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FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN NIGERIA

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Abstract

The functioning of an economy depends on its financial system. Therefore, this study examined the impact of financial development on economic growth in Nigeria. Time series data were collected from the Central Bank of Nigeria (CBN) 2018 financial statistical bulletin that covered the period 1986 to 2018. The study adopted Auto-Regressive Distributed Lag (ARDL) technique. The findings of the study revealed that, both the current and lag form of financial development variables: Money Supply (MS), Stock Market Capitalization (SMC) and Credit to Private Sector (CPS) alongside current Government Expenditure (GE) introduced as control variable were found to be statistical significant on economic growth in Nigeria. The study recommends among others, that to accelerate inclusive growth, it is necessary for the Nigerian government to strengthen its financial sector through policies and reforms with regards to domestic credit to private sector and broad money supply in order to reposition the economy for inclusive growth. In conclusion, the development of financial sector in form of increase credits by banks to the private sectors, increase in money supply to the economy, robust capital market and effective government expenditure will increase the flow of investment into the economy and enhance economic development in Nigeria.

Key words: Financial Development, Economic Growth, ARDL

JEL Classification Codes: N2, F43, C22.

1. INTRODUCTION

Conventionally, economic prosperity and growth is an indispensable requirement in determining the healthiness of a country's economy which all governments across the political spectrum have strived to attain because of its positive effects on a country. According to Shah and Shah (2011), economic development is subjected to the availability of physical and human capital while financial resources are needed to ascertain the availability of these capitals. Thus, no economy in the world can be said to be developed without a sound and effective financial development due to the crucial role of financial development in economic growth. Financial development is defined as the process that leads to the development in quality, quantity and efficient financial intermediaries' services (Puryan, 2017). According to Schumpeter, (1911) explain that the role of financial intermediation (by both bank and market) through capital accumulation of fund and efficient allocation of resources improves economy growth. In contrast Robinson, (1952) argued that financial

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development does not lead and play a significant role in the growth of an economy. This argument has been a bone of contention for over a century now.

The financial sector in Nigeria comprises of banks, markets along with other financial service provider and failure of one of its components (e.g., banks, markets, other financial institutions) can spill over to the entire sector and harm the real economy. Likewise, a successfully effective and efficient, sophisticated, wise and well-managed financial sector will be a great national boom (Badeeb and Lean, 2017). In other to stimulate and facilitate economic growth, a number of policies and reforms were been initiated in the financial sector over the decades. Such as the Structural Adjustment Programme, deregulation of foreign exchange market, interest rates ceiling, rationalisation of credit controls, pension fund, banking consolidation exercise, capital market reforms, National Economic Empowerment and Development. These financial reforms and initiative were expected to foster an efficient financial system that would encourage domestic savings and investment, creation of larger banks having better access to fund market, increase the number of equity traded in the capital market. Hence, engender economic growth and development.

Despite series of emphasis in building an effective institution in order to achieve greater financial development, the concern is that the real sector has been underdeveloped and it has been envisaged that the reason for this is lack of fund from the financial sector in financing long-term development project in the real sector (Ololade, 2014). In addition, there seems to be no appreciable in-depth contribution of finance to economic growth as most Nigerian investors relied on money market operations (Ogwumike&Salisu2017). Hence, it is imperative to examine the effect of financial development (banking sector and stock market development) on economic growth in Nigeria.

The World Bank (2019) report revealed that Nigeria financial development has overwhelmingly decline in its credit to private sector for investments purpose as its credit to private sector is just 10.9% in 2018 compare to other developing countries, such as Mali with 26%. The poor quality of the financial sector loan assets hinders banks in extending more credits to the domestic economy thereby adversely affecting economic growth. From the foregoing, it can be inferred that the ability of financial system to mobilize productive savings, allocate resources efficiently, smooth volatility and increase growth depends on how well financial intermediaries carry out their functions and thus explains differences in growth rates in Nigeria. Also, there has been failure by previous researches to empirically establish the right and healthy level of financial development in relation to economic growth in Nigeria. This is because most studies conducted earlier in Nigeria used only one or two determinants of the financial sector such as money supply, credit to private sector, banking loan and advances and capital market. However, adopting one or two elements of the financial sector to represent the whole financial sector will not adequately represent the entire financial sector in Nigeria. Thus the failure of previous researches to empirically quantify the relative extent and effect of financial development on economic growth in Nigeria is a gap that this study intends to fill.

Arising from the above established problem, this study attempt to provide answers to the following research questions: What is the impact of credit to private sector on economic growth in Nigeria? To what extent is the effect of the degree of money supply on economic growth in Nigeria? And what is the impact of stock market capitalization on economic growth in Nigeria? The main objective of this study is to examine the impact of financial development on economic growth in Nigeria. The specific objectives are to: investigate the impact of credit to private sector on economic growth in Nigeria; evaluate the effect of the degree of money supply on economic growth in Nigeria; and investigate the impact of stock market capitalization on economic growth in Nigeria.

The following three hypotheses were tested in the course of the study: H₀₁: credit to private sector does not significantly impact on economic growth in Nigeria. H₀₂: the degree of money supply does not significantly affect economic growth in Nigeria and H₀₃: stock market capitalization does not significantly impact on economic growth in Nigeria.

