Financial Deepening and Economic Growth in Nigeria: An Empirical Analysis

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Abstract
The importance of financial deepening in economic growth has long been recognised in economics literature. The financial sector is seen as the central nervous system of any economy, hence its importance in the economic development of any nation. The financial system plays a key role in the mobilisation and allocation of savings for productive purposes, provides the needed structures for monetary management and serves as the basis for managing liquidity in the economy. This paper examines the role of financial deepening in Nigeria's economic growth using time series data. For the analysis, the unit root test was conducted using the Augmented Dickey-Fuller (ADF) and Phillips-Perron methods to test for stationarity of the variables. Thereafter, the co-integration test was performed and the Error Correction Model (ECM) estimated. The result shows that though there is a long-run relationship between the development of the financial sector and economic growth in Nigeria, the impact of financial development comes with a lag. The paper suggests that the central bank of Nigeria and government should consistently formulate and implement policies that would promote financial development in the country. Policy direction should emphasize financial inclusion and the provision of credits at affordable rates to the productive sector of the economy in order to increase the impact of the financial sector on economic development of the country.

Keywords: *Banking system, Financial deepening, Economic growth, Gross Domestic Product*

1.0 Introduction

The Nigerian financial system refers to a set of rules and regulations and a combination of financial arrangements, institutions, agents, that interact with each other and the rest of the world to foster economic growth and development of a nation. It includes financial markets (money and capital markets), financial institutions including the regulatory and supervisory authorities, development finance institutions (such as Urban Development Bank, Nigerian

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Agricultural and Rural Cooperatives Bank) and other finance institutions (insurance companies, pension funds, finance companies, bureau de change, and primary mortgage institutions), amongst others (CBN, 2017). The financial system consists of the formal sector (bank and non-bank financial institutions) and the informal sector (savings and credit associations, local money lenders, financial cooperatives, self-help groups etc.). In terms of savings mobilization and the channelling of savings into productive investment units, deposit money banks are the most important units in the Nigerian financial system (CBN, 2017).

Essentially, the formal sub-sector comprises of the regulatory bodies, money market, capital market, foreign exchange markets, insurance companies, brokerage firms, deposit money banks, development finance and other financial institutions. The informal sector is largely loosely organized without any form of formal regulation.

The importance of the financial system arises from its ability to intermediate between the surplus and deficit spending units in the economy. It provides a balance between those who have funds to invest and those in need of funds for consumption and investment purposes. The surplus spending units are individuals, groups or organizations operating within the economy that have excess funds above their immediate needs. They constitute suppliers of surplus funds to the financial system. The deficit spending units are those that have a shortage of funds and thus require borrowing to fund their operations. They are the users of the excess funds supplied by the surplus spending units in the financial system.

A sound financial system is critical to economic growth. It is the centre nervous system of the economy (Sanusi, 2012). It enhances economic performance of the players in an economy by improving the overall welfare of the people. The financial system also gives room for more

efficient transfer of resources/funds. It provides the platform for an efficient payment system which helps to lubricate financial transactions between the various productive units in the economy. The financial system is made up of formal and informal sectors:

In the unending attempt to find a solution to the problem of economic growth and development of developing countries like Nigeria, some attention has been placed on the relationship between the development of the financial sector (financial deepening) and economic growth by many researchers. Many believe there is a positive nexus between financial development and economic growth. Therefore, some blame the poor performance of the Nigerian economy and its slow growth rate, amongst other factors, to the shallow financial depth brought about by inappropriate policies. The low level of financial deepening has constrained the country from generating employment for enhanced productivity and sustainable economic growth (Sanni, 2006).

The availability of investible funds is a key factor in the growth process of any economy. Although not a sufficient condition, resource availability is certainly a necessary condition for output and employment growth. Indeed, there is ample evidence to show that countries that have enjoyed or are enjoying economic prosperity have been linked with an efficient mechanism for mobilizing financial resources and allocating same for productive investment. Efficient financial intermediation contributes to higher levels of output, employment, and income which invariably enhance the living standards of the population (Sanusi, 2012). Shallow and undiversified financial systems in developing countries limit macroeconomic policy choices, hamper policy transmission and implementation and impede opportunities for productive ventures.

