Impact of Financial Sector Development on Economic Growth in Nigeria (1981 - 2021)

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ABSTRACT

This work focused on impact of financial sector development on economic growth in Nigeria (1981 - 2021). The research design for this work is the ex-post facto research design. The data used in this work are annual time series secondary data obtained from CBN Statistical Bulletin 2021 online edition for the period 1981 to 2021. The time series data include Real Gross Domestic Product (RGDP), proxy growth, ratios of broad money stock to GDP (FDBMS), private sector credit to GDP (FDPSC), market capitalization - GDP (SMC), Prime Interest Rate (PIR), Foreign Direct Investment (FDI), and Trade Openness (OPEN). Econometric methodology was employed in analyzing the data. Thus, Unit root test, co-integration test were used to carry out the diagnostic tests of the time series data. Autoregressive Distributed Lag (ARDL) technique and Granger causality approach are the models for analyzing the work. The ARDL-Bound Testing summary for long run relationship of the variables in the model revealed that there is no long run relationship between financial sector development (ratios of broad money stock to GDP, private sector credit to GDP and market capitalization to GDP) and economic growth in Nigeria for the period 1981 to 2021. This means that financial sector development and economic growth do not move together in the long run in Nigeria. The results of the Short Run ARDL Model showed that none of the financial sector development indicators: ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP, in the model has statistically significant impact on economic growth in Nigeria over the period studied. In other words, financial sector development has no significant impact on economic growth in Nigeria over the specified period. The study therefore concludes that financial sector development (ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP) had statistically insignificant impact on economic growth in Nigeria over the period studied; hence the need for improvement and stakeholders effectiveness. The study, based on findings, recommends that, to accelerate economic growth in Nigeria, government should adopt, implement and maintain sound financial policy geared towards improving financial depth in Nigeria. In other words, the Monetary Authorities should deepen the financial system enough by way of innovations, adequate and effective regulation and supervision, efficient funds mobilization and making such funds available for productive investment, as well as improved services. Government should through policy, encourage banks to give loans to local industrial investors at low interest rate. Government at all levels should encourage savings mobilization drive to boost savings in Nigeria. Government should make policy efforts towards removing obstacles undermining the growth of credit to the private sector, and restoring investors' confidence in the stock market operations.

Key Words: Financial Sector Development, Economic Growth, Causality, Market Capitalization, Private Sector, Financial Policy and Funds Mobilization.

Introduction

Financial sector development forms an integral factor in economic growth of a country. Financial sector development provides a country with the potentials to generate positive employment, high productivity and growth. Developing nations, like Nigeria, experience poor output growth because of shallow finance. Several studies held that a well-functioning financial system (that mobilizes savings, allocates resources, and facilitates risk management) contributes immensely to economic growth of a country by supporting capital accumulation, improving investment efficiency, and promoting technological innovation (Libanio, 2006) while some argued that economic growth creates demand for financial services, that, in turn, leads to financial development. McKinnon (1973) and Shaw (1973) agreed that when financial repression is destroyed and financial system liberalized, financial deepening would exist and then economic growth would increase.

This idea was equally shared by Shittu (2012) and Hashim (2011). Structuralists, like Adelakun (2013) and Odhiambo (2011) developed alternative view that financial deepening decreased total real credit supply and prevented economic growth. Patrick (1966) supported the idea that financial sector development is very important for economic growth and noted that when real growth process occurs, supply which is a motive power of financial development would be less important and then demand would be dominant (Patrick, 1966). However, the behaviour of Nigerian economy in the light of financial development needed to be empirically determined and examined from time to time. Nigeria, in recent times, adopted several policies to strengthen and deepen its financial sector. It is against this background that this paper intends to find out the impact of financial sector development on economic growth in Nigeria from 1981 to 2021, using the ratio of money supply to national output as proxy for financial sector development.

Statement of the Problem

Financial sector development is necessary as an essential ingredient in economic growth in countries like Nigeria The importance of financial sector development in achieving economic growth objectives in an economy cannot be overemphasized. Financial sector functions to mobilize and allocate savings for a country's economic growth and development. Financial development enhances efficiency in allocation of the resources, thereby stimulating growth. Countries with high degree of financial development, according to Odeniran and Udeaja (2010), experience higher productivity and GDP growth rate per capita. According to Obamuyi et al (2010), financial system serves as a catalyst to economic development through various institutional structures. Adeoye and Adewuyi (2005) remarked that economic growth cannot be possible without the combined role of investment, labour and financial deepening. However, the extent to which financial sector performs this role is evaluated through the effect of financial deepening (which measures the strength of the financial sector) and the intermediation role on economic growth. A high level of financial deepening therefore accelerates economic growth of an economy.

Nigeria has, over the years, experienced relatively low level of financial sector development with its associated problem of financial repression that is prone to retard the nation's economic growth. Thus, in order to strengthen and deepen financial sector and market mechanism and also to address the problems of systemic crisis, globalization, deregulation, financial crisis, bank failures, technological innovations, etc. arising in the country, the Nigeria monetary authorities in Nigeria, in 1986, instituted and embarked on various economic and financial reform measures that ranged from deregulation of interest rate, exchange rate, capital market deregulation, upward review of capital adequacy standards, to the liberalization of entry into the banking industry.

In spite of these various reform measures and institutional arrangements that have been adopted by the monetary authorities to reduce the level of financial repression and to promote economic growth in Nigeria, output growth rate has remained poor, dismal and unimpressive; substantial and sustained output growth have not been achieved. Output performance (measured by GDP growth rate) indicates that living standard is on the decline. High unemployment rate and rising inflation in the country are all evidence of poor economic growth. In view of the foregoing, it is not clear whether financial sector development is significant in impacting economic growth in Nigeria. This study therefore intends to examine whether financial sector development has significant impact on economic growth in Nigeria and if significant causality relationship exists between financial sector development and economic growth in Nigeria over the period.

Objectives of the Study

The main objective of the study is to empirically investigate the impact of financial sector development on economic growth in Nigeria within the period under review. The specific objectives of the research work are to:

1. investigate the impact of financial sector development on economic growth in Nigeria.
2. ascertain the causality relationship between financial sector development and economic growth in Nigeria.

Research Questions

The following questions are raised to adequately address the problem of this study:

1. What is the impact of financial sector development on economic growth in Nigeria?
2. What is the causality relationship between financial sector development and economic growth in Nigeria?

Hypotheses of the Study

The following null hypotheses will be tested:

Ho1: Financial sector development has no significant impact on economic growth in Nigeria.

Ho2: There is no significant causality relationship between financial sector development and economic growth in Nigeria.

Scope of the Study

The sample period is 1981 to 2021 which covered the era of financial liberalization and development as well as output expansion, money growth and increasing volume of investment. Data collected from CNB and NBS various volumes of statistical bulletins sometimes conflict with one another. However, the above mentioned limitation never affected the success of this research.

Conceptual Review

Concept of Financial Sector Development

Financial sector (World Bank Global Financial Development Report 2013), is the set of institutions, instruments, markets, as well as the legal and regulatory framework that permit transactions to be made by extending credit. Fundamentally, financial sector development is about overcoming "costs" incurred in the financial system. This process of reducing the costs of acquiring information, enforcing contracts, and making transactions resulted in the emergence of financial contracts, markets, and intermediaries. Different types and combinations of information, enforcement, and transaction costs in conjunction with different legal, regulatory, and tax systems have motivated distinct financial contracts, markets, and intermediaries across countries and throughout history (World Bank, 2013).