The result of the study will be beneficial to financial regulators in the country such as the Central Bank of Nigeria (CBN), Securities and Exchange Commission (SEC), National Insurance Commission (NAICOM) and National Pension Commission (PENCOM) in formulating policies that will develop financial sector thereby making financial institution more efficient in Nigeria. It will guide the policymakers in formulating policies that provide efficient allocation of resources for private sector to grow. This study captures all relevant factors that would provide opportunity to make further policies that will enhance the achievement of financial development in other to boost economic growth. Through the increase of investments, the study will also enable investors to realize that they play an important role toward economic development, therefore encouraging them to invest more as that will have more confidence in financial sectors. In addition, the findings of the study are also important to the research community, to investigate other interesting hypothesis relating to financial development in the literature.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Concept of Financial Development

The concept of financial development is a multidimensional concept and it's not easy to find a single definition as it is an interrelated process that includes improvements in financial intermediation, access to capital and quality financial services. According to Abdelaziz Touny, (2014) financial development refers to the policies, factors and institutions that lead to an effective financial intermediation, markets and financial services. Financial development plays a significant role in transforming a static economy into a dynamic one with the adoption and diffusion of technological advancement, production processes, new organizational structures, and management styles. Due to the dynamic function of financial development, its measurement has been a difficult task (Mbulawa, 2015). As a result of this ambiguity the World Bank's Global Financial Development Database (GFDD) (2014) developed a comprehensive a 4x2 conceptual framework to measure financial development worldwide which consist of financial depth, access, efficiency and stability. These four dimensions are broken down into two major component in the financial sector, namely financial market (stock-based) and financial institution (bank-based).

Under the bank-based sector, indicators identified in literature and GFDD (2014) in measuring depth of finance include: private sector credit as a share of Gross Domestic Product (GDP); deposit to GDP; gross value added of the financial sector to GDP and money supply (M2) as a percent of GDP. However, this study proxied bank-based indicator using credit to private sector as a percentage of GDP (to measure the impact of credit granted to the private sector to enable utilization and allocation of fund to more efficient and productive activities); and M2 to GDP (to measure the effect of the overall monetization and in depth of financial sector) in Nigerian economy. The selection of these indicators are consonance with the views of Samargandi, Fidrmuc & Ghosh (2015); Puryan 2017; Bist (2018); Haguiga and Amani (2019). In the market based-sector, literatures also exist for measuring depth which include; public debt securities to GDP, international debt securities to GDP, and stock market capitalization to GDP to mention a few. For the purpose of this study, indicator of stock market size (ratio of total capitalization to GDP) was employed.

Supporting empirical investigation to this indicator are Manizheh and Hook, (2013); Puryan 2017; Oyelakun and Ejembi (2018).

2.1.2 Concept of Economic Growth

It is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced (McKinnon, 1973). The performance of an economy is usually assessed in terms of the achievement of economic objectives.

2.1.3 Financial Development and Economic Growth in Nigeria

The literature on relationship between financial development and economic growth is numerous but there is, however, no consensus on either the nature of the relationship or the direction of causality. Schumpeter (1911) asserted that financial development foster and encourages economic growth by acting as a productive input. This view has been supported theoretically and empirically by large number of studies such as (Laeven, Levine, & Michalopoulos, (2015); Ibrahim and Alagidede (2017), Oamruzzaman and Jiango (2018)). In contrast Robinson (1952) argues that financial development follows economic growth, which implies that as an economy develops the demand for financial services increases as a result of more financial services, instruments and market. This view has been empirically supported by several studies such as Kuznets (1955); Al-Yousif (2002); Demetriades and Law (2006); Nguena, (2012). Accordingly, Patrick (1966) accords a two way or mutual relationship between development and economic growth that is financial development is as an outcome of economic growth, which in turn feeds back as a factor of growth (see Rajan and Zingales (1998); Loayza and Ranciere (2004)). In addition, Lucas (1988) opined that financial development and economic growth are not related which implies, that financial development does not cause growth or vice versa (see Arcand et al., 2012; Cecchetti and Kharroubi, 2012; Manganelli and Popov, 2013; Adeniyi et al., 2015).

Thus, the relationship between financial development and economic growth cannot be overemphasized due to allocative role within the global economy through new financial instruments, technologies, mobilizing financial resources and directing funds to highly productive investment ventures (Mishra, 2008). In fact an economy without financial development will remain stagnate and backward irrespective of the level of its financial development. Financial development has been identified in literature as one that provides opportunities for growth in the financial sector and capital accumulation boosting economic growth (Napier, 2014). This is also in line with the view of Qamruzzaman and Jianguo (2018) who submitted that financial development drives the pace/level of economic growth. Bara and Mudzingiri (2016) argued that financial innovation has a long term effect on improvement of economic growth and that can increase the effectiveness of the country financial sector.

2.2 Theoretical Framework

This section discusses relevant theory-upon which the research work is built. The view point about importance financial development and economic growth is classified to two main categories namely, supply-leading and the demand-following theory.

2.2.1 Supply Leading Theory

The supply side theory was formalized by Schumpeter (1911) and the theory holds that investment in human capital; innovation and knowledge are significant contributors to economic growth. He also emphasize that an effective and sound financial development accelerates economic growth by expediting the process of capital accumulation, enhancing efficiency in financial institutions, improving financial services, and making financial intermediation more efficient. In line with this view of King and Levine (1993) and Iheanacho (2016) argued that financial system drives and expand financial activities, increases the rate of capital accumulation and boost economic development. The central argument of supply side theory is that services provided by financial intermediaries encourage technical innovation and economic growth. Therefore, according to this theory, economic growth does not spur financial development rather, financial development spurs economic growth (Raza, Shahzadi & Akram, 2014; Adeyeye, Fapetu, Aluko & Migiro 2015).

2.2.2 Demand-Following Theory

The demand-following theory propounded by Robinson (1952) states that financial development is caused by economic growth. In other word, financial sector responds positively to change in the productive sector. He also argued that the expansion of economic activities, real sector development and trade place pressure on financial system to make financial institution more efficient and diversify asset to reduce risks. In support of this view, MENTION, argue that increased economic activities lead to the creation of more demand for financial products and services, thereby leading to financial development in an economy. Therefore, according to this theory, financial development does not spur economic growth rather, economic growth spurs financial development (Al-yousif2002; Christopoulos & Tsionas, 2004; Terzi; Mckibbn, 2017).