Many persons in the Nigerian society are unemployed. With the rate of unemployment increasing in recent years, the clamour for job seekers to forego the search for white collar jobs

and move into entrepreneurial ventures have been loud and clear. Many Nigerians have thus conceptualized one business idea or the other but are unable to provide the needed capital to actualise their dreams. Some other members of the society run small-scale businesses over the years and are unable to shake off the toga of poverty due to their inability to accumulate sufficient working capital to increase the size of their businesses and improve their standard of living. Though many of the poor in society are economically active, they are excluded from the activities/services of the formal financial institutions as they are unable to meet the conditions generally required to attract loans. They often require microloans and training to start or expand their businesses which are often at very subsistence level. If they expand their businesses through an increase in their working capital, they are able to increase the family income level and invariably their standard of living and economic growth of the country. Thus, finance needed for productive ventures is still a major issue in the economy.

The agricultural sector in Nigeria is most hit as financial institutions prefer to fund commerce to the detriment of other sectors in the economy making access to credit for farm inputs, processing, and trade a key constraint to improved economic performance in the rural sector. Because of these difficulties, when the active poor people borrow, they often rely on relatives or a local moneylender, whose interest rates can be very high.

Early commentaries on the subject of financial deepening and economic growth began with the works of Schumpeter, McKinnon and Shaw. Schumpeter emphasized the importance of banks and credit in economic development as early as 1911 (Schumpeter, 1934). Usually, financial services work through efficient resource mobilization and credit expansion to raise the level of investment and efficient capital accumulation. Most developed countries, without exception, have developed credit markets. Therefore, it would seem that policies to develop the financial sector

would be expected to raise economic growth. Indeed the role of bank credit is considered to be the key to economic growth and development (Khan and Senhadji, 2000).

Considering the acclaimed positive relationship between financial deepening and economic growth in the literature, this study will examine the relationship between financial deepening and economic growth in Nigeria in order to ascertain empirically whether financial development leads to economic growth in Nigeria.

2.0   Trend of Financial Development in Nigeria

Financial deepening is defined as the increased provision of financial services with a wider choice of services for the people. It generally means an increase in the ratio of money supply to gross domestic product (GDP). Financial deepening stimulates increased investment, economic growth and rising standard of living (Alrabadi and Kharabsheh, 2016). The higher the quantum of money supply in an economy, the greater the chances for economic growth (Shaw, 1973).

The CBN and the Nigeria government have implemented various programmes and reforms over the years to ensure the growth and stability of the financial system with the recognition that a stable and vibrant financial system would propel economic growth and development. The reforms have mainly been in response to the challenges posed by developments in the financial system such as systemic crisis, globalization, technological innovation, and financial crisis. The reforms often seek to act to strengthen the system, prevent systemic crisis, strengthen the market mechanism, and ethical standards (Nzotta and Okereke, 2009).

In order to ensure that deposit money banks (DMBs) have adequate capital to expand and increase financial inclusion in the society, as well as have enough funds to accommodate any shock

that may arise in the course of their normal operations especially the shock arising from non-performing loans, the CBN has reviewed the minimum capital requirements of DMBs thirteen times between 1952 and 2010 from a paltry minimum capital requirement of £12,500 and £100,000 for indigenous and foreign banks respectively in 1952 to the current limit of N25 billion for national DMBs and N50 billion for international DMBs (CBN website - www.cenbank.org). The CBN has also formulated various programmes aimed at providing access to credit by micro and small entrepreneurs in the economy. Some of such programmes include the Agricultural Credit guarantee Scheme (ACGSF), the N220billion Micro, Small and Medium Enterprises Fund (MSMEDF), and the recent Anchor Borrowers' Programme of the current administration.

Specifically, the ACGSF was introduced in 1977 to enable farmers exploit the untapped potentials of Nigeria's agricultural sector, reduce inflation, lower the cost of agricultural production (i.e. food items), generate surplus for export, increase Nigeria's foreign earnings as well as diversity its revenue base (CBN website). The scheme encourages DMBs to lend to farmers against a guarantee of 75 percent of any amount lent by the CBN. Similarly, the Anchor Borrowers' Programme which was launched on November 17, 2015 is intended to increase credits to small farmers producing key agricultural commodities. To help bridge the huge financing gap to micro, small and medium enterprises (MSMEs), the MSMEDF was set up in 2013 to enhance access to credit by MSMEs, increase productivity and output of microenterprises, increase employment, engender inclusive growth and promote a sound financial system (CBN website).

