ABSTRACT
This study examined the impact of financial development and financial openness on economic growth in Nigeria between 1981 and 2019. This was done through the use of the Auto-Regressive Distributed Lag (ARDL) model. In doing this, the ratio of credit to the private sector to the GDP and broad money to narrow money were used as measures of financial development and financial openness respectively. The study found that financial development has a positive and insignificant impact on economic growth in Nigeria in the long and short-run. The study also found that financial openness has a negative and insignificant impact on economic growth in Nigeria in the long-run. The results of the study further revealed that simultaneous existence of financial development and financial openness has an insignificant but positive impact on economic growth in Nigeria in the long-run. Based on the findings, the study recommended that the CBN should increase its efforts towards the regulation and supervision of the financial sector to reduce the incidence of financial distress. The study also recommended that efforts to develop the mortgage and insurance sector and the capital market should be intensified through regulatory improvements, improvements in the instruments in use in the market as well as public enlightenment programs to increase awareness of the potentials of the mortgage, insurance and capital markets. The final recommendation made by the study is that more restrictions should be placed on the inflow of capital in and out of the country to guard against sudden capital flow reversals.

Keywords-- Financial Development, Financial Openness, Economic Growth and Auto-Regressive Distributed Lag Model

JEL Code: C10, F38, G20, G28, O40

I. INTRODUCTION
The importance of a highly developed financial system is based on its role in mobilizing and efficiently allocating financial resources to promote economic growth. Financial development and financial openness are widely recognized important necessities for the attainment of rapid and sustained rates of economic growth. A developed financial system is characterized by highly developed institutions, instruments, as well as high levels of financial deepening and inclusion. On the other hand, financial openness is an important means of addressing the gap between savings and desired investment which is characteristic of developing countries such as Nigeria. An open financial system is one which is characterized by an increase in the inflow of foreign capital and greater levels of integration with foreign financial systems (Estrada, Park, Ramayandi, 2015). Openness of the financial sector directly impacts growth by improving access to the services of financial institutions. The indirect impact is via its role in increasing competition in the domestic financial market. Both impacts reduce the cost of finance in an economy, leading to increased accumulation of capital, efficiency and economic growth (Bayraktar & Wang, 2006).

In view of the foregoing, countries all over the world have overtime made concerted efforts to develop their financial systems, while promoting higher levels of financial openness. In Nigeria, the development of the financial sector has been pursued through the implementation of a wide range of policies and reforms. These include the establishment of the deregulation of the interest rate, enactment of the Bank and Other Financial Institutions Decree No.29 of 1999, adoption of Universal Banking in 2000, and the Bank Reconsolidation Exercise of 2004 and 2005. In 2010, the CBN discontinued the universal banking policy and replaced it with regional, national and international banking policy. The government has also established institutions such as the Central Bank of Nigeria (CBN), Nigerian Stock Exchange (NSE), Securities and Exchange Commission (SEC), Nigerian Deposit Insurance Corporation (NDIC) and Asset Management Company of Nigeria (AMCON) to oversee the development of the financial system.

On the other hand, financial openness in Nigeria was driven by the adoption of the Structural Adjustment Program (SAP) in 1986. The SAP was a policy package which was geared towards the opening up of the economy and promotion of private sector-led growth. This was
reflected in the implementation of policies aimed at deregulating and liberalizing the economy. One such policy as identified by Okore and Onoh (2013) was the liberalization of the financial system. The capital account was also liberalized in 1995 to promote the inflow of capital from foreign sources.

In Nigeria, the recent history of of bank distress and overall financial system crisis, as well as the relatively low levels of activity in the insurance industry and capital market raises questions as to the overall effectiveness of the efforts towards the development of the financial system. For instance, data from the Nigerian Deposit Insurance Corporation (as cited in Oluwakayode, 2017) shows that the number of distressed banks in Nigeria increased from seven in 1988 to 15, 26, 45 and 57 respectively in the years 1991, 1994, 1994 and 1995. Another set of data from the Nigerian Deposit Insurance Corporation (as cited in Oluwakayode, 2017) reveals that the total deposits of distressed banks in Nigeria increased from 6.4 per cent in 1997 to 312 per cent in 2004. Data from another report by the Nigerian Deposit Insurance Corporation (2016) shows that between 1994 and 2016, a total of 52 Deposit Money Banks (DMBs) had been closed by the CBN. The country also experienced a banking crisis in 2009 which led to the establishment of the Asset Mangement Corporation of Nigeria (AMCON). During this period analysts in New York’s Eurasia Group (as cited in Hinshaw, 2010) observed that Nigerian banks accounted for an estimated ten billion dollars in bad debt. The CBN had to react to this situation by injecting 620 billion naira into the banking system (Hinshaw, 2010).

Furthermore, the potential benefits of increased financial openness to the economy are also questionable. This is because despite its benefits, financial openness can have severe negative effects on the economy, especially with respect to the development of the financial sector. The negative effect of financial openness on financial development is the potential instability due to the reversal of “volatile short-term capital flows” (Estrada et al., 2015). The impact of financial openness on an economy is also dependent on the efficiency and level of development of the financial system. According to Estrada et al. (2015), an inefficient and well developed financial system can erode the benefits from financial openness by misallocating capital from foreign sources. This will lead to “growth-crippling financial crisis”.