2.3 Empirical Review

This section discusses prior empirical studies related to the study and this includes studies that provide evidence both in the foreign countries and Nigeria. Empirical literature on finance and growth started in the late 1960s when Goldsmith (1969) used data for 35 countries over the period 1860-1963 to graphically show the positive relationship between the value of financial intermediaries' assets and economic growth. However, his finding could not be used to assess whether financial development had a casual effect on economic growth. Thus, he did not control for other factors that may jointly correlated with growth and financial development and did not test whether the link between financial development and growth goes capital accumulation.

In an attempt to fill some gaps of Goldsmith's pioneering work, King and Levine (1993) examined the relationship between growth and financial development for 77 countries. They decompose per capita GDP growth into real capita, physical capital stock and total productivity growth, trade openness and government consumption, and also proxy financial development with banking system innovation and stock market innovation. Their study revealed that financial development predicts growth, but their results did not prove that financial development causes growth.

Jalil *et al.* (2000) examined the relationship between financial sector and economic growth in China using autoregressive distributed lag method. The results of this research showed the relationship directed from financial development toward economic growth. Ozturk (2008) investigated the causality between financial development and economic growth in Turkey for the period 1975-2004. The empirical finding in the paper shows a two way causality (bidirectional) between financial development and economic growth.

Masten, Coricelli, & Masten (2008) and Arcand, Berkes & Panizza (2012) investigated the effect of financial intermediaries on economic growth for panels of 48 countries over the period 1960 – 2002, for a sample of 28 American countries and Sub-Sahara African countries over the period 2002 to 2006 and a panel of 20 countries over the period of 1980-2010. They applied ordinary least squares regression analysis and find a significant influence of financial intermediaries on economic growth. However, the methodology applied in the studies would have been more suitable for a cross-sectional datasets rather than the panel datasets that require panel data analysis approaches. In the Middle East, Manizheh and Hook (2013) studied the relationship between financial development and economic growth of nine (9) countries from the Middle East during the period 1991-2009. The study was based on the method of DOLS and using variables specific to the banking sector and others related to the exchange market in addition to other variables. The researchers concluded that the indicators of development in the stock market are positive and statistically significant, and the financial market indicators are slightly stronger than the indicators of the banking sector to influence the growth in the Middle East.

Menyah *et al.* (2014) conducted a study to examine the relationship between financial development and economic growth for 21 African countries. They used Panel Granger Causality Technique with Bootstrap approach. The results obtained from this study show that financial development and commercial liberalization have no significant effect on growth. In addition, Law and Singh (2014) examined the nonlinearity relationship between financial and economic growth using an innovative dynamic panel technique for the case of 65 developed and developing countries covering the period 1980-2010. They revealed that the level of financial development is beneficial to growth up to a certain time and beyond the threshold, development of finance tends to adversely affect growth. They concluded that finance is not always better for economic growth, and it tends to harm economic growth after a point. The use of panel data is appropriate in this study since the data points and the degrees of freedom were increased thereby providing a robust estimation.

Ngongang, (2015) examined the impact of financial development on the economic growth of twenty one Sub-Saharan African countries during the period 2000-2014. The study revealed that financial intermediaries promote growth and investment by allowing higher rate of return to be earned on capital, while growth spurs the expansion of financial institution, implying a two-way relationship between financial development and economic growth in the sub- Saharan countries. However, the result might not be relied on due to small sample period. Samargandi, *et.al* (2015) applied advanced econometric techniques to assess the impact of financial development on economic growth of the middle income countries. They employed error correction-based autoregressive distributed lag ARDL model, which offers three different tests: namely, mean group (MG), pooled mean group (PMG) and dynamic fixed effects (DFE) estimators. Their results obtained when imposing a linear relationship suggest that financial development and economic growth are negatively related in the long run in the sample of all middle-income countries.

Pradhan *et.al* (2017) examined the finance nexus in ASEAN region for the period 1991-2011. The study considered four different proxies of financial development and found that stock market development, banking sector development, bond market development and insurance sector development and per capita economic growth cointegrated in the ARF countries. They further accounted a bi-directional causality

between stock development and economic growth and a unidirectional causality between banking sector development to economic growth. The limitation of this study is over-reliance on bivariate causality model, which has been found to suffer from omission of variables.

Gyanwaly (2014) has examined the relationship between the financial development and economic growth in Nepal. The main objectives of the researches are to find out the relationship between the financial development and economic growth in Nepal. It has used the data for the period of 1975 to 2014. It has developed the financial index by taking the weighted average of the different indicators of the financial development. After this it has used ADF test to check the stationarity of the variables and used Johanson co-integration technique and error correction model (ECM) to check the long run relationship between the variables. The findings of the research are financial development, real stock of capital, real per capita, labor force, real export and government expenditure have significantly positive relationship with economic growth while inflation and trade openness have significantly negative relationship with economic growth.

Aluko and Ajayi (2018) investigated the determinants of financial sector development in sub-Saharan African countries using a panel of 25 countries from 1997 to 2014. Using a composite index of banking sector development, the estimation results show that population density and simultaneous openness to trade and capital promote banking sector development while financial liberalization hinders banking sector development. Although, the study adopted a better proxy by capturing all the indicator of financial sector development as against RGDP used to proxy financial development of Javadi, Motevaseli and Farsi (2017). However, the study omitted some key variables such as credit to private sector and broad money supply among other indicators of the financial development.

Haguiga and Amani (2019) examined the impact of financial development on economic growth of Algeria during the period 2005-2014 using panel models. Their result showed a positive correlation between the ratio of credit to private sector and monetary as a percentage of GDP from economic growth and this indicates a positive relationship with GDP. Nevertheless, for individual country regressions, the numbers of observation are not enough to draw a reliable conclusion and failed to include some macroeconomic variables.

