



## FINANCIAL DEVELOPMENT AND THE NIGERIAN ECONOMY

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### Abstract

The aim of this study is to investigate financial development and the Nigerian economy. Data were collected from secondary sources through the CBN statistical bulletin 2019. Data collected were analyzed using statistical technique; and diagnostic tests such as Augmented Dicker Fuller (ADF) unit root test, Autoregressive distributed lag (ARDL), bounds test, co integrating and long run form tests were also conducted. The study proxy financial development with; money supply as a percentage of GDP, private sector credit as a percentage of GDP, market capitalization and interest rate while the proxy for Nigerian economy which is the dependent variable is real GDP. The study found that market capitalization and private sector credit as a percentage of GDP are not significant but exhibits positive relationship with GDP while money supply as a percentage of GDP exhibits negative relationship with GDP and is not significant. Interest rate, which did not conform to our theoretical expectation exhibits negative relationship with GDP and is not significant. The link between the financial and real sector is positive and can be improved upon through sound policies and institutional development of the sectors. In particular, credits to private sector and market capitalization in Nigeria have yielded positive results and this implies that Government should focus more on development of the Nigeria stock market and also improve resource allocation, credit channels and funding to private firms by financial institutions.

**Keywords:** Financial development, Nigerian economy, Market capitalization, Gross Domestic product, Sustainable development

### 1. Introduction

One of the core macroeconomic goals in every nation is the pursuit of economic growth and sustainable development; and this is usually anchored on the financial development of a country. The goal of financial development is to attain efficiency in the financial sector and produce financial deepening and economic increase. Acheampong (2019) explains that financing for investment is one of the needs of any



economy for sustainable economic growth. The provision of finance to different sectors of the economy will encourage the growth of the economy holistically, and this will lead to faster development and improvement of welfare. According to Abiola *et. al.* (2015), a well-functioning financial system drives economic growth, creates a platform for financial intermediation by providing savings, credit, payment, and risk management products to people with a wide range of needs. Financially inclusive systems allow an easy based access to financial services by making customized financial products available at an affordable price without stringent documentation, particularly to the poor or other disadvantaged groups within the economy.

Financial development involves the organization of financial institutions, instruments and markets which supports the investment and growth process through improvements in the efficiency of financial intermediary services. However, while many researchers such as Chigbu and Osuji (2012), Yand and Vi (2008), Greenwood and Jovanovic (1990) have underlined the significance of financial sector in the economy other researchers such as Dabos and Gantman (2010), Blanco (2009) and Hurlin and Venet (2008) argue that it is the real economy that drives financial development.

In the case of Nigeria, looking at the strides achieved so far in the financial sector, this study is a vital one. According to the central bank of Nigeria statistical bulletin 2019, the depth of the financial sector showed some improvements as the ratio of supply of broad money to GDP moved from 21.2% in 2017 to 19.6% in 2018 and to 22.3% in 2019. The banking sector also showed strong capacity to finance real sector activities with substantial credit flow to the core private sector as ratio of private sector credit to GDP moved from 19.6% in 2017 to 17.6% in 2018 and to 21.7% in 2019. This translated into steady increase in firm sizes as the market capitalization figure moved from N21.1 billion in 2017 to N21.9 billion in 2018 and to N24.9 billion in 2019. Additionally, increase use of various electronic money products reflected the shift away from cash transactions and thus a progress in effectiveness of funds intermediation. Despite this progress and increase in economic indicators over time, high poverty level still prevail in the country.

Jhingan (2005) posits that a strong economy is a gradual and steady change which comes about by a general increase in savings rate and population. If a financial system is well developed, it will enhance commercial opportunities, encourage savings and investments and general commerce and also help diversify investment risks. All these translate to progress in technology, allocation of resources, capital accumulation which impacts the economy.



Consequently, this paper seeks to answer the research question on; what is the relationship between financial development and economic growth in Nigeria? Although many researchers have worked on relationship between financial development and economic growth, never the less, research studies have reached different conclusions with conflicting causality relationships. Hence, it is due to these conflicting views that this study aims at empirically investigating the relationship between financial development and the Nigerian economy.