The aforementioned issues with regards to the potential negative growth effects of financial openness makes the continued full implementation of the capital account liberalization policy questionable. This is particularly so given the capital flow reversals in the country in recent times. In view of this, and given the state of the financial sector, an attempt is made in this study to examine the impact of financial development and financial openness on economic growth in Nigeria. This is done within the period 1981 to 2019.

II. REVIEW OF LITERATURE

2.1 Financial Openness and Economic Growth

While few studies exist with respect to Nigeria, the examination of impact of financial openness on economic growth has been the objective of several studies. One study by Estrada al. (2015) examined the relationship between financial openness, financial development and economic growth in 108 countries using panel data from 1977 to 2011. The model used in the study was estimated using the Arellano-Bond generalized method of moments. The result of the study revealed that financial development has a stronger positive impact on economic growth in developing countries relative to its impact in developed countries. The study found that this impact is particularly strong among Asian countries. The study also found that the impact of financial openness on economic growth is significant and positive. The results of the study further revealed that this impact is stronger in developed countries. The effect was also found to be stronger in countries with less developed financial systems.

Ersoy (2011) investigated the impact of financial openness on the development of the financial system, economic growth and volatility in Turkey. The study used the Auto-Regressive Distributed Lag (ARDL) model and Granger causality test. The results showed that there is no causal relationship between financial openness and financial development and financial openness and economic grow. The result also showed that there is long-run unidirectional causality from financial development to financial openness, and short-run unidirectional causality from financial openness to volatility in economic growth.

Another study by Bekaert, Harvey and Lundblad (2011) assessed the impact of financial openness on productivity using data from 96 countries. Data was collected for the period 1980 to 2006. The methodology for the study consisted of the use of the panel probit model. The results revealed that investment was more efficient after the liberalization of the financial sector in the countries used for the study.

In a similar vein, Stoianov (2007) studied the effect of financial openness and trade liberalization on economic growth in Eastern European countries. The study used the Generalized Method of Moments (GMM) and data from Czech Republic, Lithuania, Poland, Estonia, Bulgaria, Hungary, Slovenia, Latvia and Romania. The results revealed that financial openness has a negative impact on economic growth in Eastern Europe. On the other hand the result showed that trade openness has a positive impact on economic growth in the economies of Eastern Europe.
Another study by Bayraktar and Wang (2006) investigated the impact of banking sector openness on economic growth through the use of data from 28 developing and developed countries. The study used the Generalized Method of Moments (GMM) and data from 1994 to 2003. The study found the existence of indirect and direct impacts of banking openness on economic growth in the countries used for the study.

Finally, Oyovwi and Eshenake (2013) investigated the impact of financial openness on economic growth in Nigeria. The study covered the period 1970 to 2010, while the vector error correction model (VECM) was utilized for the analysis of data on the relevant variables. The results of the study showed that financial depth has a positive and significant impact on economic growth in Nigeria.

2.2 Financial Development and Economic Growth

The investigation of relationship between financial development and economic growth in Nigeria has been the objective of several empirical studies. One of such was carried out by Ibrahim and Byrudden (2016). The study used the vector error correction model (VECM) and data on the relevant variables from 1980 to 2012. The results showed that there is a bidirectional relationship between financial openness and trade openness in the short-run. The result also showed that there is no causality between financial openness and economic growth in the short-run. On the other hand, there is unidirectional causality from economic growth to trade openness in the short-run. Furthermore, the estimates from the study revealed that there is unidirectional causality from financial openness to trade openness in the long-run. There is also no causality between financial openness and economic growth in the long-run. Finally, the result showed that there is unidirectional causality from trade openness to economic growth in the long-run.

Another study by Madchie, Maduka, Oguanobi and Ekesiobi (2014) studied the impact of financial development on economic growth in Nigeria. The study used data from 1986 to 2012, while the Error Correction Model (ECM) was used for the estimation of the model used for the study. The results revealed that there is unidirectional causality from economic growth to financial development in Nigeria. The result also showed that financial sector development has a positive and significant impact on economic growth in Nigeria.

Iheanacho (2016) also investigated the impact of financial development on economic growth in Nigeria. The study used data on the variables from 1981 to 2011, while the Auto-Regressive Distributed Lag Model (ARDL) was used for the analysis carried out in the study. The results revealed that financial development has a negative and significant impact on economic growth in Nigeria in the short-run. Financial development has a negative and non-significant impact on economic growth in Nigeria in the long-run.

Another study by Anfofum, Okpanachi and Joshua (2014) examined the impact of financial development on economic growth in Nigeria. The study used data for the period 1986 to 2011, Granger causality test and the Vector Error Correction Model (VECM). The result revealed that there is unidirectional causality from economic growth to financial sector development. Financial sector development also has a negative but significant impact on economic growth in Nigeria in the short-run. On the other hand, financial development measured using the ratio of stock market capitalization to GDP has a positive and significant impact on economic growth in the long-run, while the ratio of credit to the private sector to GDP has a positive and non-significant impact on economic growth in the long-run.

