A Publication of Departments of Accounting & Finance and Business Administration, Fountain University, Osogbo.
Journal homepage: www.osogbojournalofmanagement.com
ISSN: 2315 – 6325 (Print) ISSN: 2408-6959 (Online)

IMPACT OF FINANCIAL DEEPENING ON ECONOMIC GROWTH IN NIGERIA.

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Abstract
This study examined the impact of financial deepening on economic growth in Nigeria. The study employed secondary data obtained from the Central Bank Statistical Bulletin. Error correction model was used to achieve the objectives of this study. Results of the regression analysis revealed that banking sectors related financial deepening variable is a significant determinant of economic growth in Nigeria with coefficient value of 726.2735 and at 1% significant level. The findings of the study further revealed that capital market related financial deepening variable is a significant determinant of economic growth in Nigeria with coefficient value of 1021.473 and at 1% significant level. Finally the result of the study revealed that insurance related financial deepening variable is a significant determinant of economic growth in Nigeria with coefficient value of 11.57532 and at 5% significant level. The study concluded that financial deepening promotes economic growth in Nigeria. The study therefore, recommends that policy holders should implement policies that increases the flow of investible funds, improves the capacity of banks to extend credit to the economy and also promote an efficient capital market that will enhance overall economic efficiency.

Keywords: *Financial Deepening; Economic Growth; Error Correction Model*

JEL Classification: *O47*

1. INTRODUCTION

The relationship between financial deepening and domestic investment has been an increasing phenomenon in the world and has continuously remained a leading issue at any point in time. This attention is well-justified, since a better understanding of how the financial sector

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contributes to domestic investment has important regulatory implications. Financial deepening encompasses improvements in diversification opportunities, access to financial intermediation, information quality and attractive incentives for prudent lending and monitoring (Ewetan & Ike, 2014). Generally, financial deepening measures the ease with which the financial system provides funding for entrepreneurial activities, as well as the extent to which financial services are made available (Gwama, 2014).

The growing importance of stock market and banks around the world has recently opened a new avenue of research into the relationship between financial deepening and economic growth (Arestis, Demetriades & Luintel, 2001). Financial deepening is thus those strategies whose implementation can quicken the pace of development. This has prompted the introduction of different reforms in Nigeria overtime which were targeted at making the system more effective to achieve its growth potentials. However, despite the various reforms in the Nigerian financial sector, the sector still has not addressed the financial gaps in the system. This is because neither domestic savings nor investments in country have appreciably increased since the introduction of the reforms as the sector still remained largely oligopolistic and uncompetitive. This is because few large banks control the greater segment of the market in terms of total assets, total liabilities and total credit in the banking system. (Torruam, Chiawa & Abur, 2013). Similarly, the Nigerian capital market was no longer seen as a market for long-term funds, but that of a short one. In addition, insurance sector have been underdeveloped. Hence, the study examined the impact of financial deepening on economic growth in Nigeria.

2. LITERATURE REVIEW

2.1.1 Conceptual Issues: Concept of Financial Deepening

Financial deepening refers to the increased provision of financial services with a wider choice of services geared towards the development of all levels of society. In many International Monetary Fund discussion notes (IMF 2012), financial deepening occurs when sectors and agents use a range of financial markets for savings and investment decisions; financial intermediaries and markets deploy larger volumes of capital and handle larger turnover while financial sectors create assets for risk-sharing purposes. This definition captures the whole process of financial deepening as it takes into account all means of financing, whereas money supply is provided through different financial institutions (bank and non-bank institutions) using different financial instruments in different markets (money market, capital market, debt market).

The size of the financial sector is usually measured by two basic quantitative indicators: "monetization ratio" and "intermediation ratio". Whereas monetization ratio includes money-based indicators like money supply ratio to gross domestic product, intermediation ratio consists of indicators concerning to bank-based measures like private sector credit ratio to gross domestic product and capital market-based measures such as market capitalization ratio to gross domestic product (Ndebbio, 2014) for the purpose of this study, financial deepening will be defined as the increase in the supply of financial assets in the economy.

