The ARDL (Autoregressive Distributed Lag) and co-integration technique were used, the results showed the presence of a long-run relationship with linkage from domestic private sector credit to economic growth but not vice-versa. Their results further indicated evidence of a bi-directional

short-run causality between the variables suggesting that private sector credit not only promotes economic growth, but also affected trade balance. Kagochi (2013) investigated the connection between financial market development and growth of the economy of Kenya between 1970 and 2008, and used ARDL technique and expanded neoclassical growth model. The results suggest that development of the finance sector, particularly banking sector size, granger-causes increased economic growth.
Hakeem (2009) used panel data with fixed and random effects techniques in his study of the development of financial sector and growth of the economy. The finance development indicators used include liquid liabilities, broad money, private credit and domestic credit, each based on GDP ratio. Finance development indicators were found to hold no strong impact on growth of the economy which, was attributed to financial repression prolongation in the region. Onuorah and Ozurumba (2013), examine bank credits, and to growth of the Nigeria economy. The research showed that all the bank credit measured as Total production bank credit, total general commerce bank credit, total service credit and other banks credit did not granger cause GDP instead GDP exerted influencing factor on them. Nnanna ( 2004 ) examines financial sector development and economic growth from 1981 to 2002 using ordinary least square broad money to Gross domestic product ( GDP ) and interest rate having strong positive relationship with economic growth. Muazu and Acquah ( 2020) re-examining the causal relationship among foreign direct investment, economic growth and financial sector development in Africa. We find that the causal nexus between foreign direct investment and economic growth is conditioned on the indicator of economic growth. While we observed feedback causality between foreign direct investment and financial sector development and financial sector development and economic growth

Iheanacho (2016) empirically examined nexus between financial institution development and Nigeria's economic growth between 1981–2011 and used the auto-regressive distributed lag (ARDL) method of co-integration analysis. The outcome revealed an insignificant nexus of financial development and Nigeria's economic growth. The studied relationship was found to be insignificantly negative in the long-run while significantly negative in the shorter-run. Adelakun (2010) examines the impact of financial sector development and economic growth from 1980 to 2008 using Augmented Dickey –Fuller ( ADF ). The empirical results show that there is a substantial positive relationship between financial sector development and economic growth in Nigeria. With interest rate and gross capital formation variables, though significant, were not properly signed, showing that investors in the system are very particular about their rates of returns on investment and the cost of the fund. Private sector credit was rightly signed and significant, credit will be more productive if channeled to productive investment.

## 3. METHODOLOGY.

Financial sector requires a set of indicators which can be used for effective policy formulation, implementation and evaluation. The variables to represent the level of financial services produced in an economy and how to measure the extent and efficiency of financial intermediation are the major problems in an empirical study of this nature. Construction of financial development indicators is an extremely difficult task due to the diversity of financial services provided in the financial system. Also, there is diverse array of agents and institutions involved in the financial intermediation activities. Despite all efforts by researchers to define, refine and improve the existing measures, financial proxies used are still far from satisfactory.
The theoretical framework of Cobb Douglas production function is most suitable for this study. This is was adopted by Beck and Demirguc-Kunt (2009); Coban and Topcu (2013); Adelakun (2010) among others. Therefore,

$$Y=AKL^{1-\alpha} \quad (1)$$

Where Y=aggregate GDP,L=labor, K=capital and A=TFP

Also, Y = economic growth (proxy for real GDP), K = amount of capital (estimated as gross fixed capital formation), and L = Amount of labour (which measures labour rate), A captures the effects of other factors of production, also known as efficiency parameter. Technically, A, estimates Total Factor Productivity (TFP).

We have

$\text{Log}(Y) = \text{Log}A + a\,\text{Log}(K) + \alpha - 1\,\text{Log}(L)$ (2)

Where

Log(Y) = RGDP, Log (K) = GFCF, Log(L)= LAB

The study adopted Adelakun (2010) Financial Sector development and Economic Growth in Nigeria as stated below.

Gy = f ( R S P M I T )

GY = Annual growth of the gross domestic product, R = interest rate,S = Ratio of gross domestic savings, P = the ratio of domestic credit to private sector to GDP,M = Ratio of Liquidity liability, I = Ratio of Gross fixed Capital formation, T = Trade Openness as a ratio of GDP

With slight modification, ratio of gross domestic savings (S), ratio of liquidity liability (M) and trade openness (T) ratio of gross fixed capital formation was removed. These variables were removed because of recent development of the financial sector which requires a set of indicators which can be used for effective policy formulation, implementation and evaluation. The main function is therefore stated below as equation four.