The five key functions of a financial system are: (i) producing information ex ante about possible investments and allocate capital; (ii) monitoring investments and exerting corporate governance after providing finance; (iii) facilitating the trading, diversification, and management of risk; (iv) mobilizing and pooling savings; and (v) easing the exchange of goods and services. Financial sector development thus occurs when financial instruments, markets, and intermediaries ease the effects of information, enforcement, and transactions costs and therefore do a correspondingly better job at providing the key functions of the financial sector in the economy (World Bank, 2013)..

Importance of Financial Development

World Bank (2013) noted that a large body of evidence suggested that financial sector development plays a huge role in economic development; that it promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capital. Thus, countries with better-developed financial systems tend to grow faster over long periods of time, and a large body of evidence suggests that this effect is causal: financial development is not simply an outcome of economic growth; it contributes to this growth. Additionally, it reduces poverty and inequality by broadening access to finance to the poor and vulnerable groups, facilitating risk management by reducing their vulnerability to shocks, and increasing investment and productivity that result in higher income generation.

Financial sector development can help with the growth of small and medium sized enterprises (SMEs) by providing them with access to finance. SMEs are typically labor intensive and

create more jobs than do large firms. They play a major role in economic development particularly in emerging economies. Financial sector development goes beyond just having financial intermediaries and infrastructures in place. It entails having robust policies for regulation and supervision of all the important entities. The global financial crisis underscored the disastrous consequences of weak financial sector policies. The financial crisis has illustrated the potentially disastrous consequences of weak financial sector policies for financial development and their impact on the economic outcomes. Finance matters for development - both when it functions well and when it malfunctions.

Measurement of Financial Development

The World Bank Global Financial Development Report (2013) also observed that a good measurement of financial development is crucial to assess the development of the financial sector and understand the impact of financial development on economic growth and poverty reduction but noted that in practice, it is difficult to measure financial development as it is a vast concept and has several dimensions. Empirical work done so far is usually based on standard quantitative indicators available for a long time series for a broad range of countries. For instance, ratio of financial institutions' assets to GDP, ratio of liquid liabilities to GDP, and ratio of deposits to GDP.

Nevertheless, as the financial sector of a country comprises a variety of financial institutions, markets, and products, these measures are rough estimation and do not capture all aspects of financial development. The World Bank's Global Financial Development Database developed a comprehensive yet relatively simple conceptual 4x2 framework to measure financial development around the world. This framework identifies four sets of proxy variables characterizing a well-functioning financial system: financial depth, access, efficiency, and stability. These four dimensions are then measured for the two major components in the financial sector, namely the financial institutions and financial markets (World Bank, 2012; 2013).

Theoretical Review

Supply-Leading and Demand-Following Hypotheses

The supply-leading and demand-following hypotheses are identified in literature as the major conflicting theories on the impact of the financial deepening on economic growth. Schumpeter (1911) is established as the leading proponent of the supply-leading hypothesis which asserts that financial development has a positive impact on economic growth and that the effect runs from financial development to economic growth, as a result of an improvement in the efficiency of capital accumulation or an increase in the rate of savings as well as the rate of investment. The works of (Calderon & Liu 2003; Gurley & Shaw, 1967; King & Levine 1993 as well as McKinnon, 1973) were among the studies that supported and explained the supply-leading hypothesis theoretically. The supply-leading approach thus affords entrepreneurs new access to the supply-leading funds, increased expectations and possible alternatives.

The demand-following hypotheses, on the other hand, states that financial development responds to changes in the real sector. Causality runs from economic growth to financial development, in other words, an increase in economic growth causes a rise in demand for financial services and this, (Goldsmith, 1969; Jung, 1986; Kar & Pentecost, 2000; Lucas, 1988; Ndlovu, 2013; Omotor, 2007; and Robinson, 1952) results in the expansion of the financial sector. In between the supply-leading and demand-following hypotheses are two other views: the feedback hypothesis which postulates that there is a mutual effect between financial development and economic growth, and the neutral hypothesis that asserts that there is no relationship between financial development and economic growth (Apergis & Levine, 2007).

Keynesian Theory of Financial Deepening

The Keynesian theory of financial deepening asserts that financial deepening occurs due to an expansion in government expenditure. The government, in order to reach full employment should inject money into the economy by increasing government expenditure. Robinson (1952) revealed that it is the necessity from high economic growth that creates demand in the financial sector, meaning that it is the improvements in the economy that drive higher demand for the use of money which, as a result, promotes financial development. Financial markets develop and progress because of increased demand for their services from the growing real sector.

Bi-Directional Causality Hypothesis

Bi-directional causality hypothesis argued that a sound financial system promotes economic growth and economic growth promotes financial development in return. Empirical studies postulated a feedback relationship between economic growth and financial development. Kenourgios and Samitas (2007) explained in a comprehensive manner the mutual relation between financial market and real economy, positing that financial markets have promoted growth, and growth in turn has encouraged the formation of financial markets. Gurley and Shaw (1955), Goldsmith (1969) and Hicks (1969), in line with the work of Schumpeter (1911), supported the argument that development of a financial system stimulates economic growth and under-developed financial systems retard economic growth. Further theoretical works on finance and growth were based on the existence of a wage between savings and investment in the economy. They include Levine (2005); Nieh et al (2009); Guryay et al (2007) noted that financial sector development is a key determinant of the extent of the growth and stability benefits which financial globalization could bring.

They claimed that the more developed a country's financial sector is the greater the growth benefits of capital inflows and the lower the country's vulnerability to crisis through direct and indirect channels. In summary, the causal relationship between financial development and economic growth depends on the stage of economic development. In the early stages of economic development, the supply-leading hypothesis could stimulate real capital formation. The development of new financial services creates new opportunities for savers and investors and causes an increase in economic growth. The supply-leading view becomes less important as financial and economic development proceed and gradually the demand-leading

hypothesis start to dominate. Patrick (1966) stated that one industry could be encouraged financially on the basis of a supply-leading hypothesis, and, when such industry develops, its financing would shift to demand-leading. Other industries that were at a low level of development would remain in the supply-leading phase.

Financial Intermediation

Financial system (designed monetary, credit and fiscal policies, instruments and institutions, like Banks, Insurance Companies, in an economy, and operation arraignments that serve the need of the economy (Hermes & Lensink, 2000) to carry out intermediation function of mobilizations of capital/savings. Financial intermediation therefore refers to the extent to which financial institutions (banks) bring deficit spending units and surplus spending units together. In other words, financial institutions provide a convenient link between the surplus spending units and the deficit spending units. This convenient link between the units, according to Goldsmith (1969); Audu and Okumoko (2013); Fidelis and Afees (2012), brings about more deepening of the financial system.

Specifically, Goldsmith (1969) observes that the financial superstructure of an economy "accelerates economic performance to the extent that it facilitates the migration of funds to the best user, that is, to the place in the economic system where the funds yield the highest social return". Fidelis and Afees (2012) also stated that financial intermediation promotes growth as it allows a higher rate of return to be earned on capital, and growth in turn provides a means to implement costly financial structures. Beck and Levine (2004) contends that growth and financial development/intermediation are mutually dependent because the level of per capita income partially determines the level of financial development, while financial development/intermediation can contribute to economic growth in the long run.

Harrod-Domar Growth Model

In economic literature, this model is called capital only model. Harrod and Domar (1948) took over from Rostow, because Rostow had some unanswered questions. The model stated that saving is a certain proportion of national income and net investment is defined as the change in capital stock (K). The model further assumes that there is some direct relationship between the size of the capital stock, (K), and total GNP, (Y). This follows that any addition to the capital stock in the form of new investment will bring about corresponding increase in the flow of national output, GNP. This relationship is known in economics as the capital-output ratio. If the capital-output ratio is defined as k and assume further that the national savings ratio, s, is a fixed proportion of national output (e.g. 6%) and that total new investment is determined by the level of total savings, we can construct the following simple model of economic growth.