Financial deepening is thus measured by relating monetary and financial aggregates such as M1, M2 and M3 to the Gross Domestic Product (GDP). Thus, the definition of financial deepening in literature reflects the share of money supply in GDP. The most classic and practical indicator related to financial deepening is the ratio of M2/GDP which means the share or M1 + all time-related deposits and non-institutional money market funds to GDP in a certain year. M1,

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M2, M3 are all measures of money supply, that is the amount of money in circulation at a given time. The logic here is that the more liquid money is available to an economy, the more opportunities exist for continue growth of the economy. Deep and mature financial markets are indispensable for economic development (Olofin & Afangideh, 2010).

2.1.2 Concept of Economic Growth

Economic growth is a process whereby the real per capital income of a country increases over a long period of time. According to Jhingan (2003), economic growth is measured by the increase in the amount of goods and services produced in a country. Economic growth occurs when an economy's productive capacity increases which, in turn, is used to produce more goods and services. Economic growth means the increase in a nation's real gross domestic product (an increase in a nation's output of goods and services) or the physical expansion of the nation's economy (Antwi, Mills & Zhao, 2013). Economic growth can be illustrated as an upbeat change on the output of a nation's manufacturing goods and services, stretching over a certain period of time (Kanu and Ozurumba, 2013).

According to Bakang (2014), there are two main measures instituted and used to measure economic growth. The first is Gross national product (GNP) that computes the total value of goods and services produced by all nationals within and outside the country over a given period, and the second is Gross Domestic Product considered as the broadest indicator of economic output and growth. It is designed to measure the value of production of those activities that fall within the boundary of the national accounts system. GDP measures economic growth in monetary terms and looks at no other aspects of development. GDP can be expressed in nominal terms which include inflation or in real terms which are adjusted for inflation. Short term GDP is the annual percentage change in real national output. Long term GDP is the increase in trend or potential GDP. In order to compare countries of different population sizes, GDP per capita is generally used.

2.2 Theoretical Review

This study is hinged on theory of financial intermediation which was propounded by Schumpeter (1911) which advocates that financial intermediaries play a crucial role of intermediation in the growth process by transferring financial resources from the net savers to net borrowers, thus influencing investment and thereby economic growth. The theory suggests that financial intermediaries can overcome a market failure and resolve an information asymmetry problem by transforming the risk characteristics of assets. These asymmetries in credit markets arise because borrowers generally know more about their investment projects than lenders do. Information failures lead to specific forms of transaction costs and financial intermediaries appear to overcome these costs, at least partially. The notion of transaction costs encompasses not only exchange or monetary transaction costs (Tobin, 1963) but also searches, monitoring and auditing costs (Benston and Smith, 1976). The work of Schumpeter (1911) supports the view that well-functioning financial intermediaries can promote the overall economic efficiency. By pooling and allocating funds, financial intermediation promotes entrepreneurship and innovation which are necessary components for economic development.

Gurley and Shaw (1960) supported the view that financial intermediaries are an opportunity to enhance borrower's financial capacity in the savings and investment process.

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Thus, the higher the intermediation level in the financial sector, the higher the savings mobilized and higher would be investments, which in turn will increase the level of economic growth. Goldsmith (1969) also opined that the financial structure of an economy accelerates economic performance to the extent that it facilitates the migration of funds to the best user, i.e., to the place in the economic system where the funds yield the highest social return". The opinion of Greenwood & Jovanovic (1990) is in line with this view; they argue that financial intermediation promotes growth because it allows a higher rate of return to be earned on capital and growth in turn provides a means to implement costly financial structures.

2.3 Empirical Review

Luqman (2014) studied the financial deepening and economic growth in Pakistan, the result show that foreign direct investment, inflation , economic growth and financial deepening proxy by credit to private sector are co integrated hence long run relationship exists among them. The study test the variable using the vector error correction model and found out that the level of financial deepening in Pakistan has remained relatively low. Sharmiladevi (2015) examined the relationship between financial deepening (FD), foreign direct investment (FDI) and economic growth in India during the time period 2000 to 2013. A multiple regression model was built taking economic growth as dependent variable and financial deepening and FDI as independent variables. The result of the Pearson correlation coefficient and the regression model jointly indicate that financial deepening together with foreign direct investment is having a high impact upon explaining economic growth

Adu, Marbuah and Mensah (2013) studied financial deepening and economic growth in Ghana: The study investigate the long-run growth effects of financial deepening in Ghana using one indicator at a time among a set of controls variable. The financial deepening variables used are private sector credit ratio to GDP, money supply ratio to GDP, total domestic credit to GDP and total bank deposit liabilities to GDP and set of control variables namely inflation rate, trade openness, real gross government expenditure. The study test the variable using the ordinary least square method and found out that all the measure of financial deepening have a positive effect on economic growth in Ghana except broad money supply to GDP.