## **2. Literature review and theoretical framework**

Theoretical framework undertaken to scrutinize the relationship between financial development and the economy includes the work of Schumpeter (1911) and Hicks (1969). Schumpeter (1911) examines finance and the economy and concludes that the financial sector leads economic growth by providing financial support to projects with good prospects. This is premised on the view that a financial system that is functioning well would encourage technological innovation by selecting and financing businesses that are successful.

Alternatively, Hicks (1969) posits that required funds were provided for England during the Industrial revolution and the channel of movement is financial development. Later works include the recent endogenous growth models some of which include the works of Greenwood and Jovanovic (1990) and Abiola *et.al.* (2015), they emphasized that for sustained economic growth, financial markets has a vital role to play in their studies arguing that a financial system improves productive capacity both human and physical capital which in turn impacts positively on the economy. Greenwood and Jovanovic (1990) argued financial intermediation is critically correlated to productivity growth of economy and posits the vital role of financial intermediation in an endogenous growth model. Abiola *et.al.* (2015) employed regression analysis model to investigate financial inclusion and economic growth in Nigeria and concluded that financial inclusion is a significant determinant of the economy output level.

In addition, Kolapo and Adaramola (2012) examined the impact of capital market on economic growth in Nigeria. They concluded that activities in the capital market tend to drive economic growth. They explained that bi-directional causation exists between economic growth and the value of transactions in the stock market and unidirectional causality exist from market capitalization to economic growth. Corroborating this, Shittu (2012) finds a positive relationship between capital market and economic growth in Nigeria and explained the financial system can assist



investors by providing funding, militating against risk, and guiding investors to investments which are profitable to the economy.

Many researches have been conducted in investigating conflicts that emanate from correlation between financial developments and economic growth. King and Levine (1993) using IMF data and various financial indicators for roughly 80 countries over the 1960-1989 period concluded that a positive relationship exist between financial indicators and grow this robustly correlated with subsequent rates of growth, capital accumulation and economic efficiency. They stressed that policies enacted by authorities that affect effectiveness of financial intermediation process will in turn affect economic growth. Levine *et.al* (2000) employed sample of 74 developed and under-developed countries over the period 1960-1995, revealed that the impact of financial development which is the exogenous components is responsible for the positive relationship between financial development and output growth.

Chigbu and Osuji (2012) employed granger causality analysis in their investigation of relationship between real and financial sector growth in Nigeria and finds evidence that supports the supply leading hypothesis that financial development induces real growth. Odedokun (1996) analyzing a sample of 71 developing countries found strong evidence in support of the finance causes growth hypothesis using time series regression analysis. The author concludes that financial intermediation is positively related to economic growth in roughly 85 percent of the countries and he also observed that the growth promoting effects of financial intermediation were primarily in low income countries.

Audu and Okumoko (2013) using as variables GDP, ratio of money supply to GDP, ratio of bank deposit to GDP, granted credit of banks to private sector, interest rate employed annual times series data spanning through a period of 43 years (1970 to 2012) and the results of the co-integration estimates in their study revealed that the selected independent variable used in the study explains long-run relationship between financial development and economic growth between the period under consideration. Their findings confirm that all the variables have significant impact on GDP even though interest rate and credit of banks to private sector did not conform to a priori expectation. Luintel and Khan (1999) applying a multivariate vector auto regression framework to a sample of ten developing countries over a period of 36- 41 years and find evidence of bi – directional causality for all.

Dealing specifically with stock market indicators, Levine and Zervos (1998) found evidence that stock market liquidity and banking development promotes economic



growth. Agu and Chukwu (2008) employing the granger causality test approach to ascertain the direction of causality between bank based financial deepening variables and economic growth in Nigeria between 1970-2005 found a positive long run relationship exist between financial deepening and economic growth. They also posit that the choice of bank based financial deepening variables influences the causality outcome. Adekunle, Salami and Adedipe (2013) employed the ordinary least square (OLS) method, found that there exist no significant relationship between financial development and economic growth in Nigeria concludes that there is a weak link between financial and real sector. Oriavwote and Eshenake (2014), employed co integration and Error Correction Mechanism, explained that no significant relationship exists between financial sector and the Nigerian economy. Eriemo (2014) examined financial sector development and Nigeria's performance in the Global system between 1980 and 2010 using OLS method. The result revealed global importance of liquidity ratio, money supply, bank loans in financial policymaking. Thus, the debate on finance growth relationship is still ongoing and therefore offers a gap for this research work.