RGDP= f ($M_2$/GDP, BDL/GDP, CPS/GDP, BDC/ GDP, INT) (4)

The above functional relationship can be expressed as follows:

$RGDP_t = \beta_o + \beta_1 M_2/GDP_t + \beta_2\ BDL/GDP_t + \beta_3\ CPS/GDP_t + \beta_4\ BDC/\ GDP_t + \beta_5 INT_t + U_t$

Where

$M_2$/GDP = ratio of Broad Money Supply to GDP, $BDL/GDP_t$ = Total Bank Liabilities

$CPS/GDP_t$ = Private Sector Credit, BDC/ GDP = Total Bank Credit,$INT_t$ = Interest Rate

The apriori expectation $\beta_1, \beta_2, \beta_3, \beta_4 > 0$, $\beta_5 < 0$

## 4. RESULTS AND DISCUSSION OF FINDINGS

**Table 1**

Descriptive Statistics

| | BDC | BDL | CPS | INT | M2 | RGDP |
|---|---|---|---|---|---|---|
| Mean | 0.097253 | 0.224945 | 12.78780 | 17.34902 | 15.66220 | 3.331000 |
| Median | 0.087707 | 0.202744 | 8.200000 | 17.26000 | 13.10000 | 3.200000 |
| Maximum | 0.201242 | 0.406549 | 33.11000 | 29.80000 | 26.05000 | 14.60400 |
| Minimum | 0.044825 | 0.121404 | 5.900000 | 7.750000 | 9.200000 | -13.13000 |
| Std. Dev. | 0.044133 | 0.072890 | 7.634787 | 4.534712 | 5.492071 | 5.469263 |
| Skewness | 0.741370 | 0.699584 | 1.098290 | 0.322239 | 0.648014 | -0.817310 |
| Kurtosis | 2.481523 | 2.648953 | 3.117537 | 3.749292 | 1.819976 | 4.542813 |
| Jarque-Bera | 4.215029 | 3.554881 | 8.266248 | 1.668684 | 5.248246 | 8.630938 |
| Probability | 0.121540 | 0.169070 | 0.016033 | 0.434160 | 0.072503 | 0.013360 |
| Sum | 3.987379 | 9.222746 | 524.3000 | 711.3100 | 642.1500 | 136.5710 |
| Sum Sq. Dev. | 0.077907 | 0.212516 | 2331.599 | 822.5446 | 1206.514 | 1196.514 |
| Observations | 41 | 41 | 41 | 41 | 41 | 41 |

Source: Authors' E-Views 12 computations, 2022

The descriptive statistics in Table 1, shows the mean and median for the various variables in the series, having close central tendencies for each of the variables such as BDC mean of 0.097253 and the median follows closely with 0.087707, similarly for INT, the mean and median are 17.34902 and 17.26000

respectively. The gap between the maximum values of the series and the standard deviations is very high for CPS being 33.11000 and 7.634787 respectively. The deviations from the mean for the model variables are quite high except for RGDP. The average kurtosis is above 3 for the entire series indicating a platykurtic feature while the Jarque-Bera showed a cyclical trend. The overall probabilities for the model variables are significant being below the 0.05 confidence level except for INT.

### 4.2 Unit Root Tests

Since most times series data often produce spurious result, it becomes imperative to conduct pre – estimate test using unit root test techniques. This is in line with Granger and Newbold ( 1974), and Granger ( 1986) that argued if time series variables are non stationary, all regression results will differ from the conventional theory of regression coefficient and will therefore be spurious and misleading. Therefore, it is recommended that a stationarity test be carried out. The Augmented Dickey Fuller Unit root test was used to assess whether the variables are stationary or not and their order of integration. The ADF is preferable because it accommodates small and large sample size and can be used in respective order of difference. From the table, four of the variables were stationary at first difference level (BDC, BDL, CPS and M2), while other variables (such as INT and RGDP) were stationary at levels.