Empirical Review

Ayadi (2021) analyzed the contributions of financial development and savings to economic growth in Nigeria from 1981 to 2015 using kernel quantile regression, simple Ordinary Least Squares (OLS) and Autoregressive Distributed Lag (ARDL) models. Financial development was captured with BMG, which is the broad money as a percentage of GDP. DCF which is

the domestic credit provided by financial sector as a percentage of GDP; and DCP, the domestic credit to the private sector as a percentage of the GDP. The study found two measures of financial development as exerting fairly significant positive impact on economic growth in Nigeria while broad money as a ratio of GDP exerted a negative but significant impact on economic growth resulting in mixed results. Savings exerted fairly significant positive impact on economic growth. The quadratic results portray a non-uniformity in the impact of savings because at the median growth level, savings' impact was insignificant but at higher levels of growth, savings significantly contributed to economic growth suggesting that there is a threshold effect of savings on economic growth in Nigeria. The study, therefore, recommended government at all levels should support savings mobilization drive in order to boost savings in Nigeria.

Sennuga et al (2021) analyzed the effect of financial development on economic growth in Nigeria using time series data on the annual growth rate of gross domestic product, real interest rate, the ratio of gross domestic savings to GDP, the ratio of domestic credit to the private sector to GDP over the period 1980 and 2019. While the variables real interest rate, the ratio of gross domestic savings to GDP, the ratio of domestic credit to the private sector to GDP served as an explanatory variable, the annual growth rate of gross domestic product was used as the dependent variable. The results indicated that two of the variables (real interest rate, gross domestic savings) were inversely related to the dependent variable (GDP annual growth rate) when combined while domestic credit to the private sector was positively related to the dependent variable with the coefficient of multiple determination showing that the model was of a high good fit with approximately 93% of the gross domestic product being explained by the variables included in the model, while the remaining 7% were factors inducing growth but were not captured in the model. The study, therefore, concluded that there is the need to adequately deepen the financial system through innovations, adequate and effective regulation and supervision, efficient mobilization of funds and making such funds available for productive investment, and improved services to propel economic growth.

Osisanwo (2017) examined the impact of financial development on economic growth in Nigeria using annual time series data between 1980 and 2014. The study tested for the unit root and co-integration to determine the time series properties of the variables before using ordinary least square estimation technique to evaluate the long-run estimates and possible policy inferences. The financial development indicators were financial deepening, bank deposit liability, private sector credit ratio, stock market capitalization and interest rate, while economic growth was measured by real gross domestic product. The results showed that all the indicators of financial development except private sector credit ratio have positive impact on economic growth in Nigeria. It implied that banking sector and stock market development played critical role in the output growth of the real sector. However, the negative impact of private sector credit indicated that provision of credit to investors do not enhance output due to high interest on loan as reported in the study. Thus, the study suggested that for the Nigeria to experience finance-led growth, the apex bank should ensure that loans are available to local industrial investors at a low interest rate.

Janice and Serge (2017) noted that for decades, African economies have embarked on financial sector reforms. However, the empirical implications of these reforms have been divergent. They investigated the impact of financial development on economic growth, using time series data in Cameroon. The investigation was carried out using three common indicators of financial development (broad money, deposit/GDP and domestic credit to private sector). Using the Auto Regressive Distributive Lag (ARDL) technique of estimation, it was discovered that there exist a short-run positive relationship between monetary mass (M2), government expenditure and economic growth, a short run negative relationship between bank deposits, private investment and economic growth equally exists. However in the long run, all indicators of financial development showed a positive and significant impact on economic growth. The paper thus confirmed the existence of a positive and long-term impact of all the indicators of financial development on economic growth through bound test. It is therefore proposed that the financial reforms in Cameroon should be pushed forward in order to boost the development of the financial sector thus an increase in its role on economic growth.

Tari and Oliver (2017) examined the direction of causality between financial deepening and economic growth in Nigeria for the period 1970–2013 using Toda–Yamamoto augmented Granger causality test. The results showed that the growth-financial deepening nexus in Nigeria followed the supply-leading hypothesis. This means that it was financial deepening that led to growth and not growth leading financial deepening. The study recommended that policy efforts should be geared towards removing obstacles that undermine the growth of credit to the private sector, and restoring investors' confidence in the stock market operations.

Monogbe et al (2016) investigated the relationship between financial development and economic growth in Nigeria using time series data spanning from 1986 to 2014. The output of their empirical analysis reflected that all the data used in that process of research were stationary after first differencing in the order of 1(1) as specified by the output of the Phillip Peron unit root test. The output of the parsimonious error correction model showed that of all the variables used in the process of research, only credit to the private sector (CPS) had a positive and significant influence on the growth of the Nigeria economy while other variables were negative and insignificant. The result of the granger causality test showed that there exists a causality flow between PCGDP, IIR and, CPS with causality flowing from PCGDP to financial development indicators (IRR and CPS) respectively. Judging by the output of this research, it showed that in the Nigeria context, economic growth determines financial sector development. This suggests that financial development in Nigeria is demand following while the economy is leading. The economic implication of this is that the financial sectors out-rightly rely on the growth of the economy, that is, the speedy the economic growth, the rapid the development of the financial sector in Nigeria.

Eugene (2016) empirically examined the relationship between financial intermediary development and economic growth in Nigeria over the period 1981–2011 using the auto-regressive distributed lag (ARDL) approach to co-integration analysis. The results showed that the relationship between financial development and economic growth in Nigeria was not significantly different from what had been observed generally in oil-dependent economies.

The relationship between financial intermediary development and economic growth in Nigeria was found to be insignificantly negative in the long-run and significantly negative in the short-run. The results highlighted the dominant role of the oil sector in economic activities in Nigeria.

Obinna (2015) examined the causal relationship between financial development and economic growth in Nigeria for the period 1960 to 2014 using dynamic time series model. Granger causality was tested within multivariate co-integration and vector error correction model (VECM) framework. Four different measures of financial development were used to capture the different channels through which finance can affect growth. The empirical findings provided evidence that there was a stable positive long run relationship between financial development and economic growth. The result further showed that in Nigeria the direction of causality between financial development and economic growth is sensitive to the choice of proxy used for financial development. 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 was found to cause financial development.

Mba (2015) investigated the impact of financial liberalization on economic growth in Nigeria between 1986 and 2011 using long-run estimates from Ordinary Least Square method, using credit to private sector as a ratio of GDP to proxy financial liberalization. The findings showed that financial liberalization had negative impact on output growth in Nigeria. The author argued that the credits to private sector was not used for productive activities that could have increased output but rather for buying and selling of consumables. The co-integration result revealed a long run relationship among the variables. The study advocated for change in the lending priority of the commercial bank to lend money to genuine private investors and not to the government and influential borrowers.

Tafirenyika (2015) examined financial sector development and economic growth in Namibia. The main objective of their study was to determine the nature of the nexus between financial sector development and economic growth with specific reference to the Namibian economy for the reason that no similar study had been carried out in Namibia and the nature of the relationship between financial development and economic growth was not known. The study, therefore, was the first step in attempting to provide literature that could be useful to policy makers and academics in Namibia. They used the Granger causality tests to establish the relationship among the financial sector indicators and economic growth indicators after having carried out the unit root and co integration tests. The results showed that the Granger causality between financial development and economic growth was by and large bidirectional meaning that when the economy grows the financial sector might respond positively and vice versa. They also found that the financial sector variable, the logarithm of the ratio of private sector credit to gross domestic product (GDP), Granger caused the real variables, logarithm of real GDP, and logarithm of real income per capita. This is in line with the conclusion above that real variables could respond favorably to financial variables. So causality in this case is running from financial variables to real sector variables. The article ended with a cautionary statement on the size of the sample used and the general availability of statistical

data on the Namibian economy, which could have negatively affected the authenticity of the results.