As part of its regulatory function, the CBN also regularly inspect the books of banks' through on-site and off-site reviews to ensure that DMBs are carrying out their operations in line with laid down guidelines. It also conducts trainings on credit creation and related matters for staff of DMBs to enable the staff acquire the required skills for granting good quality loans. The CBN

is equally implementing the financial inclusion programme aimed at making more Nigerians to have bank accounts and enjoy banking services including credits. The cashless policy is also being implemented throughout the country with all its attendant benefits. These policies/reforms are all aimed at deepening financial services in the country.

Despite the various policies and programmes of the CBN and government, the financial deepening indicator as measured by the ratio of broad money to GDP (M2/GDP) in this study has not grown as expected. The ratio only increased from 10 percent in 1981 to 15 percent in 2007 (a period of 26 years), representing a percentage increase of 50 percent. However, it seems that the various reforms since the global financial crisis in 2007-2009 have begun to yield some results as the ratio increased by 42 percent between 2007 and 2016 (a period of 9 years) (World Bank, 2016 and 2017).

3.0   Literature Review

The existence of a positive relationship between financial deepening and economic growth seems incontestable as many researchers have worked on the issue and confirmed it. A major chunk of the literature on economic growth suggests that the development of financial sector would lead to economic growth.

The major initial discourse on the subject began with the works of Schumpeter, McKinnon and Shaw. Schumpeter emphasized the importance of banks and credit in economic development as early as 1911 (Schumpeter, 1934). According to Schumpeter, banks channel savings to firms and entrepreneurs who offer feasible and profitable investment projects. By doing so, banks and financial institutions may affect economic growth and development. McKinnon (1973) and Shaw

(1973) emphasized the role of increased savings and capital accumulation in economic growth. The McKinnon-Shaw school believes that government interventions in the banking system such as interest rate ceilings, high reserve requirement, and directed credit programmes limit the financial development of countries and invariably lead to a reduction in economic growth. McKinnon studied the relationship between the financial system and economic development in Argentina, Brazil, Chile, Germany, Indonesia, Korea and Taiwan in the post-World War II period and concluded that better functioning financial system leads to faster economic growth. Levine (2011) in answering the question: Does the functioning of the financial sector affect inclusive growth stated thus; "finance exerts a first-order impact on inclusive growth, opportunity, and liberty, finance affects entrepreneurship, finance affects labour income inequality, finance affects racial discrimination and finance disproportionately helps the poor around the world".

The literature on financial economics provides more support for the argument that countries with efficient credit systems grow faster and vice versa (Kasekende, 2008). Credit institutions intermediate between the surplus and deficit sectors of the economy. Thus, a better functioning credit system alleviates the external financing constraints that impede credit expansion and the expansion of firms and industries (Mishkin, 2007).

Darat (2016) empirically investigated the role of financial deepening in economic growth of three middle-eastern countries namely Saudi Arabia, Turkey and the United Arabs Emirates. Using multivariate Granger-causality tests and Error Correction framework, the findings generally supported the view that financial deepening is a crucial causal factor of economic growth, though the strength of the evidence varies across countries and across the proxies used to measure financial deepening. A similar study conducted by Alrabadi and Kharabsheh (2016) analysed the dynamic relationship between financial deepening and economic growth in Jordan using quarterly data over

the period 1992 – 2014. Adopting the Granger causality, Johansen-Juselius and Vector Auto Regressive Regression method, the study found a bi-directional causality between financial deepening and economic growth when the former is measured by the amount of credit granted to the private sector and a one-way causal relationship between financial deepening and economic growth when the amount of deposits and money supply are used as proxies of financial deepening.

Petkovski and Kjosevski (2014) examined the question whether the banking sector influences economic growth in 16 economies in Central and South Eastern Europe. The study used bank credit to the private sector, interest rate, and ratio of quasi money as regressors and employed the generalized method of moments (GMM) dynamic panel method. The results of the study show that credit to the private sector, and interest rate margin are negatively related to economic growth while the ratio of quasi money is positively related to economic growth.