### 3. Data and Methods

Data for this study was sourced from the CBN 2019 statistical bulletin and the data spanned from 1989 to 2019. The 1989 base year makes it a 30-year period. Eviews 9 statistical software is employed for the tests. The chosen indicator for Nigerian economy is real Gross Domestic Product which is specified to depend on money supply as a percentage of GDP, private sector credit as a percentage of GDP, market capitalization and interest rate.

#### 3.1 Model Specification

Having adapted the model stated by Audu and Okumoko (2013); by including market capitalization as a proxy for financial development, the relationship between growth and financial development can be specified as:

The functional relationship of the model is expressed as:

$$GDP = f(MSG, PSG, MCAP, INT)$$

The model is expressed in econometric equation as:

$$GDP = \alpha_0 + \alpha_1 MSG + \alpha_2 PSG + \alpha_3 MCAP + \alpha_4 INT + \mu_t \dots \dots \dots (1)$$

Where:

GDP = Real Gross domestic product

MSG = money supply as a percentage of gdp

PSG = private sector credit as a percentage of gdp



MCAP= market capitalization

INT= interest rate

0= intercept of the model

1- 4 = coefficient of the independent variables or parameters

$\mu_t$ = stochastic variable or error term incorporating other factors that are not considered in the model.

To bring the data of both the dependent and independent variables to a level of equal comparability, their logarithm is calculated and gotten.

$$\log GDP = 0 + 1\log MSG + \alpha_2\log PSG + \alpha_3\log MCAP + \alpha_4\log INT + \mu_t \dots\dots\dots(2)$$

The coefficients in the model are expressed in their elasticity since the variables are in natural logarithm form hence and they measure direct response of economic growth to variable changes.

#### 4. Data Analysis and Discussion of findings

**Table 1: Unit Root Test at Level**

Variable	ADF test at level	critical value at 5%	critical value at 10%	probability	remark	order of intergration
Gdp	-4.031627	-2.963972	-2.621007	0.0041	Stationery	i (0)
Msg	-1.010012	-2.963972	-2.621007	0.7367	Non-stationery	Nil
Psg	-0.957249	-2.963972	-2.621007	0.7553	Non-stationery	Nil
Mcap	-2.167082	-2.963972	-2.621007	0.2217	Non-stationery	Nil
Int	-1.406115	-2.963972	-2.621007	0.5660	Non-stationery	Nil

*Source: Authors' Computation (2021)*

**Table 2: Unit Root Test at First Difference**

variable	ADF test at 1st diff.	critical value at 5%	critical value at 10%	probability	remark	order of intergration
Msg	-4.926003	-2.967767	-2.622989	0.0004	Stationery	i (1)
Psg	-5.404559	-2.967767	-2.622989	0.0001	Stationery	i (1)
Mcap	-4.095156	-2.967767	-2.622989	0.0036	Stationery	i (1)
Int	-3.636375	-2.986225	-2.632604	0.0122	Stationery	i (1)

*Source: Authors' Computation (2021)*

Tables 1 and 2 shows the Augmented Dickey Fuller (ADF) unit root test results for the variables. The unit root test is the test of stationarity for variables used in the model analysis. A non-stationary time series is not possible to generalize to other time periods apart from the present hence this makes forecasting based on such time series