Ebiringa and Duruibe (2015), using vector autoregressive model, analyzed the relationship between financial system development and economic growth in Nigeria. The empirical results revealed that there was no long run causality from financial system development indicators to growth, implying that the role of the financial institutions in terms of credit access to the less privileged played towards the output growth had been less significant in Nigeria. In the short-run, the effect of financial development on economic growth was positive. The study suggested that the financial system needed further deepening by offering innovative financial products and service and sound monetary policy formation and implementation in order to adequately support short and long-term growth.

Ngogang (2015) examined the impact of financial development on the economic growth of twenty-one Sub-Saharan African countries, using the dynamic panel General Method of Moment (GMM) technique and revealed that there was a strong direct relationship between financial development and economic growth.

Emeka and Aham (2013) empirically examined the financial sector development-economic growth nexus in Nigeria. The study employed the co-integration/Error Correction Mechanism (ECM) with annual dataset covering the period, 1980-2009. Five variables, namely; ratios of broad money stock to GDP, private sector credit to GDP, market capitalization-GDP, banks deposit liability to GDP and Prime interest rate were used to proxy financial sector development while real gross domestic product proxy growth. The empirical results showed that there is a positive effect of financial sector development on economic growth in Nigeria. However, credits to private sector and financial sector depth were ineffective and failed to accelerate growth. This signifies the effect of government borrowings, the problem of huge non-performing loans, and a deficient legal system on the private sector. These inefficiently and severely limit the contribution of Nigeria's financial sector development to economic growth. To sustain and enhance the existing relationship between financial sector development and economic growth in Nigeria, there is need to adequately deepen the financial system through innovations, adequate and effective regulation and supervision, a sound and efficient legal system, efficient mobilization of funds and making such funds available for productive investment and improved services.

Gap in Literature

Most of the previous works reviewed concentrated on the relationship between financial development and economic growth in Nigeria as opposed to the impact of financial sector development on economic growth in Nigeria which this study explores. Besides, none of the works reviewed included foreign direct investment and openness of the economy in their models as control variables. This study wants to incorporate foreign direct investment and trade openness in the model to be specified for analyzing the impact of financial sector development on economic growth in Nigeria for the period 1981 to 2021.

Methodology

Research Design

The research design for this work is the ex-post facto research design that involves events that have already taken place; data exist and no attempt is made to control or manipulate the data. Ex-post facto research design also called causal comparative research is used when the researcher intends to determine cause-effect relationship between the independent and dependent variables with a view to establishing a causal link between them (Kerlinger, 1970). The justification for the adoption of this research design therefore hinges on the un-manipulability of data and the intention of the researcher to determine cause-effect relationship of the impact of financial sector development on economic growth in Nigeria from 1981-2021.

Sources of Data

The data used in this work are annual time series secondary data obtained from CBN Statistical Bulletin 2021 online edition for the period 1981 to 2021. The time series data include Real Gross Domestic Product (RGDP) proxy growth, ratios of broad money stock to GDP (FDBMS), private sector credit to GDP (FDPSC), market capitalization - GDP (SMC), Prime Interest Rate (PIR), Foreign Direct Investment (FDI) and Trade Openness (OPEN).

Model Specification

The model is specified as

Economic growth = f(financial sector development and control variables).

In functional form, the model is expressed thus:

$$RGDP = f(FDBMS, FDPSC, SMC, PIR, FDI, OPEN) \tag{1}$$

The econometric form of the model is as follows:

$$LRGDP = \alpha_0 + \alpha_1 LFDBMS + \alpha_2 LFDPSC + \alpha_3 LSMC + \alpha_4 PIR + \alpha_5 LFDI + \alpha_6 OPEN + \mu \tag{2}$$

In log form:

$$LRGDP = \alpha_0 + \alpha_1 LFDBMS + \alpha_2 LFDPSC + \alpha_3 LSMC + \alpha_4 PIR + \alpha_5 LFDI + \alpha_6 OPEN + \mu \tag{3}$$

ARDL model is specified as follows:

$$\Delta LRGDP = \alpha_0 + \alpha_1 LFDBMS + \alpha_2 LFDPSC + \alpha_3 LSMC + \alpha_4 PIR + \alpha_5 LFDI$$

$$+ \alpha_6 OPEN + \sum_{i=1}^{k} \delta_{1i} \Delta LRGDP_{t-1} + \sum_{i=1}^{k} \delta_{2i} \Delta LFDBMS_{t-1}$$

$$+ \sum_{i=1}^{k} \delta_{3i} \Delta LFDPSC_{t-1} + \sum_{i=1}^{k} \delta_{4i} \Delta LSMC_{t-1} + \sum_{i=1}^{k} \delta_{5i} \Delta PIR_{t-1}$$

$$+ \sum_{i=1}^{k} \delta_{6i} \Delta LFDI_{t-1} + \sum_{i=1}^{k} \delta_{7i} \Delta OPEN_{t-1} + \delta_{8i} ECM_{t-1} + \varepsilon_t \tag{4}$$

Where

RGDP	=	real gross domestic product proxy growth
FDBMS	=	ratios of broad money stock to GDP (M3/GDP in %)
FDPSC	=	private sector credit to GDP (CPS/GDP in %)
SMC	=	market capitalization-GDP
PIR	=	Prime interest rate
FDI	=	foreign direct investment
OPEN	=	Trade Openness

$\alpha_0 =$ the drift; $\alpha_1 - \alpha_6 =$ Long run multipliers or parameters to be estimated, $\varepsilon_t =$ Error Term; and δ_1 to δ_7 are the short run dynamic multipliers while δ_8 is the speed of adjustment to equilibrium.

The a priori expectations are: $\alpha_1 > 0, \alpha_2 > 0, \alpha_3 > 0, \alpha_4 < 0, + \alpha_5 > 0, \alpha_6 > 0$.

Estimation Technique and Procedure

Econometric methodology is employed in analyzing the data. Thus, Unit root test, co-integration test were used to carry out the diagnostic tests of the time series data. Autoregressive Distributed Lag (ARDL) technique and Granger causality approach are the models for analyzing the work. The order of integration of the variables in the model informed the adoption of the Autoregressive Distributed Lag (ARDL) technique as more appropriate since the application of Autoregressive Distributed Lag (ARDL) model is only applicable where the variables are either I(0), I(1) or mixture of I(0), I(1). Eviews 9 Econometric software is used to estimate the specified models.

A priori Expectation

The economic a priori expectation involves an examination of the signs and magnitude of the estimated parameters to determine their conformity with theoretical expectations. Thus the a priori is that $\alpha_1 > 0, \alpha_2 > 0, \alpha_3 > 0, \alpha_4 < 0, + \alpha_5 > 0, \alpha_6 > 0$.

Econometric Test

Unit Root Test for Stationarity

The variables in the model were tested and corrected for stationarity. The stationarity of each individual time series over the same time period is a pre-condition for co-integration test for the analysis of the long-run relationships between the variables. Augmented Dickey-Fuller (ADF) unit root test is used to determine the unit root properties of the single series. Given the time series nature of the data, the unit root procedure requires estimating the ADF equation:

$$\Delta Y_t = \alpha_0 + \eta Y_{t-1} + \sum_{t=1}^{k} B_i \Delta Y_{t-i} + U_t.$$

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Where

ΔY_t　　　=　　　$Y_t - Y_{t-1}$ is the difference of series Y_t.

ΔY_{t-1}　　=　　$Y_{t-1} - Y_{t-2}$ is the first difference of Y_{t-1}.

α_0, η, and B_i are parameters to be estimated and U_t is stochastic error term.