**Table 2**

Unit Root Result

| **Variable** | **ADF Statistics** @ 5% | **t-Statistics** | **Prob value** | **Integration order** |
|---|---|---|---|---|
| BDC | -5.65026 | -3.52976 | 0.0002 | I(1) |
| BDL | -4.05230 | -3.52976 | 0.0149 | I(1) |
| CPS | -6.81070 | -3.52976 | 0.0000 | I(1) |
| INT | -5.11133 | -3.54428 | 0.0011 | I(0) |
| M2 | -5.86020 | -3.5298 | 0.0001 | I(1) |
| RGDP | -3.8910 | -3.5216 | 0.0217 | I(0) |

Source: Authors' E-Views 12 computations, 2022

Co-integration Tests

**Table 3**

Co-integration Tests Results 1

| Series: BDC BDL CPS INT M2 RGDP | | | | |
|---|---|---|---|---|
| Lags interval (in first differences): 1 to 2 | | | | |
| Unrestricted Cointegration Rank Test (Trace) | | | | |
| Hypothesized | | Trace | 0.05 | |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.701077 | 114.1815 | 95.75366 | 0.0015 |
| At most 1 | 0.443023 | 68.29384 | 69.81889 | 0.0657 |
| At most 2 | 0.398790 | 46.05506 | 47.85613 | 0.0731 |
| At most 3 | 0.299968 | 26.72027 | 29.79707 | 0.1087 |
| At most 4 | 0.292204 | 13.16837 | 15.49471 | 0.1088 |
| At most 5 | 0.000936 | 0.035580 | 3.841465 | 0.8503 |
| Trace test indicates 1 cointegrating eqn(s) at the 0.05 level | | | | |

Source: Authors' E-views 12 Computations, 2022

The long-run equilibrium position using trace tests revealed 1 co-integration vector at the 5% level of significance with a p-value of 0.0015 (See table 6).

**Table 4**

Co-integration Tests Results 2

| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
|---|---|---|---|---|
| Hypothesized | | Max-Eigen | 0.05 | |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |
| None * | 0.701077 | 45.88767 | 40.07757 | 0.0099 |
| At most 1 | 0.443023 | 22.23878 | 33.87687 | 0.5891 |
| At most 2 | 0.398790 | 19.33479 | 27.58434 | 0.3891 |
| At most 3 | 0.299968 | 13.55190 | 21.13162 | 0.4028 |
| At most 4 | 0.292204 | 13.13279 | 14.26460 | 0.0749 |
| At most 5 | 0.000936 | 0.035580 | 3.841465 | 0.8503 |
| Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level | | | | |

Source: Authors' E-views 12 Computations, 2022

Similarly, in table 4, the maximum eigenvalue tests revealed 1 co-integrating vector in the series with a p-value of 0.0099, implying the existence of a long-run relationship. However, due to the stationarity of the model variables at different levels from the unit root tests, there would be need to run a confirmatory ARDL tests.

### 4.3 ARDL Model

**Table 5**

Co-integration Tests Result 3 (Using ARDL)

| Dependent Variable: RGDP | | | | |
|---|---|---|---|---|
| Method: ARDL | | | | |
| Dynamic regressors (4 lags, automatic): M2 CPS INT BDL BDC | | | | |
| Selected Model: ARDL(3, 4, 4, 1, 4, 4) | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
| RGDP(-1) | -0.168357 | 0.173320 | -0.971367 | 0.3522 |
| RGDP(-2) | 0.166087 | 0.225802 | 0.735541 | 0.4774 |
| RGDP(-3) | -0.589204 | 0.249523 | -2.361322 | 0.0377 |
| M2 | -0.742748 | 0.668475 | -1.111107 | 0.2902 |
| M2(-1) | -2.222449 | 0.830969 | -2.674529 | 0.0216 |
| M2(-2) | 0.320608 | 0.723013 | 0.443433 | 0.6660 |
| M2(-3) | 1.861100 | 0.740939 | 2.511812 | 0.0289 |
| M2(-4) | 2.875483 | 0.952539 | 3.018755 | 0.0117 |
| CPS | -0.786834 | 0.342981 | -2.294102 | 0.0425 |
| CPS(-1) | 0.106950 | 0.406542 | 0.263072 | 0.7974 |
| CPS(-2) | 0.178487 | 0.525059 | 0.339936 | 0.7403 |
| CPS(-3) | -0.931268 | 0.527884 | -1.764153 | 0.1054 |
| CPS(-4) | -1.100162 | 0.478502 | -2.299182 | 0.0421 |
| INT | -0.179823 | 0.241975 | -0.743146 | 0.4730 |
| INT(-1) | 1.188011 | 0.269785 | 4.403542 | 0.0011 |
| BDL | -16.30275 | 33.51912 | -0.486372 | 0.6362 |