Using panel analysis and Fully Modified Ordinary Least Square (FMOLS) methods, Kiran, Yavus, and Guris (2009) investigated the relationship between financial development and economic growth for ten emerging countries over the period 1968-2007. Three measures of financial development (ratio of liquid liabilities to GDP, bank credit to GDP and private sector credit to GDP) were used to quantify the impact of financial development on economic growth. The results concluded that financial development has a positive and statistically significant effect on economic growth.

Sanusi and Salleh (2007) examined the relationship between financial development and economic growth in Malaysia covering the period 1960-2002. Three measures of financial development were used, namely ratio of broad money to GDP, credit provided by the banking system and deposit money banks to GDP. By employing the autoregressive distributed lag approach, the study found that ratio of broad money to GDP, and credit provided by the banking

system have a positive and statistically significant impact on economic growth in the long run. The results further indicated that a rise in investment will enhance economic growth in the long run.

Khan and Senhadji (2000) studied the relationship between financial development and economic growth for 159 countries over the period 1960-1999 using cross-section data. To address the problem of potential endogeneity in the underlying relationship, the two-stage least squares (2SLS) was employed. The study found that financial development has a positive and statistically significant effect on economic growth.

A review of the empirical studies on financial deepening as it relates to the Nigerian economy also provides useful results. Karimo and Ogbonna (2017) analysed the direction of causality between financial deepening and economic growth in Nigeria for the period 1970 – 2013. The study adopted the Toda-Yamamoto Augmented Granger causality tests. The findings was that financial deepening follows the supply-leading hypothesis meaning that it is financial deepening that leads to growth and not growth leading financial deepening. The study recommended amongst others that policy efforts should be directed at removing obstacles that hinder the growth of credit to the private sector.

The study by Nzotta and Okereke (2009) concluded that the level of financial deepening in Nigerian has remained relatively low in spite of the various reforms and institutional changes put in place by the monetary authorities. To them, it is also evident that the low level of monetization of the economy, the high rate of inflation and the level of private sector credits has negatively affected the level of financial deepening in Nigerian. They observed that although the level of interest rates have remained very high, the level of private sector credits have not sustained the desired level of new investments necessary to facilitate growth in the economy.

While investigating the impact of financial deepening from the stock market perspective using the Generalised Autoregressive Conditional Heteroscedasticity (GACH) model, Nwezeaku and Okpara (2010) found out that a high degree of financial deepening reduces significantly the level of risk (volatility) in the stock market.

A few theoretical disagreements do exist about the role of financial systems in economic growth. Some economists see the role as minor or negligible while others see it as significant. Mohamed (2008) investigated the relationship between financial development and economic performance in Sudan over the period 1970-2004. He adopted the autoregressive distributed lag approach using the ratio of M3 to GDP and ratio of credit to the private sector to GDP as indicators of financial development. The results indicated a weak relationship between financial development and economic growth. Similarly, the study by Nzotta and Okereke (2009) concluded that the level of financial deepening in Nigerian has remained relatively low in spite of the various reforms and institutional changes put in place by the monetary authorities. Robinson (1952) argues that the financial system does not spur economic growth; rather the financial system simply responds to development in the real sector while Lucas (1988) rejects the existence of a finance-growth correlation.

4.0 Theoretical Framework and Methodology

4.1 Theoretical Framework

Previous research works on the subject conclude that time-series is more applicable for single country analysis; hence this study intends to use time-series method of estimation following the methods used by Ghirmay (2004), Bloch and Tang (2003), Demetriades and Hussein (1996). This according to Demetriades and Andrianova (2003) allows the use of appropriate statistical procedures, such as co-integration to test for the long run relationships; they also allow the use of

statistical procedures that can shed light on the causality between two or more variables in both the long run and the short run. Though not without its limitation, it is often considered an appropriate tool in single country analysis. This paper, therefore, adopts time series data from 1981 to 2016.