to be unrealistic. GDP with an ADF value of -4.031627 exceeds the critical ADF value of -2.963972 and -2.621007 at 5% and 10% respectively and a probability of 0.0041 which is  $< 5\%$  is stationary at levels i.e.  $I(0)$ . MSG with an ADF value of -4.926003 exceeds the critical ADF value of -2.967767 and -2.622989 at 5% and 10% respectively and a probability of 0.0004 which is  $< 5\%$  is stationary at first difference i.e.  $I(1)$ . PSG with an ADF value of -5.404559 exceeds the critical ADF value of -2.967767 and -2.622989 at 5% and 10% respectively and a probability of 0.0001 which is less than 5% is stationary at first difference i.e.  $I(1)$ . MCAP with an ADF value of -4.095156 exceeds the critical ADF value of -2.967767 and -2.622989 at 5% and 10% respectively and a probability of 0.0036 which is  $< 5\%$  is stationary at first difference i.e.  $I(1)$ . INT with an ADF value of -3.636375 exceeds the critical ADF value of -2.986225 and -2.632604 at 5% and 10% respectively and a probability of 0.0122 which is  $< 5\%$  is stationary at first difference i.e.  $I(1)$ .

The results of the Augmented Dickey Fuller unit root test led the study to initiate the autoregressive distributed lag (ARDL) test and bounds test. Bounds test revealed that the f-statistic figure of 4.26888 > than both the lower bounds figure of 2.56 and upper figure of 3.49 at 5% significance. This proves that there is long run relationship among the variables, hence we refuse to accept Null hypothesis which says no long run relationship exist and we accept alternative hypothesis.



**Table 3: ARDL short term**

Variable	Coefficient	Std. Error	t-Statistic	Probability
D(GDP(-1))	-0.090338	0.130147	-0.694122	0.5258
D(GDP(-2))	-0.333144	0.070101	-4.752379	0.0090
D(GDP(-3))	0.147312	0.073319	2.009186	0.1149
D(MSG)	0.614275	0.076451	8.034844	0.0013
D(MSG(-1))	-0.781446	0.070476	-11.08816	0.0004
D(MSG(-2))	-0.765726	0.090902	-8.423683	0.0011
D(MSG(-3))	-0.201492	0.088220	-2.283965	0.0844
D(PSG)	-0.983157	0.086953	-11.30677	0.0003
D(PSG(-1))	0.208963	0.064781	0.138352	0.8966
D(PSG(-2))	0.141060	0.064608	2.183337	0.0944
D(PSG(-3))	0.059018	0.048369	1.220171	0.2894
D(MCAP)	0.080442	0.030392	2.646853	0.0572
D(MCAP(-1))	-0.237931	0.048080	-4.948619	0.0078
D(MCAP(-2))	-0.088252	0.036137	-2.442126	0.0710
D(MCAP(-3))	-0.186340	0.025490	-7.310173	0.0019
D(INT)	0.183282	0.024886	7.364896	0.0018
D(INT(-1))	0.170734	0.024070	7.093226	0.0021
C	3.599356	0.377851	9.525858	0.0007
MSG(-1)	1.766311	0.132773	13.30327	0.0002
PSG(-1)	-0.963831	0.084980	-11.34185	0.0003
MCAP(-1)	0.695718	0.071131	9.780841	0.0006
INT(-1)	-0.058146	0.021309	-2.728642	0.0525
GDP(-1)	-1.101183	0.101733	-10.82421	0.0004

R-squared = 0.998165

**source: Author's computation (2021)**

**Table 4: ARDL Long run**

Variable	Coefficient	Std. Error	t-Statistic	Probability
MSG	1.604012	0.122533	13.090409	0.0002
PSG	-0.875268	0.079085	-11.067430	0.0004
MCAP	0.631791	0.008056	78.424548	0.0000
INT	-0.052803	0.020411	-2.586974	0.0609
C	3.268627	0.131651	24.827948	0.0000

**Source: Authors' computation (2021)**



The result of the bounds test led the study to initiate the cointegration and long run form test which revealed in table 3 that in the short run,  $D(GDP(-1))$ ,  $D(GDP(-2))$ ,  $D(MSG(-1))$ ,  $D(MSG(-2))$ ,  $D(MSG(-3))$ ,  $D(PSG)$ ,  $D(MCAP(-1))$ ,  $D(MCAP(-2))$ ,  $D(MCAP(-3))$ ,  $PSG(-1)$ ,  $INT(-1)$ , affect GDP negatively and are not significant. While  $D(GDP(-3))$ ,  $D(MSG)$ ,  $D(PSG(-2))$ ,  $D(PSG(-3))$ ,  $D(MCAP)$ ,  $D(INT)$ ,  $D(INT(-1))$ ,  $MSG(-1)$ ,  $MCAP(-1)$ ,  $D(PSG(-1))$  affect GDP positively and not significant. The coefficient of determination which is the R-squared figure of 0.998165 revealed that the explanatory variables explain 99.8% of GDP (Nigerian economy) which is the dependent variable. Thus, the model possesses a good fit.