Onuonga (2014) examined relationship between economic growth and financial development in Kenya over the period 1980–2011. Financial development was measured by M2 and domestic credit to the private sector. The study used autoregressive distributed lag framework and Granger causality analysis to determine the direction of causality. Findings indicated that there was a stable long-run relationship among, financial development, trade openness and economic growth in Kenya. It also found that financial development had a significant positive effect on economic growth.

Kargbo, Ding and Kabia (2015) examined financial development strategies adopted by high, medium and low economies- investigating an empirical retrospective relationship between financial deepening as a dependent variable and selected explanatory variables soughed from the real sector(in the form of real GDP growth rates), financial variables such as financial liberalization index and net financial account flows in the liberalized economies of sierra Leone, Nigeria and South Korea respectively from 2000 to 2008. Financial deepening was measured by indicators such as money supply (M2), stock market capitalization relative to GDP, net capital flows and real growth rates. The ordinary least square and multiple regression model econometrics estimation techniques were used and employing time series data analysis to

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examine the causality to ascertain their impact whether stationary or not for the countries under review and a stochastic error term 'u'. The result of the study supports the view that financial deepening is a necessary causal factor of economic growth, although the strength of the evidence varies across countries.

Ang (2007) examined the extent financial development contributes to output expansion during the period 1960 to 2013. Using augmented neoclassical growth framework to provide an evaluation of the impact of financial sector development on economic development and the Autoregressive Distributed Lag Model (ARDL) bounds procedure, the researcher found that aggregate output and its determination are co integrated in the long run, suggesting that financial development whereas the accumulation of public capital appears to curtail output expansion in the long run.

Nzotta and Okereke (2009) examined financial deepening and economic development in Nigeria between 1986 to 2007. Two stages least square analytical framework was used in the analysis. In this study, financial deepening is a function of value of cheques cleared to GDP, value of cheques to money supply, ratio of private sector credit to GDP, financial savings to GDP, rate of inflation, real lending rates, deposit money bank asset to GDP, currency outside banks to money supply and the Dummy. The study found that financial deepening index is low in Nigeria over the years and also that the 9 nine explanatory variables as a whole were useful and has a statistical relationship with financial deepening but lending rates, financial savings ratio, cheques/GDP ratio and the deposit money banks/GDP ratio had a significant relationship with financial deepening.

Onwumere, Ibe, Ozoh and Mounanu (2012) examined the impact of financial deepening on economic growth in Nigeria for the period of 1992 - 2008 and adopted the supply-leading hypothesis using variables such as broad money velocity, money stock diversification, economic volatility, market capitalization and market liquidity as proxies for financial deepening and gross domestic product growth rate for economic growth. They found that broad money velocity and market liquidity promote economic growth in Nigeria while money stock diversification, economic volatility and market capitalization did not within the period studied.

Nguena and Abimbola (2013) examined the implication of financial deepening dynamics for financial policy coordination in the WAEMU sub-region. The study adopted a hypothetical deductive theoretical approach and an empirical investigation in both static and dynamic panel data econometrics. The explanatory variables used are trade openness, financial openness, inflation, interest rates and others while the endogenous variable used is financial deepening. The study discovered that the converging dynamics is evident in the sub-region and implies that after five years, financial policy harmonization would have an optimal impact. Exchange rate and reserves have a negative impact on financial deepening while GDP per capital growth rate, savings rate and density has a positive impact on financial deepening.

Torruam, chiawa and Abur (2013) investigated the impact of financial deepening on economic growth in Nigeria. The study examines the causal relationship between financial deepening and economic growth In Nigeria between the period 1990 to 2011. Economic growth was proxy using the constant value of gross domestic product while financial deepening variables were proxy using stock of money supply, domestic real credit, foreign real credit, inflation, and real exchange rate. Johansen approach of cointegration was applied to test for the long-run relationship among the variables. The result indicated four (4) cointegrating relations between the variables; the granger causality suggest that there is unidirectional causality running

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from economic growth to financial deepening in Nigeria. The study concludes that financial deepening has an impact on economic growth in Nigeria.