In a similar vein, the study by Lawal, Nwanji, Asaleye and Ahmed (2016) studied the relationship between economic growth, trade openness and financial development in Nigeria. The study utilized the Auto Regressive Distributed Lag (ARDL) model in the study of the relationships between the variables. The scope of the study was limited to the period 1981 to 2013. The study used net credit to the private sector to the GDP, ratio of broad money supply to the GDP and stock market turnover ratio to the GDP as measures of financial sector development. The results derived from the study revealed that financial sector development measured using the broad money-GDP ratio has a positive but non-significant impact on economic growth in the short run and long run. On the other hand, the result showed that the impact of net credit to the private sector -GDP ratio is negative, and while the effect of stock market turnover-GDP ratio on economic growth in Nigeria is positive and significant in the long and short run. The result further revealed that economic growth has economic growth has a positive and significant impact on all indicators of financial development except the broad money-GDP ratio in both long and short run. The impact of economic growth on the broad money GDP ratio was positive and significant in the short-run. However the long run impact of economic growth on the broad money-GDP ratio was positive but non-significant. Economic growth was also found to have a positive and significant impact on trade openness in the long and short-run. Finally, the result showed that trade openness has a positive and significant impact on economic growth in Nigeria in the short and long-run. The impact was however positive in the long-run and negative in the short-run.

III. THEORETICAL FRAMEWORK
3.1 Romer’s Endogenous Growth Theory

One of the theoretical anchor for this study is Romer’s endogenous growth theory. The theory was formulated by Paul Romer. It is a variant of Arrows theory of endogenous growth. Romer assumed that the generation of knowledge is an outcome of investment. Knowledge is included as a production input in the production function (Chand, n.d.). The function as discussed by Chand is given as follows:

\[ Y = A(R) f(N, L, K) \]

Where: Y = Output  
A = Public stock of knowledge  
N = Outcome of firms spending on research and development  
L = Labour of the jth firm  
K = Capital stock of the jth firm

The model is homogenous of degree 1 for all inputs, while N is regarded as a rival good. In Romers theory, the creation of new knowledge is the main (endogenous) determinant of economic growth in the long-run. The creation of new knowledge is its self a product of investment in research technology. Romer posited that research technology is characterized by diminishing returns. Romer further posited that firms creating new knowledge cannot monopolize the benefits from such knowledge because it will spill over to other firms in the economy (Chand, n.d.).

Romer’s endogenous growth theory is adapted for the purpose of this study because firm’s investment in the creation of new knowledge is also determined by the cost and availability of finance. Both determinants are in turn affected by the level of development of the financial system and the degree of financial openness in a country. Based on this, it can be deduced that the greater the degree of financial openness and development of the financial system, the greater firms investment in the development of new knowledge, leading to economic growth.

3.2 Financial Liberalization Thesis

The second theoretical anchor for this study is the financial liberalization thesis. The thesis was developed as a reaction to the policy of interest rate fixing in the 1950s. This practice was latter challenged by Goldsmith (1969), and McKinnon (1973) and Shaw (1973). The thesis attributed the poor performance of investment and growth to the presence high reserve requirements, ceilings on interest rates and quantitative limits on the allocation of credit. The observed that such restrictions resulted in a state of financial repression which is reflected in low levels of savings and credit rationing, and low rates of investment (Arestis, 2005).

Goldsmith (1969) posited that financial repression affects real economic growth through its impact on the efficiency of capital. McKinnon (1973) and Shaw (1973) on the other hand, identified two ways in which financial repression affects the real economy. The first of this i is that it affects the efficiency of savings allocation to investment. Financial repression also affects real growth through its impact on the return of savings and hence the equilibrium level of savings and investment (Arestis, 2005).

The wide spread acceptance of the views of the financial liberalization thesis one of the reasons for the move towards capital account liberalization and increased financial openness in the 1980s and 1990s. Based on the arguments of the theory, increased financial openness will lead to a more efficient allocation of resources in the global economy, thereby promoting economic growth.

IV. OVERVIEW OF FINANCIAL SECTOR DEVELOPMENT POLICIES IN NIGERIA

The Nigerian government has attempted to attain the goal of developing the financial sector through the implementation of a number of policies and reforms. Prior to 1986, government attempt to develop the financial sector is reflected in the establishment of the Central Bank of Nigeria (CBN) in 1958 and the Lagos Stock Exchange (LSE) in 1959. The LSE became fully functional in 1961 after the “enactment of the Lagos Stock Exchange Act” of 1961. The LSE was transformed into Nigerian Stock Exchange (NSE) in 1977 (Ebimobowei & Peter, 2013). During this period, the financial system was heavily regulated.

However the adoption of the SAP in 1986 resulted in a paradigm shift in the approach to financial development. The adoption of the SAP led to the implementation of a number of policies and reforms in the financial sector. One of these reforms was the liberalization of the allocation of credit in 1986. The interest rate was deregulated in 1987, while number of sectors which were designated as priority sectors with respect to the allocation of credit was cut down to two in 1987. The period was also characterized by the deregulation of the process of granting bank licenses (Umejiaku & Obumneke, 2017). The Nigerian Deposit Insurance Corporation (NDIC) was also established in 1988.