In Nigeria, Ogwumike and Salisu (2012) examined the long run and short run relationship between financial development and economic growth, using time series data over the period 1975 to 2008. The finding indicates a significant long run positive relationship between financial development and economic growth in Nigeria. The study used two of financial development: financial depth (credit to private sector, stock market and financial reforms) and financial intermediary (bank deposit liability and real deposit rate) in line with Adeoti (2010) and Ajao *et al.*, (2011). Although, the methodology adopted for the study is well suited for the time series dataset, expansion of the period coverage will increase the number of observation and produce a robust insight into the relationship between the two variables.

In addition, Eriemo (2014) examined financial sector development and Nigeria's performance in the Global system between 1980 and 2010 using OLS method. The result of the study showed the increasing global relevance of liquidity ratio, money supply bank loans and interest rate in financial sector development policy making in Nigeria. Ololade (2014) examined the effect of financial institution and market on economic growth in Nigeria covering a period of 1981 to 2010. The finding shows that banking system credit to the domestic economy, and Money Supply (M2), stimulate economic growth while market capitalization and value of deals are insignificant to growth. However, the author failed to test the effects of unit root problem commonly associated with a time series dataset before carrying out the analysis.

Osuji (2015) investigated the link between financial development and economic growth in Nigeria for the period 1960 to 2014 using dynamic time series model. Four different measures of financial development are used to capture the different channels through which finance can affect growth. The findings revealed that financial development caused economic growth when private sector credit and bank deposit liabilities were used as proxies but when money to income ratio, and domestic credit ratios were alternatively used, growth is found to cause financial development. Thus, the study further showed a stable unidirectional long run relationship between financial development and economic growth. Iheanacho (2016) examined the long-run and short-run relationship between financial sector development and economic growth in Nigeria, using time series data over the period 1981 to 2011 and applying Autoregressive Distributed Lag (ARDL) bounds test model. The result revealed an insignificant long run negative relationship between financial development and economic growth in Nigeria. The Granger non-causality result indicates a unidirectional non-causality running from financial development to economic growth in Nigeria. Although, the methodology adopted is well suited for the time series dataset, but expansion of the time frame beyond 2011 to more recent years will increase the number of observation and produce a robust insight into the relationship between the variables.

Oyelakun and Ejembi (2018) examined the effect of financial development on economic growth in Nigeria for 20 observations using correlation analysis and pair-wise Granger causality test. They used money supply as a measure of financial development. The results indicated that financial development has a significant positive influence on economic growth in Nigeria. However, the authors failed to test for the effects of problems commonly associated with a time series dataset before carrying out the analysis. In addition, the authors indicated only the number of observations used in the study, without specifying the study period coverage.

2.4 Gap of the Study

The rationale for this study emanate from the fact that large body of literature exist that investigates the linkage between financial development and economic growth in advanced countries, however far less is known about this relationship in developing countries such as Nigeria. In most developing countries financial systems is usually characterized by less developed and less efficient capital markets with lower levels of banking intermediation (Umar, Lee, Ranjane & Wana, 2018). However, most of the studies reviewed in this article are cross-country studies which will not be able to pinpoint the actual relationship among the variable of interest in a specific country. This calls for country-specific studies that will take care of countries heterogeneity. For the few studies that apply country-specific approach, on Nigeria most of them suffer from either insufficient data points that will warrant robust results or inability to conduct one vital diagnostic test that will help in arriving at robust findings for appropriate policy formulation. For instance, Ogwumike and Salisu (2012), and Oyelakun and Ejembi (2018) fail to assess the stationarity of the variables before carrying out their analyses.

Also the fact that most studies conducted previously in Nigeria on the financial sector and economic growth used only one component of the financial sector such as capital market, financial institution loans and advances and macroeconomic indicators of money supply or credit to private sector (Osuji 2015; Iheanacho 2016; Oyelakun and Ejembi 2018). Therefore, taking one component of the financial sector to represent the whole financial sector will not be an adequate sample of the entire financial sector. This is because for an effective intermediation function, the collaboration of more than one or two financial development indicators will be more appropriate. In addition, previous studies show no conclusive research focusing on financial development and economic growth of Nigeria, and such research gap encourages us to take the opportunity to explore how and to what extent financial development

plays critical role in the development process of Nigeria economy. Finally, the contribution rests on the application of ARDL which is an econometric technique that has not seen considerable usage in the finance–growth literature.

Hence to fill the gaps this study adopts broader measures of financial development comprising credits to private sector, capital market and money supply as financial sector indicator in relation to economic growth. This study therefore, contributes to the debate in investigating the relationship between financial development and economic growth using Nigerian economy as a case study, by taking care of the aforementioned weakness of the previous studies on the subject matter.

3. METHODOLOGY

3.1 Model specification

The model of Ogwumike and Salisu (2012) on financial development and economic growth was modified to achieve the objectives of the study. The researcher included in the model a set of control variables used in literature such as gross fixed capital formation, government expenditure as share of GDP and openness to trade. The research design adopted is expo – facto, time series research design. Data used in this study are mainly secondary data extracted from the CBN statistical bulletin covering the period (1986-2018), 32 years. The choice of the selected period is based on the noticeable decline in Nigerian economic growth within the period. Also, there are various financial reforms such as the Structural Adjustment Programme (SAP) of 1986 that took place within the study period (CBN, 2006). The simple regression model is specified as follows:

$$RGDP_t = f(CPS_t, M2_t, SMC_t, TOP_t, GTE_t, GCF_t) \dots(1)$$

The economic model in equation (1) above can be written as an econometric model specified as:

$$\ln RGDP_t = \beta_0 + \beta_1 \ln CPS_t + \beta_2 \ln M2_t + \beta_3 \ln SMC_t + \beta_4 \ln TOP_t + \beta_5 \ln GTE_t + \beta_6 \ln GCF_t + \varepsilon_t \dots(2)$$

Where:

RGDP= real growth domestic product

CPS= credit to private sector

M2= money supply

SMC= stock market capitalization

TOP= trade openness

GTE= government expenditure

GCF= gross capital formation

β_{0i} is the country-specific fixed effect and $\beta_{1i}, \beta_{2i}, \beta_{3i}, \beta_{4i}$ and β_{5i}, β_{6i} are the country-specific long-run coefficients of private credit, broad money supply, stock market capitalization, trade openness, government expenditure and gross capital formation. The ε_t is the error term.