The theoretical and empirical literature discussed above highlights that financial development, credit to the private sector, money supply, foreign direct investment and economic growth are positively correlated. The positive relationship between the level of output and financial depth is derived from the relationship between the accumulation of money balances (financial assets) and physical capital accumulation (Mckinnon, 1973). McKinnon (1973) argues that investment in a typical developing country is self- financed and hence cannot be materialized unless adequate savings are accumulated in the form of bank deposits. Shaw (1973), on the other hand, postulates that financial intermediaries promote investment which, in turn, raises the level of output. A positive real interest rate increases financial depth through the increased volume of financial saving mobilization and promotes growth through increasing the volume of productivity of capital. High real interest rates exert a positive effect on the average productivity of physical capital by discouraging investors from investing in low return projects (Kargbo and Adamu, 2009).

Based on these theoretical views and following Christopoulos and Tsionas (2004), Khan et al (2005) and Khan and Qayyum (2006), the relationship between economic growth and financial development can be specified as:

RGDP = f (FDEEP, CPS, EXP/GDP, EXRT, FDI, INV)

4.2 Model Specification

The dependent variable used in this model to proxy economic growth is real Gross Domestic Product (RGDP). The explanatory variable of focus is financial deepening (FDEEP) which is represented by the ratio of money supply to GDP (M2/GDP). To control for other factors which affect economic growth, we use variables often employed in the growth literature such as Credits to the Private Sector, Export as a proportion of GDP, Exchange rate, Foreign Direct Investment, and Investment. Another explanatory variable is the ratio of Export to GDP (EXPGDP) and is sometimes used to proxy the level of openness in an economy. The variable is expected to have a positive relationship with economic growth. Credit to the private sector (CPS), Exchange rate (EXRT), and Foreign direct investment (FDI) are other factors that also affect growth within an economy and are included in the model to capture their effects on economic growth. Foreign direct investment has been acknowledged as an important determinant of economic growth especially in developing countries. It works through increases in the levels of productivity in a country hence its coefficient is expected to be positive. Investment (INV) is proxied by gross fixed capital formation and it is acknowledged as a propeller of economic growth in economic theory. It is expected that the greater the level of investment in an economy, the higher would be the level of economic growth, *ceteris paribus*.

Based on the above, the following multi-variable linear relationship is specified:

$$\text{RGDPt} = \beta_0 + \beta_1 \text{FDEEPt} + \beta_2 \text{CPSt} + \beta_3 \text{EXP/GDPt} + \beta_4 \text{EXRTt} + \beta_5 \text{FDIt} + \beta_6 \text{INVt} + \mu_t$$

Where   RGDPt =   current Real Gross Domestic Product

                FDEEPt =   current Financial Deepening (ratio of Money Supply to GDP)

                EXP/GDPt = current Export to GDP ratio

                EXRTt =   current Exchange rate

                FDIt =   current Foreign Direct Investment

INVt =   current Investment

Bo =   Intercept

μt =   stochastic error term

To ensure stationarity, the variables are converted to their natural logarithms. The apriori expectations for the explanatory variables are: $0 < \beta 1, \beta 2, \beta 3, \beta 5,$ and $\beta 6 < 1; \beta 4 < 0$

4.3   Method of Data Analysis

To obtain a broader picture of the data used in this study, we first start with a review of the descriptive statistics of the variables contained in the model. The Granger causality test is also conducted to establish the direction of causality between the variables especially between the dependent variables and the regressors. Thereafter, we determine the stationarity status of all the variables using the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) methods in order to avoid spurious regression results which may arise from the use of non-stationary variables in the regression process. The co-integration test is conducted to ascertain if the first differenced variables are co-integrated in the long run. Finally, the Error Correction Framework is undertaken to determine the coefficients, sign and significance of the variables.

4.4   The Data

The data used in this study are time series data covering the period 2001 to 2016 (a period of 16 years). All the data are obtained from the Central Bank of Nigeria (CBN) Statistical Bulletins (2015, 2016), the National Bureau of Statistics (NBS), and the World Bank *World Development Indicators* database (2016, 2017).