The year 1990 was characterized by the issue of licenses to non-banking and quasi-banking institutions. This resulted in the establishment of people’s banks, community banks and finance houses. The objective of this policy was to increase the level of financial inclusion in the country. The CBN also introduced prudential guidelines for the banking system in 1990. The guidelines were geared towards the promotion of the development of a safe, stable and sound banking system in the country.
(Iganiga, 2010). The 1990 guidelines were later revised in 2010.

In 1991, the interest rate re-regulated through the introduction of a cap on the rate. The year 1991 was also characterized by the introduction of two decrees in the financial system. These are the Banks and other Financial Institutions Decree No.29 and Central Bank of Nigeria Decree No.24. The latter decree increased the autonomy of the CBN with regards to the regulation and supervision of banks and other financial institutions, as well as the conduct of monetary policy. The deregulation of the interest rate was reversed in 1992 with a return to market determined interest rates (Umehiaja & Obumneke, 2017).

However, in 1996, the policy of regulation was reintroduced through the introduction of an embargo on the licensing of banks. An element of regulation was also introduced to the deposit rate with a maximum spread of 7.5 per cent being allowed. The Minimum Rediscount Rate (MRR) was also maintained at 13.5 per cent (Umehiaja & Obumneke, 2017). In the capital market, technologies such as the Central Securities Clearing System (CSCS) and Automated Trading System (ATS) were introduced (Ebimobowei & Peter, 2013). These technologies were meant to improve the performance of the market.

The Universal Banking policy was also adopted by the CBN in 2001. A further reform of the banking sector took place in 2005 when the CBN introduced the Banking Consolidation exercise. The objective of the exercise was to increase the capital base of banks to 25 billion naira (Iganiga, 2010). The Monetary Policy Rate (MPR) was also introduced by CBN in 2006. In 2010, the Asset Management Company of Nigeria (AMCOM) was established as a response to the observed fragilities in the banking sector. The CBN also adopted the International Financial Reporting Standards in 2009.

V. MODEL AND METHODOLOGY

The model for this study is anchored on the endogenous growth theory. Economic growth is captured using the growth rate of real GDP (GGDP). With respect to financial openness, two main measures are identified in economic literature. These are: de jure and; de facto measures. The de jure measures include the Financial Openness Index (FOI) which was constructed by Johnstone and Tamirisa (1998) and Brune and Guisinger (2006), and the KAOPEN index attributed to Chinn and Ito (2008). The de facto measures are quantity based measures which are computed using the flows which adequately reflect de facto integration for emerging markets and low-income developing countries (Estrada et al., 2015). On the other hand, the de facto measures as identified by Wei (2014) include: foreign direct investment (FDI) and foreign portfolio investment (FPI). However, Wei also observed that both measures have been combined and divided by the GDP to derive a measure of financial openness. Estrada et al. (2015) also identified Lane and Milesi-Ferrat (2006, 2007) index as a second de facto measure of financial openness. The index is computed using the ratio of a countries total liabilities and assets to its gross domestic product. FDI, financial derivatives, debt and portfolio equity are included in the index.

In this study, financial openness is captured through the use of the ratio of the sum of foreign direct investment and foreign portfolio investment to the GDP (FINO) as identified by Wei (2014). Financial development is captured using the ratio of credit to the private sector to GDP (CGDP). Both variables are expected to have a positive relationship with economic growth in Nigeria. Financial openness and financial development are also interacted to create a new variable (FINCDP) representing a situation of simultaneous financial openness and development of the financial sector. FINCDP is expected to have a positive relationship with economic growth in Nigeria. Other variables included in the model include the labour force and capital, both of which are expected to have a positive relationship with economic growth in Nigeria. The exchange and interest rates are also included in the model. FINO and CGDP are constructed using data from the World Bank and Central Bank of Nigeria. The data on the other variables also derived from both sources.