3.2 Measurements of Variables

Variables/acronym	Description/Measurement
Real Gross Domestic Product (RGDP)	RGDP per capita is an indicator of economic growth which is widely used by researchers. If there is an increase in a country GDP per capita over a period of time/period, it's assumed that such economy is growing. It is measured as the log of real gross domestic product (GDP)
Ratio of Credit to Private Sector (CPS)	It is an indicator that provides accurate information on the role of financial institution on credit allocated to the private sector, as compared to the size of the economy as a whole. It is measured as credit to private sector as share of GDP.
Money supply (M2)	It is a ratio of broad to narrow money (money demand). It is expected that an increase in money supply (through financial intermediation) will reduce cost of financing for banks and increase credit. It is measures as the ratio of M2 to GDP
Stock Market capitalization (SMC)	It is measure as the stock market capitalization to GDP
Trade openness (TOP)	It is measured by the sum of exports and imports of goods and services as a percentage of Gross Domestic Product (GDP)
Government Expenditure (GTE)	Government expenditure as a share of GDP, captures the extent of public goods provided by the government, but it also reflects the distortionary effects of public spending and taxation. Thus, a positive/ negative relationship is expected.
Gross Capital Formation (GCF)	GCF is one of the important theories of financial development as it account for investment in physical capital. It given as the net addition of physical capital or asset after deducting disposal. A positive association is expected between economic growth and GCF.

Source: Author’s Compilation, (2020). All data are sourced from CBN Statistical Bulletin 2018 edition.

3.3 Techniques of Analysis

The present study uses the Autoregressive Distributed Lag Model (ARDL) of Pesaran et al. (2001) which is pertinent regardless of the order of integration of the basic factors(I(0) as well as I(1)) gave nonappearance of I(2)s are ensured which could discredit the strategy. Along these lines, when one cointegrating vector exists, Johansen and Juselius (1990) cointegration method can't be applied. Henceforth, it gets basic to investigate Pesaran and Shin (1995) and Pesaran et al (1996b) who proposed Autoregressive Distributed Lag (ARDL) way to deal with cointegration or headed methodology for a since quite a while ago run relationship. A restrictive ARDL model of order (p, q1, q2, q3, q4, q5, q6) is expected and if there is proof of since quite a while ago run relationship (cointegration) of the factors, the accompanying since quite a while ago run model is evaluated:

$$\Delta \ln(\text{RGDP})_t = \alpha_1 + \sum_{i=1}^p \lambda_{1i} \Delta \ln(\text{RGDP})_{t-i} + \sum_{i=0}^{q1} \lambda_{2i} \Delta \ln(\text{CPS})_{t-i} + \sum_{i=0}^{q2} \lambda_{3i} \Delta (\text{M}2)_{t-i} + \sum_{i=0}^{q3} \theta_{4i} \Delta (\text{SMC})_{t-i} + \sum_{i=0}^{q4} \lambda_{5i} \Delta (\text{TOP})_{t-i} + \sum_{i=0}^{q5} \lambda_{6i} \Delta (\text{GTE})_{t-i} + \sum_{i=0}^{q6} \lambda_{7i} \Delta \ln(\text{GCF})_{t-i} + \mu_t \dots \dots \dots (3)$$

The subsequent stage is to appraise the error correction model, inside the ARDL structure. The error correction model outcomes show the speed of modification back to long-run balance after a stun. The error correction model coordinates the short-run coefficient with the long-run coefficient without losing long-run data. The accompanying condition is a portrayal of the error correction model, inside the ARDL structure. The ARDL detail of the short-run elements can be inferred by building an error correction model (ECM) of the accompanying structure:

$$\Delta \ln(\text{RGDP})_t = \alpha_1 + \sum_{i=1}^p \lambda_{1i} \Delta \ln(\text{RGDP})_{t-i} + \sum_{i=0}^{q1} \lambda_{2i} \Delta \ln(\text{CPS})_{t-i} + \sum_{i=0}^{q2} \lambda_{3i} \Delta (\text{M2})_{t-i} + \sum_{i=0}^{q3} \theta_{4i} \Delta (\text{SMC})_{t-i} + \sum_{i=0}^{q4} \lambda_{5i} \Delta (\text{TOP})_{t-i} + \sum_{i=0}^{q5} \lambda_{6i} \Delta (\text{GTE})_{t-i} + \sum_{i=0}^{q6} \lambda_{7i} \Delta \ln(\text{GCF})_{t-i} + \psi \text{ECM}_{t-1} + \mathcal{G}_{11t} \dots \dots \dots (4)$$

Where ECM_{t-1} is the error correction term, defined as

$$\text{ECM}_t = \ln(\text{RGDP})_t - \alpha_1 - \sum_{i=1}^p \lambda_{1i} \ln(\text{RGDP})_{t-i} - \sum_{i=0}^p \lambda_{2i} \ln(\text{CPS})_{t-i} - \sum_{i=0}^p \lambda_{3i} (\text{MZ})_{t-i} - \sum_{i=0}^p \lambda_{4i} (\text{SMC})_{t-i} - \sum_{i=0}^p \lambda_{5i} (\text{TOP})_{t-i} - \sum_{i=0}^p \lambda_{6i} (\text{GTE})_{t-i} - \sum_{i=0}^p \lambda_{7i} \ln(\text{GCF})_{t-i} \dots \dots \dots (5)$$

All coefficients of short-run equation are coefficients relating to the short run dynamics of the model’s convergence to equilibrium and ψ represents the speed of adjustment. ECT is the error correction term and it represents the speed of adjustment back to long-run balance after a stun or disturbance. The centrality of the long-run causal effect is indicated by the t-statistics on the coefficient of the error correction term. In addition, diagnostic tests for the short-run model are done to detect issues, for example, non-normality or serial correlation. These are likewise conducted so as to deliver correct derivations.