Aye (2015) investigated the role of financial development on economic growth in Nigeria. A bootstrap rolling window estimation was used to evaluate Granger causality between financial deepening and economic growth between 1961 to 2012. The result reveals periods where economic growth has predictive power for financial deepening: 1980-1982, 1985-1986, 1998, 2000, 2004 and 2008-2011. This results highlight the risk of misleading conclusions based on the standard granger causality test which neither accounts for structural breaks nor time variation in the relationship between financial deepening and economic growth.

2.4 Research Gap

Several studies (such as Nzotta, 2009; Torruam, 2013 and Aye, 2015) have been carried out on the impact of financial deepening variables on economic growth. Onwumere, Ibe, Ozoh and Mounanu (2012) examined the impact of financial deepening on economic growth using variables such as broad money and market capitalization. However, there is a need to examine the impact of financial deepening on economic growth using variables such as insurance premiums. There is also the need to examine the impact of private debt on economic growth in Nigeria. Furthermore, this study uniquely employed error correction model as the statistical tool in achieving the objectives of the study. The various neglected areas by the previous studies are very important and hence constitute the research gap which this current study duly considered.

3. METHODOLOGY

This study examined the impact of financial deepening on economic growth in Nigeria. The data used for the study is secondary in nature. Secondary data such as market capitalization, credit to private sector, money stock diversification, economic volatility, broad money, insurance premium and Gross Domestic Product were collected from the Central Bank of Nigeria (CBN) Statistical Bulletin within the time frame of 1987-2016. The estimation technique was based on the nature of data used for the study. Error Correction Model (ECM) technique was applied to achieve the objectives of the study. In evaluating the results of the regression, econometric tests and statistical tests were employed. The theories of statistics prescribe some tests of finding out how accurate the parameter estimates of a model are. These tests help to suggest whether or not the parameter estimates of the model are statistically significant. The coefficient of determination, R^2 was used to test the goodness of fit of the regression line to sample observations or the explanatory power of the independent variable.

The model used established a relationship between financial deepening and economic growth. Thus, our model is presented as follows:

$$EG = f(BMV, MSD, EV, MCGDP, ISP, PD) \quad \text{.....(i)}$$

$$EG_t = \beta_0 + \beta_1 BMV_{t1} + \beta_2 MSD_{t2} + \beta_3 EV_{t3} + \beta_4 MCGDP_{t4} + \beta_5 ISP_{t5} + \beta_6 PD_{t6} \quad \text{.....(ii)}$$

Econometrically, it can be written thus:

$$EG_t = \beta_0 + \beta_1 BMV_{t1} + \beta_2 MSD_{t2} + \beta_3 EV_{t3} + \beta_4 MCGDP_{t4} + \beta_5 ISP_{t5} + \beta_6 PD_{t6} + \mu_t \quad \text{……..…(iii)}$$

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Where:

EG = Economic Growth (Proxy with Growth Rate of Gross Domestic Product)
BMV = Broad Money to Velocity (Proxy with the ratio of M2 to nominal GDP)
MSD = Money Stock Diversification (Proxy with the ratio of demand deposits to the narrow money stock)
EV = Economic Volatility (Proxy with the ratio of credit to private sector to GDP)
MCGDP = Market Capitalization (Proxy with the ratio of listed shares to GDP)
ISP= Insurance Premium (Proxy with the ratio of insurance premium to GDP)
PD = Private Debt (Proxy with the ratio of private debt to GDP)
μ= Error term
$\beta 0$= Constant
β_1, β_2 , β_3, β_4, β_5 and β_6= Slope coefficient

3.2 Apriori Expectations

(i). It is expected that there will be a positive relationship between deposit money bank related financial deepening variables and economic growth.

(ii). It is expected that there will be a positive relationship between capital market related financial deepening variables and economic growth.

(iii). It is expected that there will be a positive relationship between insurance companies related financial deepening variables and economic growth.