The methodology of the study involves the use of unit root tests to evaluate the data for the presence of unit roots. This is done through the use of the Dickey-Fuller Min-t test for structural break. The use of this test is informed by the need to take into account the effect of structural breaks in the variables. Perron (1989) (as cited in Glynn, Perera & Verma, 2007) showed that when the impact of structural breaks is not taken into account, the test for unit root will be characterized by bias which reduces the capacity of the test to reject a false hypothesis of unit roots in the data. The methodology also involves the use of the Auto-Regressive Distributed Lag (ARDL) model to test the variables for cointegrating relationships. The ARDL model for the study is given as follows:
\[ \begin{align*}
\Delta \text{GGDP}_t &= \varphi_{01} + \delta_{11} \Delta \text{FINO}_{t-1} + \delta_{21} \Delta \text{CGDP}_{t-1} + \delta_{31} \Delta \text{FINCDP}_{t-1} + \delta_{41} \Delta \text{EXCH}_{t-1} + \delta_{51} \Delta \text{INTR}_{t-1} + \delta_{61} \Delta \text{KAP}_{t-1} + \delta_{71} \Delta \text{LABR}_{t-1} \\
&+ \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} + \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} + U_{1t} \\
(1.1) \\
\Delta \text{FINO}_t &= \varphi_{02} + \delta_{12} \Delta \text{FINO}_{t-1} + \delta_{22} \Delta \text{CGDP}_{t-1} + \delta_{32} \Delta \text{FINCDP}_{t-1} + \delta_{42} \Delta \text{EXCH}_{t-1} + \delta_{52} \Delta \text{INTR}_{t-1} + \delta_{62} \Delta \text{KAP}_{t-1} + \delta_{72} \Delta \text{LABR}_{t-1} \\
&+ \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} + \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} + U_{2t} \\
(1.2) \\
\Delta \text{CGDP}_t &= \varphi_{03} + \delta_{13} \Delta \text{FINO}_{t-1} + \delta_{23} \Delta \text{CGDP}_{t-1} + \delta_{33} \Delta \text{FINCDP}_{t-1} + \delta_{43} \Delta \text{EXCH}_{t-1} + \delta_{53} \Delta \text{INTR}_{t-1} + \delta_{63} \Delta \text{KAP}_{t-1} + \delta_{73} \Delta \text{LABR}_{t-1} \\
&+ \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} + \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} + U_{1t} \\
(1.3) \\
\Delta \text{KAP}_t &= \varphi_{04} + \delta_{14} \Delta \text{FINO}_{t-1} + \delta_{24} \Delta \text{CGDP}_{t-1} + \delta_{34} \Delta \text{FINCDP}_{t-1} + \delta_{44} \Delta \text{EXCH}_{t-1} + \delta_{54} \Delta \text{INTR}_{t-1} + \delta_{64} \Delta \text{KAP}_{t-1} \\
&+ \delta_{74} \Delta \text{LABR}_{t-1} + \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} + \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} \\
&+ U_{1t} \\
(1.4) \\
\Delta \text{EXCH}_t &= \varphi_{05} + \delta_{15} \Delta \text{FINO}_{t-1} + \delta_{25} \Delta \text{CGDP}_{t-1} + \delta_{35} \Delta \text{FINCDP}_{t-1} + \delta_{45} \Delta \text{EXCH}_{t-1} + \delta_{55} \Delta \text{INTR}_{t-1} + \delta_{65} \Delta \text{KAP}_{t-1} \\
&+ \delta_{75} \Delta \text{LABR}_{t-1} + \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} + \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} \\
&+ U_{1t} \\
(1.5) \\
\Delta \text{INTR}_t &= \varphi_{06} + \delta_{16} \Delta \text{FINO}_{t-1} + \delta_{26} \Delta \text{CGDP}_{t-1} + \delta_{36} \Delta \text{FINCDP}_{t-1} + \delta_{46} \Delta \text{EXCH}_{t-1} + \delta_{56} \Delta \text{INTR}_{t-1} + \delta_{66} \Delta \text{KAP}_{t-1} + \delta_{76} \Delta \text{LABR}_{t-1} \\
&+ \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} + \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} + U_{1t} \\
(1.6) \\
\Delta \text{OPEN}_t &= \varphi_{07} + \delta_{17} \Delta \text{FINO}_{t-1} + \delta_{27} \Delta \text{CGDP}_{t-1} + \delta_{37} \Delta \text{FINCDP}_{t-1} + \delta_{47} \Delta \text{EXCH}_{t-1} + \delta_{57} \Delta \text{INTR}_{t-1} + \delta_{67} \Delta \text{KAP}_{t-1} \\
&+ \delta_{77} \Delta \text{LABR}_{t-1} + \sum_{i=1}^{q} \varphi_{1i} \Delta \text{GGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{2i} \Delta \text{FINO}_{t-i} + \sum_{i=1}^{q} \varphi_{3i} \Delta \text{CGDP}_{t-i} + \sum_{i=1}^{q} \varphi_{4i} \Delta \text{FINCDP}_{t-i} \\
&+ \sum_{i=1}^{q} \varphi_{5i} \Delta \text{EXCH}_{t-i} + \sum_{i=1}^{q} \varphi_{6i} \Delta \text{INTR}_{t-i} + \sum_{i=1}^{q} \varphi_{7i} \Delta \text{KAP}_{t-i} + \sum_{i=1}^{q} \varphi_{8i} \Delta \text{LABR}_{t-i} \\
&+ U_{1t} \\
(1.7)
\end{align*}\]
VI. RESULTS AND DISCUSSION OF FINDINGS

6.1 Presentation and Analysis of Results

The results of the study are presented in table 1 to 6, and figure 1. The first result presented and discussed is the correlation matrix.