The ARDL model is confirmed through the stability tests called the Cumulative Sum of Recursive Residuals (CUSUM). The stability of the long-run coefficients together with the short-run elements is tested utilizing the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ) tests. On the off chance that the plot of CUSUM and CUSUMSQ statistics stays within the 5% scope of the importance level, then all the coefficients in the error correction model are thought to be stable. The study utilized E-view 9 statistical software for the examination of the time-arrangement data. The decision of the software depends on the fact that it is, all-around accepted, straightforward and simple to apply to time series data.

4. FINDINGS ANG DISCUSSION

4.1 Descriptive Statistics

The table below shows the descriptive statistics of financial development of Real Gross Domestic Product (RGDP) as compared to its determinants which are credit to private sector, money supply, stock market capitalization, trade openness, government expenditure and gross capital formation.

The table 1 indicates that the government expenditure, Money supply, Credit to private sector and Stock market capitalization experience drastic fluctuation in their minimum and maximum value of data. Also these variables showed that the values of their mean and median are not close to each other. This implies that there is no normal distribution among the variables. The skewness and kurtosis values of all the variables fall within the cutoff point of +3 and -3 which implies that the variables are skewed and kurtotic (Asika, 2005). Also, there was an increasing trend from minimum to maximum data for each variable which indicates the

data is good enough for data analysis. Thus, the table showed that the variables are now normally distributed. Hence, a parametric analysis can be conducted on the variables.

Table 1: Descriptive Statistics

	RGDPR	TOP	TGE	M2	GCF	CPS	SMC
Mean	4.846745	0.417493	2115.897	5931.465	5.05E+12	5554.594	3879.034
Median	5.307924	0.416500	1018.178	1505.964	2.80E+12	930.4939	748.7000
Maximum	14.60438	0.687700	7813.741	25079.72	1.12E+13	22521.93	13609.47
Minimum	-1.583065	0.110700	16.22370	23.80640	1.44E+12	15.24745	3.700000
Std. Dev.	3.818625	0.142291	2279.937	7805.683	3.48E+12	7709.006	4707.968
Skewness	0.454398	-0.048765	0.874642	1.135610	0.738348	1.125150	0.802284
Kurtosis	2.719757	2.406188	2.517148	2.910403	1.829041	2.710298	2.081365
Observations	33	29	33	33	33	33	33

Source: Author's Computation, (2020)

4.2 Multicollinearity Test

Table 2 shows the correlations among the determinants of financial development. There is a low degree of correlation among the variables. Thus, if all the variables are utilized simultaneously in the model, there will be a low possibility of multicollinearity and this may prompt correct inductions. Therefore, these selected determinants of financial development variables may not require further estimation.

Table 2: The Pearson's Coefficients of Correlations Matrix

	TOP	TGE	M2	GCF	CPS	EMC
TOP	1.000000					
TGE	0.169041	1.000000				
M2	0.023518	0.578725	1.000000			
GCF	0.013601	0.757063	0.279604	1.000000		
CPS	-0.045374	0.453532	0.493595	0.368775	1.000000	
SMC	0.112642	0.330555	0.132388	0.423336	0.314665	1.000000

Source: Author's Computation, (2020)

4.3 Optimal lag Length Selection

Vector Autoregressive, VAR, is utilized to determine the optimal lag length for the ARDL cointegration test which depends on the AIC criterion as appeared in table 4.3. From the result, the optimal lag length is 1 as per AIC and which is consistent with most of the other criteria. Utilizing this optimal lag length, the probability ratio test which relies upon the Maximum Eigen values of the stochastic matrix of the Johansen (1991) strategy for investigating the number of cointegrating vectors was utilized as appeared in table 3.

Table 3: Lag Determinant Result

VAR Lag Order Selection Criteria						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-70.39972	NA	18.31179	5.733313	6.069270	5.833210
1	-67.44720	4.155403*	15.94461*	5.588681*	5.972633*	5.702850*
2	-67.01237	0.579769	16.76259	5.630546	6.062492	5.758986

Source: Author's Computation, (2020)

4.4 Bound Test

After determining the lag length requirement of the ARDL investigation the study thus, conducted Bound Test to establish the existence of a long-run relationship between the dependent variable and the explanatory variables (Belloumi, 2010). The result of the bound test is indicated in table 4.

Table 4: Bound Test Result

ARDL Bounds Test		
Test Statistic	Value	K
F-statistic	2.289393	6
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Source: Author's Computation, (2020)

From table 4, the calculated F-statistic for the model is 2.289, which is lower than the lower bound of 2.45 at 5% level of significance for the chosen explanatory variables, thus indicating that there is no long-run relationship Real Gross Domestic Product (RGDP) and the independent variables used in the model.

4.5 Short Run Regression Analysis

Considering the study explicates that there is no long-run relationship amid the model variables, the study examined the short-run regression. The result of the short-run regression analysis is indicated in table 5 beneath. From the fundamental examination and ARDL regression results, a few discoveries and implications can be highlighted. First, the cointegration test shows no existence of a one of a kind long-run relationship between Real Gross Domestic products and the predetermined determinants that is the independent variables. Thus, the study estimated the short-run elements within the ARDL Model.