The results reveals in table 4 that in the long run, the result of the estimated coefficients of the long run relationship exhibits that:

$$GDP = 3.2686 + 0.8753PSG + 0.6318MCAP - 1.6040*MSG - 0.0528INT$$

This means MCAP is not significant and exhibits positive relationship with GDP while PSG is not significant but exhibits positive relationship with GDP. Both MSG and INT exhibits negative relationship with GDP and not significant. A 1% increase in MCAP will cause an increase of 0.63% in GDP. This result tallies with the short run result and conforms with theoretical expectation because the higher the MCAP which shows sizes of firms, then the GDP is impacted positively. A 1% increase in PSG will cause an increase of 0.87% in GDP. The result here tallies with short run result which will cause an increase of 0.06% in GDP which conforms with theoretical expectation because the more the credit to the private sector will boost investment and ultimately increase GDP. A 1% increase in MS Reduces GDP by 1.60%. This result compared with the short run result tallies together and the result conforms with theoretical expectation because as money supply increases, inflation rate goes up and can erode investment opportunities which will impact GDP negatively. A 1% increase in INT reduces GDP by 0.05%. The result here tallies with short run result which will decrease GDP by 0.50% which is not in line with theoretical expectation because higher interest rate puts more funds at the disposal of banks to boost lending and spur investment which will ultimately affect GDP positively.

## 1. Conclusion and Recommendations

This study empirically examined financial development and the Nigerian economy for the period 1989-2019 using time series analysis. Diagnostic test performed on the data includes unit root test, Auto-regressive distributed lag (ARDL) test, bounds test, co integration and long run form test. The unit root test revealed that all the variables



are stationary at level and first difference. The Auto-regressive distributed lag (ARDL) test and the bounds test revealed that there is long run relationship among the variables because the f-statistic figure of  $4.26888 >$  than both the lower bounds figure of 2.56 and upper bounds figure of 3.49 at 5% significance hence we refuse to accept Null hypothesis which says no long run relationship exist and we accept alternative hypothesis. The co integration and long run result confirmed the presence of a long run relationship between the variables.

Test results reveal Nigeria economic growth is responsive to the financial development variables such as market capitalization, private sector credit as a percentage of GDP and money supply as a percentage of GDP, hence financial development enhances economic growth in Nigeria. In particular, credits to private sector and market capitalization in Nigeria have yielded positive results and this implies that the development of the Nigeria stock market can positively influence economic growth. All financial development variables have lag effects in the short run suggesting that the impact of financial development on the real sector is not immediate.

To ensure an accelerated economic growth, there is need for consistence and fair policy to all stakeholders by government. Policy makers must ensure money supply channel i.e financial institutions are not compromised because that will endanger money supply and timely access to funds. Policies must be enacted to ensure that funds to private investors and entrepreneurs is sustained and increased as this will increase GDP. Policy makers must ensure a seamless procedure to access such funds to attract investors. This would greatly encourage creation of enterprises and industries and would in turn push up market capitalization which would also impact GDP positively. Policy makers must strive to provide a secure and conducive environment with infrastructures to ensure non disruption of business and commercial activities which can impact negatively on economic indices. Policy makers must strive to ensure financial systems are monitored strictly by regulatory authorities to avoid compromise.

This research study therefore recommends that:

- i. Government should effectively improve resource allocation, credit channels and funding to private firms by financial institutions.
- ii. Government should implement reforms that will be directed towards promoting a more competitive and vibrant stock exchange to stimulate investor confidence and



boost market capitalization.

iii. Government should implement reforms to lower costs of borrowing which would induce the desire for credit expansion thereby encouraging investment activities in the country.

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