The null hypothesis of non stationarity (presence of unit root) is accepted if

$\eta = 0$ while the null hypothesis of non stationarity is rejected if $\eta < 0$.

Co-integration Test

The model is also tested for co-integration to find out if a long run relationship exists among the variables in the model and to provide long run estimates of the variables. The co-integration test was done using ARDL bounds test for co-integration.

Granger Causality Test

Granger causality test is conducted to test whether any causal relationship exist between foreign direct investment and the explanatory variables in the model. Engle and Granger (1987) noted that if two variables are co-integrated, the possibility of causality between the two exists, at least in one direction. Granger causality test for the series can be expressed in general form as follows:

$$Y_t = \sum_{i=1}^{k} \delta_{11i} Y_{t-1} + \sum_{i=1}^{k} \delta_{12i} Y_{t-1} + U_{1t}$$

$$X_t = \sum_{i=1}^{k} \delta_{21i} Y_{t-1} + \sum_{i=1}^{k} \delta_{22i} Y_{t-1} + U_{2t}$$

Where

Y　　　　　　=　　　dependent variable,

X　　　　　　=　　　independent variables in the model,

t　　　　　　=　　　the current period of the variables and

t-i　　　　　=　　　 the lagged period of the variables,

δ_{11} to δ_{22}　　=　　　the coefficients of the lagged variables and

U_1 and U_2　　=　　　mutually uncorrelated white noise error terms.

The Granger causality analysis decision rule follows F-distribution. Rejected null hypothesis if the p(F-statistic) < 0.05, otherwise accept.

Post Estimation Test

Post estimation test is performed to check for autocorrelation as well as heteroscedasticity. The Test of Heteroscedasticity is conducted using the Breusch-Pagan-Godfrey

heteroscedascity test. This will be used to evaluate if the assumptions of the econometric method employed is satisfactory or not. The tests carried out under this criterion include: Autocorrelation Test which adopts the conventional 'Durbin-Watson test' in checking for the present and correlation. Multi-collinearity test that adopts the correlation matrix test in order to check for the degree of multi-collinearity among the variables. Normality test carried out to check whether the error term followed a normal distribution. The normality test adopted in this research is Jarque-Bera (JB) statistics which follows the chi-square distribution with 2 degrees of freedom. Heteroscedasticity test carried out to ascertain the level of distribution of error term (to know whether the variance is constant). This test was carried out using Breusch-Pagan-Godfrey heteroscedascity test. It follows chi-square distribution with degree of freedom equal to the number of regressors excluding the constant term.

Data analysis and results

Unit Root Test

Augmented Dickey Fuller (ADF) unit root test is conducted at 5% level of significance to verify the stationarity property of the variables in the model; whether the mean value and variances of the variables are time invariant, in other words constant over time or fixed over time, in order to avoid generating spurious regression. The null hypothesis states that the series has a unit root if t-statistic is less than the critical value at 5%, otherwise the study rejects it. The result of the unit root test is presented in table 1 below.

Table 1: Unit Root Test Result

Variables	ADF Test Statistic	ADF Critical value at 5%	Probability	Order of Integration
LRGDP	-4.991054	-2.938987	0.0002	I(1)
LFDBMS	-5.844585	-2.938987	0.0000	I(1)
LFDPSC	-5.755904	-2.938987	0.0000	I(1)
LNFDI	-9.107831	-2.938987	0.0000	I(1)
OPEN	-3.065852	-2.936942	0.0374	I(0)
PIR	-3.399770	-2.936942	0.0168	I(0)
LSMC	-4.232053	-2.938987	0.0019	I(1)

Source: Researcher's computation from Eviews 9

The result showed that Real Gross Domestic Product proxy growth (RGDP), ratios of broad money stock to GDP (FDBMS), private sector credit to GDP (FDPSC) and market capitalization-GDP (SMC) and Foreign Direct Investment (FDI) are integrated of order one, I(1) while Prime Interest Rate (PIR), and Trade Openness (OPEN) are stationary at level I(0). Thus, the result fulfilled the underlying conditions for ARDL bound testing proposed by Pesaran et al (2001) as none of the variables in the model is I(2). In view of this, the co-integration estimation is done using ARDL bounds test framework to test the sufficient condition for the error correction model after satisfying the stationary requirements.

Model Selection Method

The Akaike Information Criterion (AIC) model selection method was used to determine the

optimal lag length for the dependent and independent variables in the model and to select (by automatic selection) the ARDL(4, 3, 3, 4, 0, 1, 4) model presented in table 2 below.

Table 2: ARDL(4, 3, 3, 4, 0, 1, 4) Regression Model

Dependent Variable: LRGDP
Method: ARDL
Date: 10/16/22   Time: 11:45
Sample (adjusted): 1985 2021
Included observations: 37 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): LFDBMS LFDPSC LSMC PIR
        LNFDI OPEN
Fixed regressors: C
Number of models evalulated: 62500
Selected Model: ARDL(4, 3, 3, 4, 0, 1, 4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LRGDP(-1)	0.677527	0.267204	2.535613	0.0277
LRGDP(-2)	-0.080560	0.425066	-0.189523	0.8531
LRGDP(-3)	0.423259	0.349955	1.209466	0.2518
LRGDP(-4)	-0.625527	0.355988	-1.757158	0.1067
LFDBMS	0.027757	0.036545	0.759535	0.4635
LFDBMS(-1)	0.045157	0.041784	1.080715	0.3029
LFDBMS(-2)	-0.048660	0.042871	-1.135040	0.2805
LFDBMS(-3)	-0.119188	0.059401	-2.006491	0.0700
LFDPSC	-0.042802	0.028719	-1.490387	0.1642
LFDPSC(-1)	0.012379	0.036731	0.337010	0.7425
LFDPSC(-2)	0.045256	0.037683	1.200945	0.2550
LFDPSC(-3)	0.085861	0.034659	2.477300	0.0307
LSMC	0.011719	0.037605	0.311623	0.7612
LSMC(-1)	0.060579	0.055237	1.096702	0.2962
LSMC(-2)	0.077854	0.042322	1.839567	0.0930
LSMC(-3)	-0.052261	0.065754	-0.794801	0.4435
LSMC(-4)	-0.041360	0.045473	-0.909558	0.3826
PIR	-0.000444	0.000396	-1.120128	0.2865
LNFDI	0.012167	0.061688	0.197236	0.8472
LNFDI(-1)	0.035427	0.042556	0.832472	0.4228
OPEN	-0.043249	0.023265	-1.858973	0.0900
OPEN(-1)	-0.041295	0.020723	-1.992682	0.0717
OPEN(-2)	-0.017918	0.014294	-1.253576	0.2360
OPEN(-3)	-0.012956	0.012926	-1.002325	0.3377
OPEN(-4)	-0.011797	0.012235	-0.964217	0.3557
C	1.246985	0.446346	2.793764	0.0175

R-squared	0.997150	Mean dependent var		2.341183
Adjusted R-squared	0.990674	S.D. dependent var		0.053017
S.E. of regression	0.005120	Akaike info criterion		-7.519001
Sum squared resid	0.000288	Schwarz criterion		-6.387005
Log likelihood	165.1015	Hannan-Quinn criter.		-7.119920
F-statistic	153.9718	Durbin-Watson stat		2.378342

Prob(F-statistic)	0.000000

Source: Eviews 9 Regression Output

Optimum Lag Length Selection

The Optimum Lag Length Selection for the dependent and the independent variables in the model was obtained through Akaike Information Criterion (AIC). The result is presented in figure 1 below. The result showed that ARDL(4, 3, 3, 4, 0, 1, 4) regression model was selected using Akaike Information Criterion (AIC) after 20 models generated automatically.