Table 5: Short Run Regression Analysis Result

Dependent Variable: RGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TGE)	2.754784	1.153412	2.163258	0.0179
D(TGE(-1))	0.571784	4.329434	0.132069	0.8968
D(TOP)	-6.333013	9.820946	-0.644848	0.5295
D(TOP(-1))	1.770978	9.293771	0.190555	0.8516
D(M2)	14.57995	7.245041	1.958493	0.0542
D(M2(-1))	19.75325	8.560036	2.307613	0.0368
D(GCF)	0.847624	3.921919	0.216125	0.8320
D(GCF(-1))	5.730104	3.713045	0.432362	0.1451
D(SMC)	0.815081	0.301200	2.316315	0.0464
D(SMC(-1))	0.429161	0.210150	3.156677	0.0377
D(CPS)	3.435827	1.697865	2.212973	0.0460
D(CPS(-1))	4.442047	2.344600	3.458608	0.0208
C	-0.381411	2.190160	-0.174147	0.8642
R-squared	0.614455			
Adjusted R-squared	0.698274			
F-statistic	1.236134			
Prob(F-statistic)	0.048695			
Durbin-Watson stat	2.169042			

Source: Author's Computation, (2020)

Table 5 revealed that the coefficient of Money supply was positively significant at 5% as well as the lag coefficient of Money supply. The magnitude of the previous year of Money supply coefficient indicates the existence of a strong positive relationship with Real Gross Domestic Products (RGDP) in Nigeria, since it accounted as the highest significant positive coefficient (19.75) in the study. Hence, the two periods are statistically significant respectively. The implication of this result is that money supply is significantly influencing growth. This is consistent with economic theory and the study of Eriemo (2014) that an increase in money supply will lead to economic growth due to the increase in general investment.

The result further revealed that stock market capitalization in the current year affects Nigeria's economy as the coefficient value (0.82) is significant at 5%. Also, the lag of stock market capitalization revealed a positive coefficient value of (0.43) significant at 5% on Real Gross Domestic Products in Nigeria. This result is consistent with the study by Demirgüç-Kunt and Maksimovic (1996) and Manizheh and Hook (2013) who found that firms with access to more developed stock markets grow faster and contributes to economic growth. Similarly, this study revealed that both the coefficient estimate of current credit to private sector and previous year were positively significant at 5% significant level respectively. The positive coefficient estimate of credit to private sector (3.44) and lag period credit to private sector of (0.32) indicate a strong direct association with RGDP. The findings of this study reinforces the findings of previous works such as Haguiga and Amani (2019) on the fact that the provision of private sector credit to major sectors of the economy holds great potential for promoting economic growth in Nigeria. The banking sector, which is the main source of credit to the private sector, is an important channel of financial intermediation through which financial resources can be mobilized for productive investment.

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The coefficient estimate of government expenditure was statistically significant at 5% significant level with a positive coefficient estimate of (2.7548). However, the magnitude of the coefficient estimate of 0.5718 for lag effect of government expenditure was positive and statistically insignificant. This implies that in current period an increase in government expenditure will increase demand and thus increase economic growth while previous government expenditure do not have significant impact of Nigerian economy. This corroborated the study of Gyanwaly (2014) who reported that government expenditure have significantly positive relationship with economic growth in Nepal. The current growth in trade openness revealed an insignificant effect on Real Gross Domestic Products (RGDP), the lag of Trade openness was insignificant at 5%. In fact, the previous year TOP revealed the highest negative coefficient (-6.3330) as determinant of RGDP in Nigeria. However, the two periods are statistically insignificant respectively.

Also, GCF showed coefficient value of (0.8476) and (5.7301) for the current and lag period of Gross capital formation effect on RGD Prospectively. Moreover, the two periods are positive and statistically insignificant at 5% respectively. These results point out that Gross capital formation has an insignificant positive relationship with RGDP in Nigeria. It is worthy of note to state that the relationship between the variables derived from the ARDL models in this study support the supply leading hypothesis. As explain earlier, supply leading hypothesis states that, financial development can induce real investment and growth. This means, countries with better developed financial systems particularly those with large efficient banks and a large well organized and smoothly functioning stock markets tend to grow much faster by providing access to much needed funds for financially constrained economic enterprises.

4.5.1 Post Estimation Diagnostic Test

The diagnostic aspect of the result revealed that Durbin-Watson was 2.169042 which is close to 2; suggested the nonappearance of the first-order autocorrelation in the regression model (Field, 2005). Therefore, we can make a legitimate prediction(s) with the equation. Moreover, the coefficient of multiple determinations - R-squared is 0.614455 which demonstrated that 61.45% of the variation in Real Gross Domestic Products (RGDP) in Nigeria was brought about by the variations in the explanatory variables as clarified by the model. This demonstrated that about 38.55% change in the dependent variable was brought about by other variables not found in the equation but measured by the error term. The F-statistics of the entire model is 1.236134 and significant at 10% degree of significance; thus the model is of a solid match. To authenticate the reliability of the result, table 4.6 further revealed that the correlation result which is 5.850729 which isn't significant at 5% but at 10% indicating that the variables utilized in the model were not serially correlated while the normality test conducted revealed the Jarque Bera test value of 1.437744 which isn't significant at 5% level of significance infers that the variables in the model are normally distributed (Jarques and Bera, 1987). Moreover, the heteroskedasticity test shows that there is no heteroskedasticity in the research model as the Prob. Chi-Square (12) is likewise not significant at 5%.

4.5.2 Breusch-Godfrey Serial Correlation Test and normality Test

Residual test of the model was conducted using serial correlation and normality test to authenticate the reliability of the result (see table 6)

Table 6: Residual Test Result

Breusch-Godfrey Serial Correlation Test		Normality Test		Breusch-Pagan-Godfrey Heteroskedasticity Test	
Obs*R-squared	5.850729	JarqueBera	1.437744	Obs*R-squared	9.738859
Prob.Chi-Square(2)	0.0536	Probability	0.487302	Prob.Chi-Square(12)	0.6389

Source: Author’s Computation, (2020)

4.5.3 Model Stability Test

We tested the stability of the selected ARDL model using cumulative sums of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) stability testing technique presented by Brown et al. (1975). CUSUM and CUSUMSQ plots have been shown in Figures 1 and 2 respectively. Cumulative sum test helps to show if coefficients of regression are changing systematically whereas cumulative sum of square test is helpful to showing if the coefficients of regression changes suddenly (Bhatti et al. 2006). Since both the plots remain within critical bounds at 5 percent level of significance, we conclude that the model is structurally stable. This implies that there is no structural break and that the parameters are stable.