Table 1: Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>GGDP</th>
<th>CGDP</th>
<th>FINO</th>
<th>INTR</th>
<th>EXCH</th>
<th>DUMCGDP</th>
<th>DUMFINO</th>
<th>FINCDP</th>
<th>KAP</th>
<th>LABR</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGDP</td>
<td>1</td>
<td>0.153957</td>
<td>-0.12131</td>
<td>0.476594</td>
<td>0.28468</td>
<td>0.148705</td>
<td>0.356202</td>
<td>-0.20914</td>
<td>0.021145</td>
<td>0.394726</td>
</tr>
<tr>
<td>CGDP</td>
<td>0.153957</td>
<td>1</td>
<td>0.197143</td>
<td>-0.07091</td>
<td>0.780126</td>
<td>0.946018</td>
<td>0.445696</td>
<td>-0.33746</td>
<td>0.870529</td>
<td>0.659326</td>
</tr>
<tr>
<td>FINO</td>
<td>-0.12131</td>
<td>0.197143</td>
<td>1</td>
<td>-0.44238</td>
<td>0.267901</td>
<td>0.260676</td>
<td>-0.0518</td>
<td>0.779361</td>
<td>0.329497</td>
<td>0.149071</td>
</tr>
<tr>
<td>INTR</td>
<td>0.476594</td>
<td>-0.07091</td>
<td>-0.44238</td>
<td>1</td>
<td>0.090321</td>
<td>-0.096</td>
<td>0.34814</td>
<td>-0.27901</td>
<td>-0.07055</td>
<td>0.339371</td>
</tr>
<tr>
<td>EXCH</td>
<td>0.28468</td>
<td>0.780126</td>
<td>0.267901</td>
<td>0.090321</td>
<td>1</td>
<td>0.755029</td>
<td>0.649425</td>
<td>-0.07283</td>
<td>0.816077</td>
<td>0.824584</td>
</tr>
<tr>
<td>DUMCGDP</td>
<td>0.148705</td>
<td>0.946018</td>
<td>0.260676</td>
<td>-0.096</td>
<td>0.755029</td>
<td>1</td>
<td>0.423077</td>
<td>-0.2378</td>
<td>0.844566</td>
<td>0.647515</td>
</tr>
<tr>
<td>DUMFINO</td>
<td>0.356202</td>
<td>0.445696</td>
<td>-0.0518</td>
<td>0.34814</td>
<td>0.649425</td>
<td>0.423077</td>
<td>1</td>
<td>-0.25554</td>
<td>0.388143</td>
<td>0.879709</td>
</tr>
<tr>
<td>FINCDP</td>
<td>-0.20914</td>
<td>-0.33746</td>
<td>0.779361</td>
<td>-0.27091</td>
<td>-0.07283</td>
<td>-0.2378</td>
<td>-0.23535</td>
<td>1</td>
<td>-0.03657</td>
<td>-0.18794</td>
</tr>
<tr>
<td>KAP</td>
<td>0.02145</td>
<td>0.870529</td>
<td>0.329947</td>
<td>-0.07055</td>
<td>0.816077</td>
<td>0.844566</td>
<td>0.388143</td>
<td>-0.03657</td>
<td>0.63766</td>
<td></td>
</tr>
<tr>
<td>LABR</td>
<td>0.394726</td>
<td>0.659366</td>
<td>0.149071</td>
<td>0.339371</td>
<td>0.824584</td>
<td>0.647515</td>
<td>0.879709</td>
<td>-0.16794</td>
<td>0.63766</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s computation

The results of the correlation matrix presented in table 1 shows that none of the variables are perfectly correlated. On the basis of this, the variables are tested for unit roots. The result of this test is presented in table 2.

Table 2: Dickey-Fuller Min-t Unit Root Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>At Level (t-Statistic)</th>
<th>Break Date</th>
<th>Critical Value</th>
<th>At First Difference (t-Statistic)</th>
<th>Break Date</th>
<th>Critical Value</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGDP</td>
<td>-8.4715</td>
<td>2007</td>
<td>-4.4436</td>
<td></td>
<td></td>
<td></td>
<td>I (0)</td>
</tr>
<tr>
<td>KGDP</td>
<td>-4.7771</td>
<td>2005</td>
<td>-4.4436</td>
<td></td>
<td></td>
<td></td>
<td>I (0)</td>
</tr>
<tr>
<td>EXCH</td>
<td>-0.2531</td>
<td>2015</td>
<td>-4.4436</td>
<td>-5.7039</td>
<td>2015</td>
<td>-4.4436</td>
<td>I (1)</td>
</tr>
<tr>
<td>LABR</td>
<td>-4.9438</td>
<td>1989</td>
<td>-4.4436</td>
<td></td>
<td></td>
<td></td>
<td>I (0)</td>
</tr>
</tbody>
</table>

Source: Author’s computation.
The results of the Dickey-Fuller Min-t unit root test show that the variables are of mixed order of integration. However, no variable is stationary after more than one differencing. On the basis of this, the ARDL model/Bounds test is used to evaluate the model for the presence of cointegrating relationships among the variables. Before this is done, the study does several things. The first of this is that the identified structural break dates of 1994 and 2007 with respect to financial openness and financial development are used to construct a dummy variable which is included as a regressor in the model. Secondly, the optimal lag length to be used in estimating the model is determined using the Akike, Han-Quin and Schwarz Information criteria. The result of this test for optimal lag length is presented in Table 3.

### Table 3: VAR Lag Order Selection Criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-1989.79</td>
<td>NA</td>
<td>2.01e+37</td>
<td>114.2740</td>
<td>114.7184</td>
<td>114.4274</td>
</tr>
<tr>
<td>1</td>
<td>-1709.58</td>
<td>384.2932</td>
<td>8.45e+32</td>
<td>103.9760</td>
<td>108.8643</td>
<td>105.6635</td>
</tr>
<tr>
<td>2</td>
<td>-1518.04</td>
<td>153.2338*</td>
<td>2.34e+31*</td>
<td>98.74505*</td>
<td>108.0771*</td>
<td>101.9665*</td>
</tr>
</tbody>
</table>

**Source:** Author’s computation.

The result of the VAR lag order selection criteria indicates that the optimal lags of the variables to be included in the model are 2 lags. This is consistent for the AIC, SC and HQ criteria. On the basis of this, the variables are tested for the existence of cointegrating relationships using the ARDL test. The result of this test is presented in Table 4.