Fig. 1: Optimum Lag Length Selection
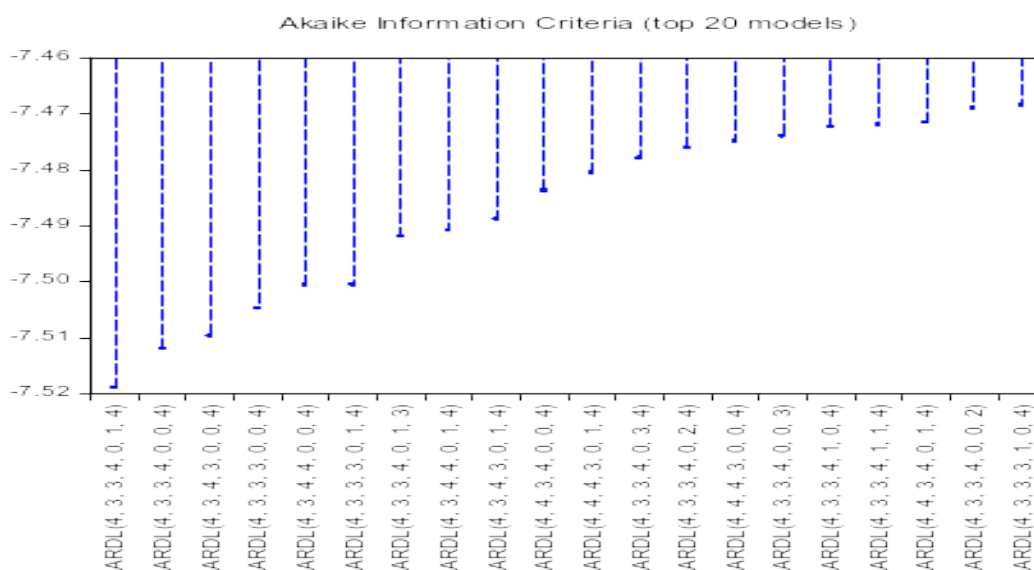
Source: Eviession 9 Regression Output
Co-integration Test - ARDL Bounds Test

The result of ARDL Bounds test performed to test for the presence of co-integration among the variables in the model is presented in table 3 below. The result showed that the computed F-Statistic for the equation is 2.348110 which lies below the lower bounds critical value of 2.45 at 5% level of significance. The null hypothesis of no co-integration is therefore not rejected. This indicated that the variables in the model are not co-integrated. In other words, long run relationship does not exist among the variables in the model. Since there is no evidence of long run relationship among the variables in the model, short run ARDL model is estimated instead of ARDL Co-integrating and Long Run Form model.

Table 3: ARDL Bounds Test

ARDL Bounds Test
Date: 10/16/22   Time: 11:48
Sample: 1985 2021
Included observations: 37
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	2.348110	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: Eviews 9 Regression Output

Regression Model: Short Run ARDL Model

VAR Lag Order Selection Criteria

The appropriate lag length for the Short Run ARDL Model was determined using the VAR Lag Order Selection Criteria. The result of the criteria is presented in table 4 below. It indicated that the appropriate lag order for the model stands at lag one. Hence the Short Run ARDL Model is estimated at lad one.

Table 4: VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria
Endogenous variables: LRGDP
Exogenous variables: C LFDBMS LFDPSC LSMC PIR
LNFDI OPEN
Date: 10/16/22   Time: 11:02
Sample: 1981 2021
Included observations: 38

Lag	LogL	LR	FPE	AIC	SC	HQ
0	116.8860	NA	0.000181	-5.783474	-5.481813	-5.676145
1	147.8943	48.96043*	3.74e-05*	-7.362857*	-7.018102*	-7.240195*
2	148.3124	0.638150	3.87e-05	-7.332230	-6.944381	-7.194236
3	149.0941	1.152019	3.92e-05	-7.320742	-6.889798	-7.167416

 * indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error

AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Short Run ARDL Model

Table 5: Short Run ARDL Model

Dependent Variable: D(LRGDP)
Method: Least Squares
Date: 10/16/22   Time: 11:18
Sample (adjusted): 1983 2021
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001843	0.001642	1.122471	0.2703
D(LRGDP(-1))	0.279836	0.167200	1.673659	0.1043
D(LFDBMS(-1))	0.047377	0.027879	1.699360	0.0993
D(LFDPSC(-1))	-0.013753	0.017655	-0.778962	0.4419
D(LSMC(-1))	0.014989	0.022207	0.674984	0.5047
D(PIR(-1))	0.000266	0.000278	0.956431	0.3463
D(LNFDI(-1))	0.026186	0.031394	0.834110	0.4106
D(OPEN(-1))	0.005139	0.008595	0.597858	0.5543

R-squared	0.187596	Mean dependent var	0.003928	
Adjusted R-squared	0.004149	S.D. dependent var	0.006039	
S.E. of regression	0.006026	Akaike info criterion	-7.204648	
Sum squared resid	0.001126	Schwarz criterion	-6.863404	
Log likelihood	148.4906	Hannan-Quinn criter.	-7.082212	
F-statistic	1.022619	Durbin-Watson stat	1.956305	
Prob(F-statistic)	0.435235			

Source: Eviews 9 Regression Output

The result of the estimated Short Run ARDL Model in table 4.4 above indicates that none of the financial sector development indicators: ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP, in the model has statistically significant impact on economic growth in Nigeria over the period studied. In other words, financial sector development has no significant impact on economic growth in Nigeria over the specified period. This is indicated by the t-statistic and probability values of financial sector development components in the model see table 5 above. The control variables: prime interest rate, foreign direct investment and trade openness, also showed statistically insignificant impact on economic growth in Nigeria over the period. The explanatory variables: ratios of broad, money stock to GDP, market capitalization to GDP, foreign direct investment and trade openness, in the model conformed to the a priori expectation as their coefficients are positive as expected while private sector credit to GDP with negative and prime interest rate with positive coefficient respectively failed to conform to the a priori expectation.

Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test was carried out to verify whether the residuals from the model are serially correlated. The result presented in Table 6 below indicates Obs*R-squared p-value of 0.8655 which is greater than 0.05. This implies that there is no serial correlation problem in the model.

Table 6: Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.022088	Prob. F(1,30)	0.8828
Obs*R-squared	0.028693	Prob. Chi-Square(1)	0.8655

Source: Eviews 9 Regression Output

Heteroskedasticity Test

The result of heteroskedasticity test presented in table 7 below also revealed that the residuals are homoskedastic. This is indicated by the Obs*R-squared Prob. Chi-Square value of 0.8434 which is greater than 0.05. Thus, the model has no serial correlation.

Table 7: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.426002	Prob. F(7,31)	0.8785
Obs*R-squared	3.422353	Prob. Chi-Square(7)	0.8434
Scaled explained SS	9.422826	Prob. Chi-Square(7)	0.2237

Source: Eviews 9 Regression Output

Ramsey RESET Test

Ramsey RESET Test is a specification test for checking whether the model estimated was correctly specified. It makes use of f – statistic. The null hypothesis is that the model was correctly specified. If the probability value of f – statistic is less than 0.05, reject the null hypothesis, otherwise do not reject null hypothesis. The result showed f – statistic probability value of 0.4055 which is greater than 0.05 which means that null hypothesis should not be rejected. Thus, the estimated model was correctly specified.