Figure 1 Cumulative Sums of Recursive Residuals (CUSUM)

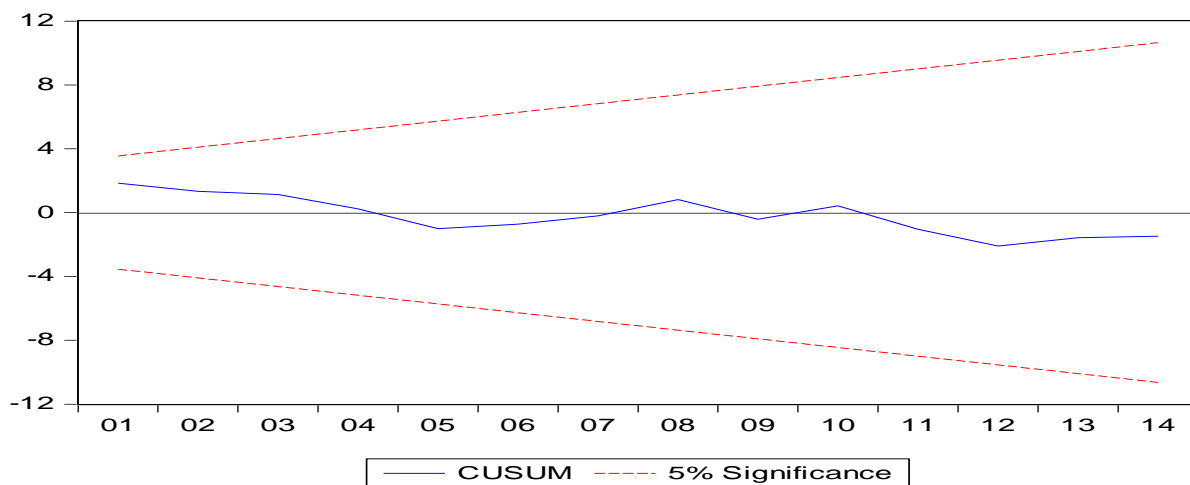
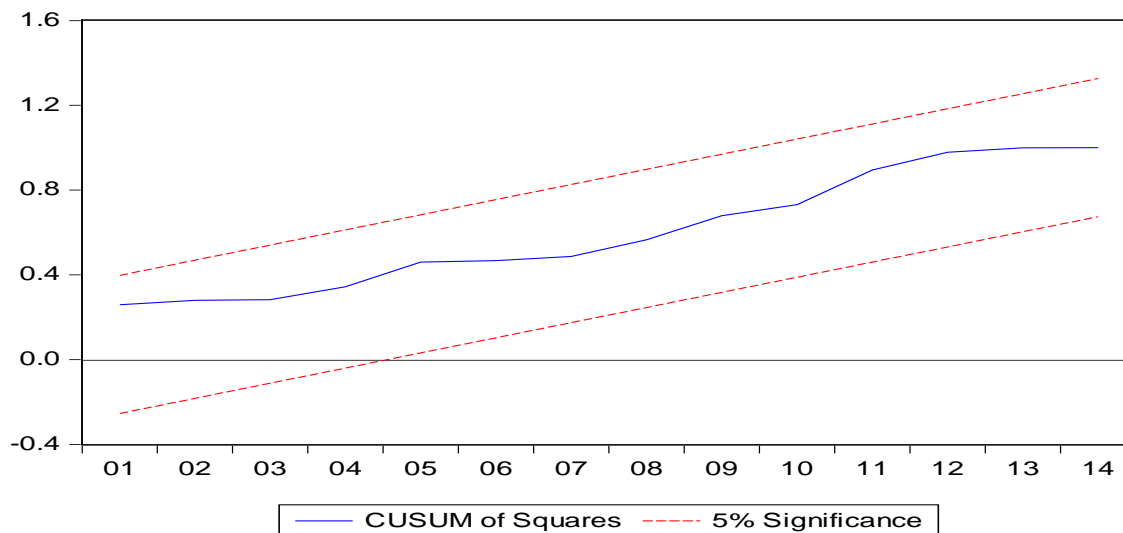


Figure 2 Cumulative Sums of squares of recursive residuals (CUSUMSQ)

5. CONCLUSIONS AND RECOMMENDATIONS

The study makes contributions to the debate and existing literature about financial sector development and its relationship with economic growth. The study further provide supportto the emerging evidence on the validity of supply-leading hypothesis for economic growth using Nigerian case over the period of 1986 to 2018.The conclusion that emerges from this study is that market capitalizations, money supply, credits to private sector as well as the control variables of government expenditure will impact significantly on the real gross domestic product. Therefore, the development of financial sector in form of increase credits by banks to the private sectors, increase in money supply and government expenditure will increase the flow of investment into the economy. Also, an efficient and robust capital market will influences real gross domestic product in form of economic growth. In the light of the above, the following recommendations are made in line with the results generated from the study:

- i. That effort should be put in place to ensure that credit extended to the private sector are invested in real productive sector of the economy and not diverted or misallocated. Over time, this will lead to increase in output for both domestic consumption and for export.
- ii. To accelerate inclusive growth, it is necessary for the Nigerian government to strengthen its financial sector through policies and reforms with regards to domestic credit to private sector and broad money supply in order to reposition the economy for inclusive growth.
- iii. That, investor's protection policies and other rules and regulations governing capital market operation should be re-examined with a view to enhancing public confidence in the market and increasing the level of activity for enhance liquidity and growth of the market.
- iv. That Nigerian government should increase the amount of money supply in the economy, enhance the functions of financial institutions as intermediaries, and improve the investment environment of Nigeria to boost economic growth, which will eventually lead to economic development.

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