| | | | | |
|---|---|---|---|---|
| BDL(-1) | 184.7696 | 50.14207 | 3.684921 | 0.0036 |
| BDL(-2) | -77.45251 | 50.61718 | -1.530163 | 0.1542 |
| BDL(-3) | 20.06156 | 51.07337 | 0.392799 | 0.7020 |
| BDL(-4) | -174.2474 | 49.73425 | -3.503569 | 0.0049 |
| BDC | -5.521465 | 46.47350 | -0.118809 | 0.9076 |
| BDC(-1) | 99.30240 | 40.35264 | 2.460865 | 0.0316 |
| BDC(-2) | 74.56581 | 43.37462 | 1.719112 | 0.1136 |
| BDC(-3) | 21.03886 | 43.78917 | 0.480458 | 0.6403 |
| BDC(-4) | 196.5815 | 51.53719 | 3.814361 | 0.0029 |
| C | -32.03570 | 12.07653 | -2.652723 | 0.0225 |

Source: Authors' E-views 12 Computations, 2022

This ARDL tests further confirmed the existence of a long-run equilibrium relationship between the dependent variable (economic growth, RGDP) and the banking sector variables namely - M2 (p – value 0.0216), CPS (p – value 0.0425), INT (p – value 0.0011), BDL (p – value 0.0036), and BDC (p – value 0.0316), showing statistically significant relationship since the p-values are less than the chosen level of significance of 0.05.

Error Correction Tests

**Table 6**

Error Correction Term Result

| Dependent Variable: D(RGDP) | | | | | |
|---|---|---|---|---|---|
| Method: Least Squares | | | | | |
| Variable | Coefficient | Std. Error | | t-Statistic | Prob. |
| | ECT002(-1) | -0.777457 | 0.155956 | -4.985107 | 0.0000 |

Source: Authors' Eviews 12 Computation, 2022

Error correction model is, ect 002(-1) = -0.777457 + $b_1$0.15596 – $b_2$4.9851

The Error correction term revealed a negative coefficient that is significant with a p-value of 0.0000, with the right negative sign. A coefficient of 0.777457 implies that the speed of adjustment of the dependent variable from the short-run equilibrium to the long-run equilibrium is 77.75% annually. So that the error term in this residual is corrected annually with a speed of adjustment of 77.75%.

### 4.4 Ordinary Least Square Regression Tests

**Table 7**

Ordinary Least Square Regression Result

| Dependent Variable: RGDP | | | | |
|---|---|---|---|---|
| Method: Least Squares | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | -12.15685 | 3.640809 | -3.339051 | 0.0021 |
| M2(2) | -1.391293 | 0.497631 | -2.795832 | 0.0086 |
| CPS(2) | 0.476895 | 0.311098 | 1.532942 | 0.1348 |
| INT | 0.742366 | 0.143751 | 5.164230 | 0.0000 |
| BDL(2) | 49.37681 | 13.50694 | 3.655663 | 0.0009 |
| BDC | 75.59864 | 30.88404 | 2.447822 | 0.0199 |

Source: Authors' E-views 12 Computation, 2022

The OLS regression result, the $R^2$ of 57.18% and an adjusted $R^2$ of 50.69% both indicating a goodness of fit for the model and its capacity to take on more variables. The Durbin Watson of 1.8881, which is a good indication and within the acceptable threshold, is considered very okay, indicating the absence of autocorrelation in the model. The model showed an overall F-statistics probability of 0.000022. The OLS regression result reveals that the BDC (p-value – 0.0199) had a statistically positive significant effect on the RGDP, a proxy for economic growth. In the same vein, interest rate, INT (p-value 0.0000), Money Supply per GDP, M2 (p-value – 0.0086) achieved a negatively significant effect on economic growth at a lead of 2, ratio of total bank liability to GDP, BDL at a lead of 2. Showed a positively significant relationship to real gross domestic product (proxy for economic growth) being less in p-values to the 0.05 chosen level of confidence (p =0.0009).