Table 8: Ramsey RESET Test

Ramsey RESET Test

	Value	df	Probability
t-statistic	0.843759	30	0.4055
F-statistic	0.711929	(1, 30)	0.4055
Likelihood ratio	0.914697	1	0.3389

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	2.61E-05	1	2.61E-05
Restricted SSR	0.001126	31	3.63E-05
Unrestricted SSR	0.001100	30	3.67E-05

LR test summary:

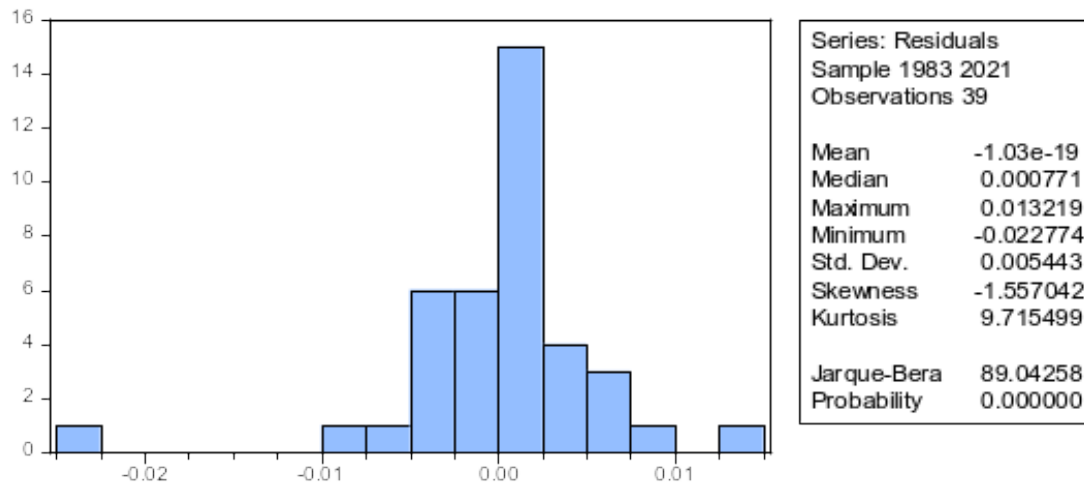|	Value	Df
Restricted LogL	148.4906	31
Unrestricted LogL	148.9480	30

Source: Eviews 9 Regression Output.

Normality Test

Jarque-Bera Test was carried out to determine whether the residuals followed the normal distribution postulated by classical OLS assumptions. The result presented in figure 2 indicates that Jarque-Bera probability is 0.000000 which is less than 0.05. This means that the residuals did not follow normal distribution; the assumptions of normal distribution are not satisfied.

Fig. 2: Jarque-Bera Test

| Series: Residuals	
Sample 1983 2021	
Observations 39	
Mean	-1.03e-19
Median	0.000771
Maximum	0.013219
Minimum	-0.022774
Std. Dev.	0.005443
Skewness	-1.557042
Kurtosis	9.715499
Jarque-Bera	89.04258
Probability	0.000000

Source: Eviews 9 Regression Output.

Stability Tests (CUSUM and CUSUMSQ) of the Model

Figure 3 and Figure 4 below show the plot of stability tests (CUSUM and CUSUMSQ) of the model. The CUSUM and CUSUMSQ are plotted against the critical bounds at 5% level of significance. The result indicates that the model is stable since the critical bounds at 5% fell in between the two 5% lines. However the CUSUM of squares test indicated a little deviation from the critical bounds of 5% level of significance.

Figure 3: CUSUM Test
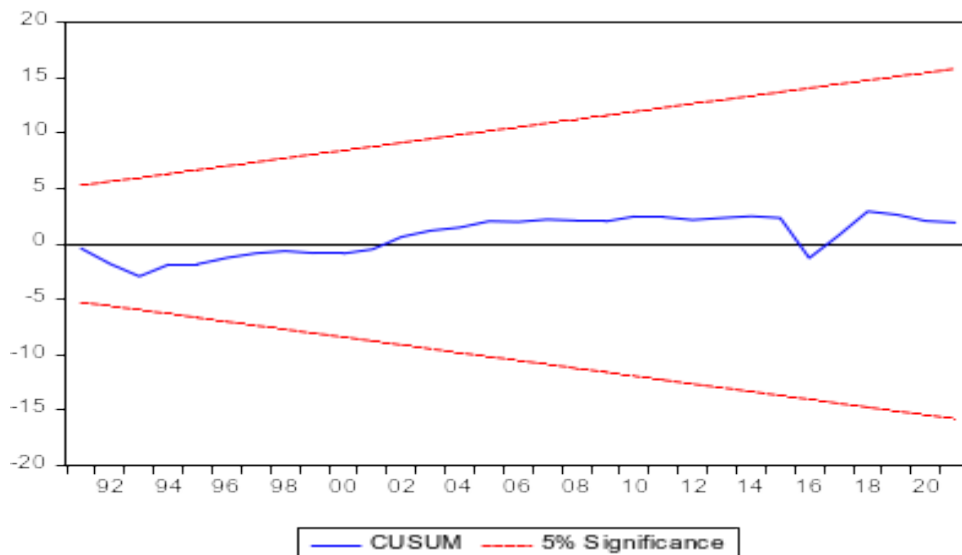
Figure 4: CUSUM of Squares Test
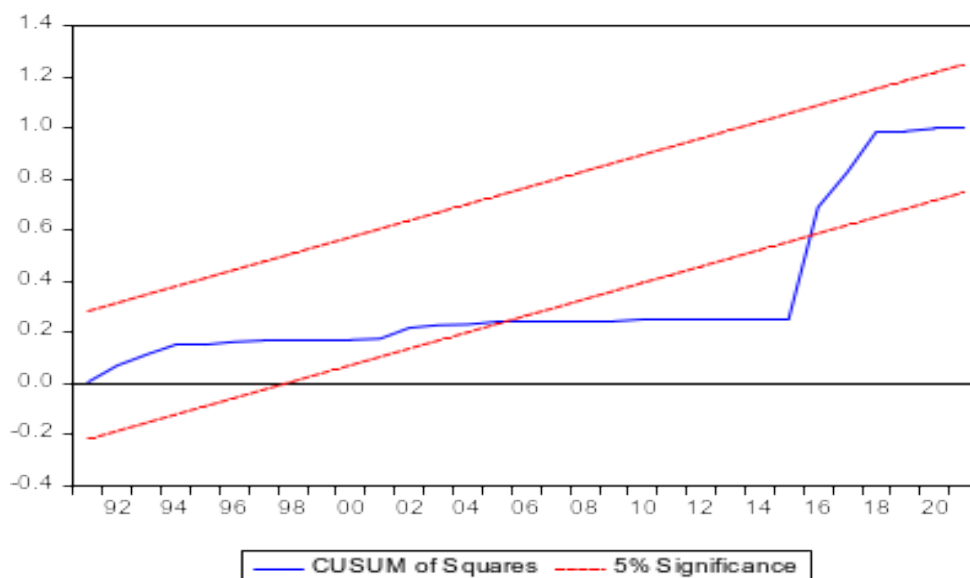
Source: Eviews 9 Regression Output.

Granger Causality Test

The decision rule for Granger causality analysis follows F-distribution. The result of Granger causality test conducted to determine the causality relationship between financial sector development and economic growth in Nigeria is presented in table 9 below:

Table 9: Granger Causality Test

Pairwise Granger Causality Tests
Date: 10/16/22   Time: 12:24
Sample: 1981 2021
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LFDBMS does not Granger Cause LRGDP	39	0.77426	0.4690
LRGDP does not Granger Cause LFDBMS		4.54662	0.0178
LFDPSC does not Granger Cause LRGDP	39	0.05712	0.9446
LRGDP does not Granger Cause LFDPSC		5.65609	0.0076
LSMC does not Granger Cause LRGDP	39	2.04951	0.1444
LRGDP does not Granger Cause LSMC		0.31614	0.7311

Source: Eviews 9 Regression Output.