Mathematically, this can be written as: β_1, β_2 and $\beta_3 > 0$

4. FINDINGS AND DISCUSSIONS

Table 1: Descriptive Statistics of Economic Growth

	EG	BMV	MSD	EV	MCGDP	ISP	PD
Mean	5.44543	17.4448	56.3527	13.3586	2.85E+0	4.22E+0	2.96E+0
Median	6.06914	18.1000	54.1006	11.1000	1.10E+0	4.11E+0	8411648
Maximum	14.6043	38.0000	75.1569	36.7000	1.44E+1	1.05E+0	2.12E+0
Minimum	-0.55203	8.60000	38.5478	5.90000	3127993	1.84E+0	0.000000
Std. Dev.	3.67673	6.41920	13.4793	7.07417	3.67E+0	1.77E+0	5.75E+0
Skewness	0.37939	1.44317	0.19811	1.56648	1.517700	1.623541	2.586656
Kurtosis	2.75950	5.61114	1.47563	5.49950	4.775015	6.849063	7.890161
Jarque-Bera	0.76559	18.3051	2.99748	19.4095	14.94024	30.64191	61.23450
Probability	0.68195	0.00010	0.22341	0.00006	0.000570	0.000000	0.000000
Observations	30	30	30	30	30	30	30

Source: Author's Computation, (2019)

Table 1 shows the descriptive statistics for all the variables covering the sample periods of thirty (30) years. Average economic growth over the years is 5.445% and broad money to

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velocity was average 17.44% while the average of money stock diversification is 56.35 billion naira. Meanwhile, economic volatility stood averagely at 13.35% while the market capitalization stood at an average rate of 2.85 billion naira with average insurance premium of about 4.22 billion naira and private debt 2.96 billion naira in the economy for the period 1987 to 2016.
The large margins between the minimum and maximum values as well as the large values of the standard variations of all the series indicate evidence of significant variations of the trend of the series over the scope covered. Regarding the statistical distribution of the series, all the variables shows evidence of positive skewness implying that the right tail is extreme.

In relation to kurtosis, a series is said to be normally distributed (mesokurtic) when the value is three (3) otherwise it is either platykurtic (less than 3) or leptokurtic (greater than 3). Thus the statistics in table 4.1 shows that BMV, EV, MCGDP, ISP and PD are leptokurtic (i.e. evidence of fatter tail than the normal distribution) while EG and MSD are platykurtic (i.e. evidence of thinner tail than the normal distribution).

The Jaque Bera (JB) test was conducted to examine whether or not the distributions of the series are normal. It is an improvement on the Skewness and Kurtosis. The null hypothesis for the test is that the series are normally distributed. When the probability value of the JB statistics is less than the 5% level of significance the series is normally distributed otherwise it is not. Therefore, given the Jarque-Bera statistics and the respective probabilities for the variables presented in Table 1, all the variables except EG and MSD are normally distributed.

Table 2: Stationary (unit root) test of Economic Growth

VARIABLES	Augmented Dickey-Fuller (ADF) test statistic	5% critical level	Phillips-Perron(PP) test statistic	5% critical level	Order of integration	
					ADF	PP
EG	-7.452010	-3.587527	-7.828417	-3.587527	I(1)	I(1)
BMV	-4.869836	-3.580623	-5.568780	-3.580623	I(1)	I(1)
MSD	-7.186737	-3.580623	-7.754512	-3.580623	I(1)	I(1)
EV	-5.271159	-3.587527	-8.405909	-3.580623	I(1)	I(1)
MCGDP	-4.791198	-3.580623	-5.767299	-3.580623	I(1)	I(1)
ISP	-4.181886	-3.595026	-12.25787	-3.580623	I(1)	I(1)
PD	-5.555393	-3.595026	-8.211824	-3.580623	I(1)	I(1)

Source: Author's computation, (2019)

Most time series data are characterized by trends and in most cases are nonstationary. So a regression of a nonstationary variable on another nonstationary variable(s) using ordinary least square (OLS) leads to a spurious regression result. To avoid this, ADF and PP unit root test were conducted and the result is presented in Table 2. The null hypothesis of the tests is that the variable is not stationary (has unit root). So, rejection of the null hypothesis implies that the variable is stationary. To reject the null hypothesis, the calculated value of the test statistics must be greater than the critical value of the statistics at a chosen level of significance (e.g. 5% level of significance). When the null hypothesis is rejected at order of integration zero, I(0), the variables are considered to be stationary at level. It is only I(0) variables that are considered stationary series. All other orders of integration such as integration of order one I(1) are

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considered nonstationary series in regression analysis. Both the ADF and PP test reveals that the series of all the variables are intergrated of order one I(1) which implies that the series are nonstationary. Thus the use of OLS is inappropriate in such situation. This means, we have to control for the nonstationary in the regression analysis I(1).