Overall, in the short-run equilibrium, there exists a statistically significant relationship between banking sector variables captured by M2, BDC, BDL and INT with economic growth proxy by real gross domestic product (RGDP) at the 5% significance level. However, only CPS showed an insignificant relationship with RGDP. The statistical significant effect of these variables on economic growth lies in the Probability of the F-statistics being 0.000022, which is statistically significant at the confidence level of 5%. The Banking variables represented by BDC, BDL, CPS, INT and M2 show strong and positive significant effect on economic growth of Nigeria represented by RGDP in both short-run and long-run equilibrium positions. Hence, we reject the null hypothesis, to accept the alternative that selected banking variables captured by BDC, BDL, CPS, INT and M2 all have significant effect on economic growth, RGDP.

### 4.3 Discussion of Findings

This research paper considered the financial sector development and economic growth. The objective of the study was to evaluate the impact of financial sector development variables represented by ratio of Broad Money Supply to GDP, Total Bank Liabilities, Private Sector Credit, interest rate and Total Bank Credit to the economy, on economic growth rate in Nigeria. Selected econometric tests such as descriptive statistics, unit root, heteroskedasticity and Breusch-Godfrey LM serial correlation test and some stability tests such as ramsey reset and recursive residual estimate tests were carried out at the 5% chosen confidence level. The outcome showed that the model variables were stable, stationary at levels and at first level of difference, the series were homoscedastic, and no evidence of autocorrelation in the residual series.

The relevant hypothesis was tested using the OLS regression, Johansen Cointegration, Autoregressive distributed lag for co-integration and the error correction model technique were all employed at the 5% level of confidence. The result of the analysis indicates that for the OLS technique, in the short-run equilibrium, there exists a statistically significant relationship between banking sector variables represented by broad money supply (M2, p-value = 0.0086), Interest rate (INT, p-value =0.0000), total bank liabilities to GDP (BDL, p-value = 0.0009), total bank credit to GDP (BDC, p-value = 0.0199) with economic growth proxy by real gross domestic product (RGDP) at the 5% significance level, however, private sector credit to GDP (CPS) showed an insignificant impact on economic growth, with the p-value of 0.1348 being greater than the 5% chosen level of significant. Apart from the outcome for private sector credit to GDP that showed an insignificant impact on growth of the economy in the short-run equilibrium, the outcome of the other banking sector variables are consistent with the theory of Finance sector development and growth of the economy and agrees with empirical findings of Adelakun ( 2010 ), Iheanacho (2016) and Beck and Demirguc-Kunt (2009) of significant impact on economic growth proxy by GDP in the short-run equilibrium. The long-run equilibrium tests using the Johansen Cointegration technique of trace and maximum Eigenvalue both revealed existence of one co-integrating vectors and reconfirmed by the ARDL tests that the model variables show co-integration in the long-run equilibrium, this outcome is in consonance with the supporting theory, did not agree

with the empirical findings of Iheanacho (2016) but compliments the outcome in Beck and Demirguc-Kunt (2009), Adelakun ( 2010 ) of a long-run significant impact of the financial sector development variables on economic growth. The error correction tests conducted revealed a significant impact of the independent variables on the dependent variable with a speed of adjustment of 77.75% from the short-run to the long-run equilibrium annually.

These results lead to the acceptance of the alternative hypothesis and rejection of the Null hypothesis that there is a statistically significant impact of the financial sector independent variables of M2,CPS,BDL, BDC and BDL on the dependent variable, economic growth. This supports both theory and empirical findings of Beck and Demirguc-Kunt (2009) of a positively significant effect at the 5% level of significance.

## 5. CONCLUSIONS AND RECOMMENDATIONS

We conclude from this study that the financial sector variables had significant impact on the Nigeria's economic growth and recommend as follows;

i. The monetary authorities should put measures and policies in place to consolidate on the previous financial sector reforms, in order to ensure a strong, stable, virile and globally competitive financial sector that will continue to contribute to economic growth of Nigeria. Examples of such measures could include raising the capital base and shareholders' fund to fifty billion naira minimum for tier-two banks and one hundred billion naira minimum for tier-1 banks.

ii. The Nigeria monetary authorities should devise strategies to engineer the financial institutions to make credits available and accessible to the private sector. This will assist to boost investment towards the development of the private sector which is the national engine of growth.

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