5.0   Empirical Analysis

5.1   Stationarity Test

Most economic time series are strongly trended and hence often non-stationary. Correct and appropriate specification and estimation of time series models require that we determine whether the time series are stationary or non-stationary (Iyoha 2004). Ever since the seminal paper by Engle and Granger (1987), the co-integration analysis has increasingly become the favored methodological approach for analyzing time series data containing stochastic trends. Hence, before turning to the analysis of the long-run relationships between the variables, we check for the unit root properties of the single series, as stationary behaviour is a prerequisite for including them in the co-integration analysis. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) methods are used to test for stationarity. The summary of results of the unit tests is in Table 5.1 below:

Table 5.1: Summary of unit root tests

Variable	Augmented Dickey-Fuller Test Statistic/ (Probability)	Phillips-Perron Test Statistic/ (Probability)	Remark
LRGDP	-3.766676/ 0.0074	-3.044614/ 0.0407	Stationary I(1)
LFDEEP	-3.671792/ 0.0094	-5.415548/ 0.0001	Stationary I(1)
LCPS	-3.843904/ 0.0061	-4.279858/ 0.0019	Stationary I(1)
LEXP/GDP	-3.648554/ 0.0099	-8.062732/ 0.0000	Stationary I(1)
LEXRT	-3.729711/ 0.0081	-5.022459/ 0.0002	Stationary I(1)
LFDI	-3.957281/ 0.0046	-7.960644/ 0.0000	Stationary I(1)
LINV	-4.480067/ 0.0011	-4.494922/ 0.0011	Stationary I(1)

The stationarity tests results shows that all the variables are integrated at order one (after first differencing).

5.2   Co-integration Test

Testing for co-integration is a necessary step to check if our modeling will yield empirically meaningful relationships. Thus, in this study, co-integration analysis will be performed to investigate long-term relationship between financial deepening, credits to the private sector, foreign direct investment, exchange rate, exports, investment, and economic growth. The purpose of the co-integration test is to determine whether a group of non-stationary series is co-integrated or not after they have become stationary at first differencing. The Engel-Granger co-integration test is applied in this study. The test involves testing the residuals of the model for unit root. If the residual is stationary, long-run co-integration is assured.

Table 5.2: Summary of co-integration test

Variable	Augmented Dickey – Fuller Test	Lag Length	Critical Value	Probability	Remark
Residual	-3.199330	1	-2.951125	0.0287	Stationary

The test above shows that the residual of the model passes the stationary test at the 5 percent level indicating the existence of long-run relationship between the variables of the model.

5.3 Regression Analysis

The ECM regression result is presented in Table 5.3 below:

Table 5.3: ECM Regression Result

Dependent Variable: DLRGDP
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.024654	0.013475	1.829650	0.0830
DLRGDP(-1)	0.687594	0.170057	4.043318	0.0007
DLFDEEP	-0.067197	0.054689	-1.228713	0.2342
DLFDEEP(-1)	0.189457	0.056592	3.347795	0.0034
DLCPS	0.022786	0.034937	0.652189	0.5221
DLCPS(-1)	-0.065352	0.035772	-1.826895	0.0835
DLEXPGDP	0.016290	0.020669	0.788122	0.4403
DLEXPGDP(-1)	0.025634	0.019677	1.302732	0.2082
DLEXRT	-0.036920	0.016935	-2.180068	0.0420

DLEXRT(-1)	-0.013937	0.017479	-0.797363	0.4351
DLFDI	0.004648	0.012368	0.375784	0.7112
DLFDI(-1)	0.024552	0.012197	2.012971	0.0585
DLINV	0.069287	0.027162	2.550905	0.0195
DLINV(-1)	-0.044988	0.029872	-1.506047	0.1485
ECM(-1)	-0.161688	0.070817	-2.283199	0.0341

R-squared	0.795024	Mean dependent var	0.044454
Adjusted R-squared	0.643990	S.D. dependent var	0.042327
S.E. of regression	0.025255	Akaike info criterion	-4.219155
Sum squared resid	0.012118	Schwarz criterion	-3.545760
Log likelihood	86.72563	Hannan-Quinn criter.	-3.989508
F-statistic	5.263851	Durbin-Watson stat	2.086713
Prob(F-statistic)	0.000541		

LRGDP, LFDEEP, LCPS, LEXPT/GDP, LEXRT, LFDI, and LINV are the natural logarithm of real Gross Domestic Product, Financial Deepening (which is money supply divided by Gross Domestic Product), Credits to the Private Sector, Export as a proportion of GDP, Exchange rate, Foreign Direct Investment, and Investment.