Table 3: Correlation Coefficients of Economic Growth

Variables	BMV	MSD	EV	MCGDP	ISP	PD	EG
BMV	1						
MSD	0.37	1					
EV	0.3321	0.291	1				
MCGDP	0.286	0.273	0.28	1			
ISP	0.242	0.241	0.2651	0.1557	1		
PD	0.18	0.16	0.132	0.346	0.0226	1	
EG	0.124	0.081	0.0972	-0.0308	0.059	-0.2636	1

Source: Author's computations, (2019).

The study examined the existence of multicolinearlity among the variables used for the regressions analysis. The existence of multicolinearity is a problem that invalidates the estimates of regression estimators. To assess this, a pair-wise correlation was conducted. This shows the nature of relationship between each pair of the variables used. The result of the correlation is presented in table 3. It shows that MCGDP and EG as well as PD and EG have negative correlation coefficients (negative relationship) while all other variables are positively correlated. However, the correlation coefficient is less than 0.5 for all the variables.

Table 4: Johansen Co-integration Test

Sample (adjusted): 1987 2016
Included observations: 30 after adjustments
Trend assumption: Linear deterministic trend
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.902714	186.9782	125.6154	0.0000
At most 1 *	0.806911	126.3955	95.75366	0.0001
At most 2 *	0.750078	83.63590	69.81889	0.0027
At most 3	0.513526	47.58418	47.85613	0.0530
At most 4	0.456158	28.84933	29.79707	0.0640
At most 5	0.289495	13.01281	15.49471	0.1143
At most 6 *	0.146760	4.126561	3.841466	0.0422

* denotes rejection of the hypothesis at the 0.05 level

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**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.902714	60.58264	46.23142	0.0008
At most 1 *	0.806911	42.75964	40.07757	0.0243
At most 2 *	0.750078	36.05172	33.87687	0.0271
At most 3	0.513526	18.73485	27.58434	0.4352
At most 4	0.456158	15.83653	21.13162	0.2345
At most 5	0.289495	8.886246	14.26460	0.2957
At most 6 *	0.146760	4.126561	3.841466	0.0422

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Author's computations, (2019).

This study adopted the co-integration method developed by Johansen, popularly called the Johansen co-integration test or cointegration rank test. This test identifies the number of stationary long-run relationships that exist among the set of integrated variables. It offers two tests, the Trace test and the Max-Eigenvalue test. Table 4 revealed that four of the trace statistic in each of the rank is greater than critical value at 5% level of significance. Besides, the probability of the trace statistic is less than 5%; therefore, the null hypothesis of no cointegrating vectors is rejected. This therefore implies that there is long-run relationship among the variables used in the study. A look at the second panel, which presents the Max-eigen statistic test, confirms this result that the variables are cointegrated. Hence, there is a long run relationship between the dependent variable and the independent variables.

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Table 5: **Estimated Long-run Coefficients**

Regressor	Coefficient	Standard Error	t-Statistics	p-Value
Dependent Variable: EG				
BMV	127.6499	142.0480*	0.898639	0.3790
MSD	7289.432	2819.166*	2.585669	0.0172**
EV	726.2735	62.35114*	11.64812	0.0000**
MCGDP	1021.473	118.5258*	8.618146	0.0000**
ISP	11.57532	0.953801*	12.13600	0.0000**
PD	-36.66366	34.75234*	-0.167248	0.0451
C	-65262.44	50139.85*	-1.301608	0.2071
Notes: R^2 =0.781617 Adjusted R^2 = 0.776365 S.E of regression = 826.0169 F-statistics = 186.8967 Prob(F-statistics) = 0.0000 Durbin Watson = 2.122702				

(*) denotes Heteroscedasticity and Autocorrelation (HAC) consistent standard errors

** Denote significant at 5% level

Source: Author's Computation (2019)

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The result of the long run estimate is presented in Table 5. The result shows that MSD, EV, MCGDP and ISP are positively related to EG while PD is inversely related to EG. This implies that increase in money stock diversification, economic volatility, market capitalization and insurance premium promote economic growth while rise in private debt impede economic growth in Nigeria. However, the result shows that MSD, EV, MCGDP, ISP and PD are statistically significant. The significance is shown by the various statistics (standard errors, T-statistics and the P-values). For instance, the standard error (2819.166) of the coefficient (7289.432) MSD is less than half of the coefficient while the t-statistics of the coefficient (2.585669) is greater than ±1.96 critical value of t-statistics at 5% level of significance. Similarly, the coefficients of EV and MCGDP are 726.2735 and 1021.473 while their standard errors are 62.35114 and 118.5258 with t-statistics 11.64812 and 8.618146 as well as P-values 0.0000 and 0.0000 respectively. Halves of the values of the coefficients are greater than the standard errors, t-statistics are greater than ±1.96 critical value while the P-values are less than 5% level of significance.