The result of Pairwise Granger Causality Tests in table 9 above indicates that there is a unidirectional causality relationship between real gross domestic product and ratios of broad money stock to GDP with the causality running from real gross domestic product to ratios of broad money stock to GDP as indicated by its probability value of 0.0178 that is less than 0.05level of significance. The result showed a unidirectional causality relationship between real gross domestic product and private sector credit to GDP with the causality running from real gross domestic product to private sector credit to GDP as revealed by its probability value of 0.0076 which is less than 0.05 level of significance. The result also revealed that there is no significant causality relationship between real gross domestic product and market capitalization to GDP in Nigeria over the period covered as indicated by their probability values of 0.1444 and 0.7311 respectively. In other words, real gross domestic product (proxy for economic growth) Granger causes ratios of broad money stock to GDP and private sector credit to GDP (major indicators of financial sector development) whereas real gross domestic product and market capitalization to GDP (a financial sector development indicator) do not Granger cause each other in Nigeria within the period studied.

Test of Hypotheses

The study tested the hypotheses that financial sector development has no significant impact on economic growth in Nigeria and that there is no significant causality relationship between financial sector development and economic growth in Nigeria. The result indicated that financial sector development (ratios of broad money stock to GDP, private sector credit to GDP and market capitalization to GDP) has no statistically significant impact on economic growth in Nigeria at 5% level of significance. Granger causality test result showed that real gross domestic product (proxy for economic growth) Granger causes ratios of broad money stock to GDP and private sector credit to GDP (major indicators of financial sector development) whereas real gross domestic product and market capitalization to GDP (a

financial sector development indicator) do not Granger cause each other in Nigeria within the period studied.

Discussion of Findings

The ARDL-Bound Testing summary for long run relationship of the variables in the model revealed that there is no long run relationship between financial sector development (ratios of broad money stock to GDP, private sector credit to GDP and market capitalization to GDP) and economic growth in Nigeria for the period 1981 to 2021. This means that financial sector development and economic growth do not move together in the long run in Nigeria. In view of this, the null hypothesis is not rejected and the alternative that there is existence of a long run relationship between financial sector development and economic growth in Nigeria over the sample period is not accepted. Thus, long run relationship does not exist among the variables in the model. Since there is no evidence of long run relationship among the variables in the model, short run ARDL model is estimated instead of ARDL Co-integrating and Long Run Form model.

The results of the Short Run ARDL Model showed that none of the financial sector development indicators: ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP, in the model has statistically significant impact on economic growth in Nigeria over the period studied. In other words, financial sector development has no significant impact on economic growth in Nigeria over the specified period. This is indicated by the t-statistic and probability values of financial sector development components in the model. The control variables: prime interest rate, foreign direct investment and trade openness, also showed statistically insignificant impact on economic growth in Nigeria over the period. The explanatory variables: ratios of broad, money stock to GDP, market capitalization to GDP, foreign direct investment and trade openness, in the model conformed to the a priori expectation as their coefficients are positive as expected while private sector credit to GDP with negative, and prime interest rate with positive coefficient respectively failed to conform to the a priori expectation.

The result of Pairwise Granger Causality Tests indicated that there is a unidirectional causality relationship between real gross domestic product and ratios of broad money stock to GDP with the causality running from real gross domestic product to ratios of broad money stock to GDP as indicated by its probability value of 0.0178 that is less than 0.05 level of significance. The result also showed a unidirectional causality relationship between real gross domestic product and private sector credit to GDP with the causality running from real gross domestic product to private sector credit to GDP as revealed by its probability value of 0.0076 which is less than 0.05 level of significance. This implies that economic growth determines financial sector development in Nigeria context and indicates that financial development in Nigeria is demand following; the economy is leading.

The economic implication of this outcome is that the financial sectors in Nigeria out-rightly depend on the growth of Nigeria economy; the speedy the economic growth, the rapid the development of Nigeria financial sector. This result corroborates the work of Robinson (1952), Mushin and Eric (2000). The result further revealed that there is no significant

causality relationship between real gross domestic product and market capitalization to GDP in Nigeria over the period covered as indicated by their probability values of 0.1444 and 0.7311 respectively. In other words, real gross domestic product (proxy for economic growth) Granger causes ratios of broad money stock to GDP and private sector credit to GDP (major indicators of financial sector development) whereas real gross domestic product and market capitalization to GDP (a financial sector development indicator) do not Granger cause each other in Nigeria within the period studied.

Conclusion

This work investigated the impact of financial sector development on economic growth in Nigeria over the period 1981 to 2021 using annual time series data on Real Gross Domestic Product (RGDP), ratios of broad money stock to GDP (FDBMS), private sector credit to GDP (FDPSC), market capitalization to GDP (SMC), Foreign Direct Investment (FDI), Prime Interest Rate (PIR) and Trade Openness (OPEN). The study employed ARDL Bounds Testing methodology in determining whether long run relationship exists between financial sector development and economic growth in Nigeria and tested the hypotheses that financial sector development has no significant impact on economic growth in Nigeria and that there is no significant causality relationship between financial sector development and economic growth in Nigeria. The result obtained indicated that none of the financial sector development indicators: ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP, in the model had statistically significant impact on economic growth in Nigeria over the period studied. In other words, financial sector development had no significant impact on economic growth in Nigeria over the specified period.

The control variables: prime interest rate, foreign direct investment and trade openness, also showed statistically insignificant impact on economic growth in Nigeria over the period. The result of Pairwise Granger Causality Tests indicated that there was a unidirectional causality relationship between real gross domestic product and ratios of broad money stock to GDP with the causality running from real gross domestic product to ratios of broad money stock to GDP. The result also showed a unidirectional causality relationship between real gross domestic product and private sector credit to GDP with the causality running from real gross domestic product to private sector credit to GDP. The result further revealed that there is no significant causality relationship between real gross domestic product and market capitalization to GDP in Nigeria over the period covered. The study therefore concludes that financial sector development (ratios of broad money stock to GDP, private sector credit to GDP, market capitalization to GDP) had statistically insignificant impact on economic growth in Nigeria over the period studied.

In other words, financial sector development had no significant impact on economic growth in Nigeria over the specified period. The study also concludes that there is a unidirectional causality relationship between real gross domestic product and ratios of broad money stock to GDP with the causality running from real gross domestic product to ratios of broad money stock to GDP; a unidirectional causality relationship between real gross domestic product and private sector credit to GDP with the causality running from real gross domestic product to

private sector credit to GDP. The study further concludes that there is no significant causality relationship between real gross domestic product and market capitalization to GDP in Nigeria over the period covered. In other words, real gross domestic product (proxy for economic growth) Granger caused ratios of broad money stock to GDP and private sector credit to GDP (major indicators of financial sector development) whereas real gross domestic product and market capitalization to GDP (a financial sector development indicator) do not Granger cause each other in Nigeria within the period studied.

Recommendations

The study, based on findings recommends that:

1. To accelerate economic growth in Nigeria, government should adopt, implement and maintain sound financial policy geared towards improving financial depth in Nigeria. In other words, the Monetary Authorities should deepen the financial system enough by way of innovations, adequate and effective regulation and supervision, efficient funds mobilization and making such funds available for productive investment, as well as improved services.
2. Government should through policy, encourage banks to give loans to local industrial investors at low interest rate. Government at all levels should encourage savings mobilization drive to boost savings in Nigeria.
3. Government should make policy efforts towards removing obstacles undermining the growth of credit to the private sector, and restoring investors' confidence in the stock market operations.
4. Government could also stimulate the growth of real money balances through price stabilization, elimination of fiscal deficits and removal of various restrictions on financial institutions.
5. There should be consistent policy for foreigners to come in and invest.
6. The government should also create better and conducive environment for businesses. Property right, tax incentive, security of lives and property, and law of repatriation should be friendly.
7. Foreign investors should be encouraged to source materials locally.

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