An examination of the ECM results show that the overall fit is fairly satisfactory with R – Squared of 0.79. Thus 79 percent of the systematic variation in the dependent variable (real GDP) is explained by the six regressors taken together. After adjusting for the degrees of freedom, the R–bar squared statistic is 0.64, showing that 64 percent of the systematic variation in the dependent variable is explained by the explanatory variables. The variance of 36 percent is captured by the stochastic error term

The F-statistic of 5.26 easily passes the significance test at the 1 percent level. This implies that there is a significant log-linear relationship between the dependent variables and the independent variables taken together. The Durbin-Watson value of 2.08 is good as it is close to 2.0. The value suggests the absence of autocorrelation in the model.

A review of the t-statistics and the probabilities of the explanatory variables show that the one period lagged real GDP is positive and significant indicating as expected that previous year GDP acts to propel changes in the current year's GDP. The coefficient of the financial deepening variable, FDEEP, failed the t-test even at the 10 percent level indicating that the coefficient is not statistically different from zero. The coefficient is also not correctly signed (it is negative) since financial development is expected to have positive association with economic growth. Nevertheless, the sign of the one period lagged FDEEP meets the a priori expectation as it is positive and highly significant at the 1 percent level. The explanation to this is that financial development impacts on economic growth with a lag, that is, after a gestation period. The coefficient of 0.19 indicates that a 100 percent increase in one period lagged FDEEP will lead to 19 percent rise in current year's GDP. The result on FDEEP is consistent with the studies of Darat (2016), Alrabadi and Kharabsheh (2016), Kiran, et al (2009), and Khan and Senhadji (2000) which found positive correlation between financial deepening and economic growth.

Similarly, the t value of EXRT is correctly signed and passes the significance test at the 5 percent level indicating the exchange rate has an inverse relationship with economic growth. While the coefficient of the FDI variable is not significant, the coefficient of the one period lagged FDI variable is correctly signed and significant with a value of 0.024. This suggests that a 100 percent increase in foreign direct investment would lead to an increase in real Gross Domestic Product (RGDP) by 2.4 percent. The coefficient of INV variable is positive and significant with a value of 0.7. This is in consonance with the findings of Sanusi and Salleh (2007) which indicated that a rise in investment will enhance economic growth in the long run. The coefficient of the other variables, CPS and EXPT/GDP are not statistically significant.

The standard error of the regression line (see) of 0.025 is indicative of high goodness of fit and reliability in the predictive value of the model. The coefficient of the ECM is significant at the 5 percent level, negative and therefore correctly signed. It also ranges from 0 to 1 as expected. Thus, it will rightly act to correct any deviations of the dependent variable from its long-run equilibrium value. The coefficient of the ECM (-0.16) indicates that the speed of adjustment is appreciable. It is fast to adjust to the long run equilibrium value. Since we specified a log-linear model, the coefficients of the independent variables are also the values of their elasticities.

6.0 Conclusion/Recommendations

The paper examined the relationship between financial deepening and economic growth in Nigeria using the Error Correction Method. The results indicate that financial deepening propels economic growth with a gestation period (lag). Exchange rate, lagged foreign direct investment and investment are found to have significant relationship with economic growth. Specifically, financial development exerted positive effect on economic growth which is consistent with several studies on the subject and the supply-leading hypothesis of McKinnon (1973) and Shaw (1973). The one period lagged foreign direct investment, and investment variables equally posted positive correlation with economic growth while the relationship between exchange rate and economic growth was negative.

The credit to the private sector variable was not significant. This is not surprising as the World Bank Enterprise Survey on Nigeria (2009) and a series of diagnostic study carried out by a team of World Bank staff between 2007 and 2009 on the Nigerian financial sector contained in a report titled "Making Finance Work for Nigeria" and a similar survey in 2014 found that a key constraint to doing business in Nigeria is the lack of access to formal financing required for

productive activities, especially in the manufacturing and small and medium enterprises (SME) sectors. The report revealed that most Nigerian entrepreneurs finance themselves through personal savings and only a few big companies are able to source formal finance for their working capital and investment needs. Thus, credit to the private sector is inadequate to support economic growth.

The paper suggests that the Central Bank of Nigeria (CBN) and the government should consistently formulate and implement policies that would promote financial development in the country. Policy direction should emphasize financial inclusion and the provision of credits at affordable rates to the productive sector of the economy in order to increase the impact of the financial sector on economic development of the country.

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