### Table 4: ARDL/Bounds Test Result for Cointegration

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>Signif.</th>
<th>I(0)</th>
<th>I(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>2.182386</td>
<td>10%</td>
<td>1.8</td>
<td>2.8</td>
</tr>
<tr>
<td>K</td>
<td>9</td>
<td>5%</td>
<td>2.04</td>
<td>2.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5%</td>
<td>2.24</td>
<td>3.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1%</td>
<td>2.5</td>
<td>3.68</td>
</tr>
</tbody>
</table>

**Source:** Author’s computation.

The result of the ARDL/Bounds test for cointegration indicates the rejection of the null hypothesis of no cointegration for both lower and upper bounds of the test. Based on this, the study concludes that the variables utilized are cointegrated. In view of this, the relationship between the variables can be estimated using an error correction model (ECM). The results of this estimation which is carried out using the ARDL model is presented in Table 5 and 6.
Table 5: ARDL Error Correction Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(CGDP)</td>
<td>0.057389</td>
<td>0.210624</td>
<td>0.272471</td>
<td>0.7882</td>
</tr>
<tr>
<td>D(EXCH)</td>
<td>-0.06419</td>
<td>0.024083</td>
<td>-2.66545</td>
<td>0.0153</td>
</tr>
<tr>
<td>D(INTR)</td>
<td>0.221596</td>
<td>0.113579</td>
<td>1.951021</td>
<td>0.066</td>
</tr>
<tr>
<td>D(LABR)</td>
<td>1.79E-08</td>
<td>9.07E-08</td>
<td>0.197642</td>
<td>0.8454</td>
</tr>
<tr>
<td>D(LABR(-1))</td>
<td>-9.96E-07</td>
<td>1.35E-07</td>
<td>-7.36501</td>
<td>0</td>
</tr>
<tr>
<td>CointEq(-1)*</td>
<td>-0.79637</td>
<td>0.131562</td>
<td>-6.05319</td>
<td>0</td>
</tr>
</tbody>
</table>

R-squared: 0.694358
Adjusted R-squared: 0.641661
Durbin-Watson stat: 1.725262

Source: Author’s computation.

The result of the error correction regression shows that financial development has a positive but non-significant impact on economic growth in Nigeria in the short-run. The labour force also has a positive and non-significant impact on economic growth in Nigeria in the short-run. On the other hand, exchange rate and the one year lag of labour force have a negative and significant impact on economic growth in Nigeria in the short run. Finally, the result shows that the interest rate has a positive and significant impact on economic growth in Nigeria in the short-run. The error correction term is negative and statistically significant. The result of the error correction term shows that the model has a rapid speed of adjustment (79.63 per cent) from its short-run disequilibrium to its long-run equilibrium.

The adjusted R$^2$ shows that 64.16 per cent of the variation in economic growth in Nigeria is explained by the significant variables in the model. On the other hand, the Durbin-Watsons statistic indicates that there is no autocorrelation in the estimated model.

Table 6: Long-Run ARDL Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINO</td>
<td>-54.4098</td>
<td>106.4263</td>
<td>-0.51124</td>
<td>0.6151</td>
</tr>
<tr>
<td>CGDP</td>
<td>0.995687</td>
<td>0.828801</td>
<td>1.201358</td>
<td>0.2444</td>
</tr>
<tr>
<td>DUMCGDP</td>
<td>-0.99867</td>
<td>5.352362</td>
<td>-0.18659</td>
<td>0.854</td>
</tr>
<tr>
<td>DUMFINO</td>
<td>-29.7835</td>
<td>26.51689</td>
<td>-1.12319</td>
<td>0.2753</td>
</tr>
<tr>
<td>EXCH</td>
<td>0.008089</td>
<td>0.05451</td>
<td>0.148391</td>
<td>0.8836</td>
</tr>
<tr>
<td>FINCDP</td>
<td>9.198404</td>
<td>11.49089</td>
<td>0.800495</td>
<td>0.4333</td>
</tr>
<tr>
<td>INTR</td>
<td>0.72516</td>
<td>0.359914</td>
<td>2.014814</td>
<td>0.0583</td>
</tr>
<tr>
<td>LABR</td>
<td>8.09E-07</td>
<td>8.20E-07</td>
<td>0.98613</td>
<td>0.3365</td>
</tr>
<tr>
<td>KAP</td>
<td>-1.80E-12</td>
<td>6.97E-13</td>
<td>-2.58377</td>
<td>0.0182</td>
</tr>
<tr>
<td>C</td>
<td>-13.8831</td>
<td>7.371787</td>
<td>-1.88327</td>
<td>0.0751</td>
</tr>
</tbody>
</table>

Source: Author’s computation.
The long-run ARDL result is presented in table 6. The result shows that financial openness has a negative and non-significant impact on economic growth in Nigeria in the long-run. The financial openness and financial development dummies also have a negative and non-significant impact on economic growth in Nigeria in the long-run.

On the other hand, the result shows that in the long-run the interactive dummy, exchange rate, labour force, and financial development have a positive but non-significant impact on economic growth in Nigeria. Furthermore, interest rate has a positive and significant impact on economic growth in Nigeria in the long-run, while capital has a negative and significant impact on economic growth.

Finally, the estimated models are tested for parameter stability using the CUSUM test. The result of this test which is presented in figure 1 shows that the estimated parameters are structurally stable.

![CUSUM Test](image.png)

Source: Author’s computation

6.2 Discussion of the Nain Findings

The results of this study show that financial sector development has a positive but insignificant impact on economic growth in Nigeria in the short and long-run. The result implies that if it attained, the development of the financial sector will contribute positively to the growth of the nation’s economy. However, the result shows that at present that impact is not being felt. The finding which does not conform to the findings made by Anfofum et al. (2014) and Iheanacho (2016) may be explained by the continued occurrence of financial distress in the financial sector. It may also be explained by the wide margin between the deposit and lending rate of Deposit Money Banks. It may also be attributed to the relatively underdeveloped nature of the capital market in Nigeria.

The study also found that financial openness is only relevant for economic growth in Nigeria in the long-run. However, while the impact of financial openness was positive in the long-run, it was not significant. This finding which does not conform to the findings made by Oyovwi and Eshenake (2013) may be attributed to the weak state of the nation’s institutions reflected in the prevalence of a high rate of corruption, poor infrastructure, as well as its recent history of insecurity due to the activities of militants in the Niger Delta, youth unrest, religious-ethnic conflicts, and the Boko-Haram crisis in the North-East. These problems have effectively discouraged the inflow of foreign capital into the country. On the other hand, high levels of corruption are associated with illegal capital flight from the country.

Finally, the results further revealed that the simultaneous occurrence of financial development and financial openness has a negative relationship with economic growth in Nigeria in the long-run. The result
may be explained by the argument by that on the one hand, high levels of financial development and financial openness can negatively affect economic growth. Estrade et al. (2015) highlight the negative effects of high levels of financial development by pointing to the effects of the financial crisis of 2008 and 2009. According to Estrada, the primary lesson from the crisis is that excessive levels of innovation and financial development can have negative effects on the stability of the financial system and economic growth. This is because the crisis was triggered by sophisticated and complicated financial innovations including structured investment vehicles, mortgaged backed securities and debt obligations which were collateralized. On the other hand, as it was the recently the case in Nigeria, financial openness can lead result in sudden capital flow reversal and the exposure of a country’s economy to negative shocks in other economies. This will have a negative effect on economic growth. The fining from the study conforms to these views and indicates that the simultaneous occurrence of financial development and financial development has potential negative consequences for the growth of the economy.

VII. CONCLUSION AND RECOMMENDATIONS

The Nigerian government has since the country’s independence identified the development of the financial sector as a key requirement for the attainment of its objective of promoting the rapid growth of the economy. The move towards increased financial openness has also been adopted as policy measures to address the issue of capital inadequacy in the country. This move was informed by the adoption of the Structural Adjustment Program (SAP) in 1986 and is reflected in the policies implemented to promote the inflow of foreign capital. However, despite the efforts made by the government towards the development of the financial sector, the sector is still plagued by problems. This is reflected in the country’s recent history of financial crisis. The appropriateness of the continued implementation of the policy is also debatable given the continuous exposure of the economy to capital flow reversals and financial crisis in foreign countries.

In view of the above, an attempt was made in this study to examine the impact of the state of development of the financial sector and financial openness on economic growth. Based on the results, the study concluded that financial development and financial openness do not have significant effects on economic growth in Nigeria. In view of the findings, the study makes the following recommendations:

1. The CBN should increase its efforts towards the regulation and supervision of the financial sector to reduce the incidence of financial distress. Efforts should be made to ensure the full compliance of financial institutions with the current financial reporting standards to ensure the availability of accurate information which could be used to proactively deal with financial bubbles. The current interest rate structure should also with a view to reducing the spread and enhancing the contribution of DMBs to the nation’s economy. This can be done through increases in the deposit rate, to make savings more attractive, and decreases in the lending rate to reduce the cost of investment finance. Given the challenges and costs faced by banks, it is the view of this study that the decreases in the rates should be not be whole sale and large. The study recommends that the changes in the rates should be marginal and sequential, while the CBN should seek to consult and fully involve DMBs when implementing this policy. DMBs can also be given concessions to reduce the potential side effects of the policy on their viability of their operations.

2. The effort to develop the mortgage and insurance sector and the capital market should also be intensified. This can be done through regulatory improvements, improvements in the instruments in use in the market as well as public enlightenment programs to increase awareness of the potentials of the mortgage, insurance and capital markets.

3. Increases in the limitations on the flow of capital in and out of the country. This can be achieved through an increase in the time period which foreign investors are allowed before they can withdraw their capital from the economy. This will reduce the potential for sudden capital flow reversals.

REFERENCES