All these statistics show that the variables, EV and MCGDP, are statistically significant. This implies that EV, MCGDP are significant determinants of economic growth in Nigeria. The coefficients of ISP and PD are 11.57532 and -36.66366 while their standard errors are 0.953801 and 34.75234 with t-statistics 12.13600 and -0.167248 as well as P-values 0.0000 and 0.0451 respectively. Halves of the values of the coefficients are greater than the standard errors, t-statistics are greater ±1.96 critical value of t-statistics at 5% level of significance while the P-values are less than 5% level of significance. However, BMV does not have significant impact on economic growth of Nigeria over the period covered.

The coefficient of determination R^2 measures the goodness of fit of the fitted regression line to a set of data. From the model, the R^2 value of 0.781617 shows that about 78 percent of the variations in the dependent variable (EG) is explained by variations in the model (Independent variables) this is reasonably tolerable as it is above 50 percent. Likewise, the F statistics of 186.8967 and its probability of 0.000000 shows that the independent variables are jointly statistically significant and therefore reliable. While the Durbin Watson value of 2.122702 shows the regression is not spurious as it falls around 2 which is the acceptable band.

The next step is to analyze the short run dynamic impact of financial deepening on economic growth in Nigeria. Short-run dynamics of the equilibrium relationship are obtained through the error correction model and the results are presented in table 4.6 below. The error correction term measures the speed at which the endogenous variable adjusts to change in the explanatory variables before converging to its equilibrium level.

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Table 6: Short run Results and Diagnostics Tests Results for the Model

Dependent Variable: EG				
Regressor	Coefficient	Standard Error	t-Statistics	p-Value
D(BMV)	303.2273	582.8037	0.520291	0.6089
D(MSD)	5840.502	5161.837	1.131477	0.2719
D(EV)	650.6561	140.6650	4.625572	0.0002
D(MCGDP)	916.6730	202.3932	4.529168	0.0002
D(ISP)	10.21903	2.089027	4.891768	0.0001
D(PD)	-38.58647	46.48322	-0.830116	0.4168
C	45.10867	236.2897	0.190904	0.8506
ECM1(-1)	-1.183180	0.283824	-4.168705	0.0005
Diagnostic Tests				

Test	F-statistics	Prob. Value
χ^2 SERIAL	1.853841	0.1839
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.699305	0.1706
χ^2 REMSAY	1.699318	0.2072

Source: Author's Computation (2019)

Table 6 above reports the result of short dynamics of financial deepening and economic growth in Nigeria. The negative statistically significant estimate of ECM(-1) validates the established long run relationship among economic growth, broad money velocity, money stock diversification, economic volatility, insurance premium, and private debt in Nigeria. The results also indicate that the estimate of ECM (-1) is -1.183180 and is statistically significant at 5 percent level. This implies that about 110 percent of the deviations from long run equilibrium are corrected for in the next year period. The diagnostic test on the table also indicates there is no problem of serial correlations, as the null hypothesis of serial correlation is rejected; there is also no mis-specification error. However, there is a problem of heteroskedasticity in the model which was corrected by presenting Heteroscedasticity and Autocorrelation (HAC) consistent standard errors.

4.2 Discussion of Findings

Error correction model was employed to investigate the impact of financial deepening and economic growth in Nigeria. The study revealed that broad money to velocity and money

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stock diversification has significant impact on the economic growth in Nigeria. The finding is consistent with work of Torruam, *et al*. (2013). The study also discovered economic volatility has significant impact on the economic growth in Nigeria and therefore the first hypothesis that state that there is no significant effect of deposit money banks related financial deepening variables on economic growth in Nigeria should be rejected.

Furthermore, the study revealed that market capitalization is a determinant of economic growth in Nigeria which is consistent with the study of Onwumere, *et al.* (2013) and therefore the null hypothesis that state capital market related financial deepening variable has no significant effect on economic growth in Nigeria should be rejected. Also it was revealed that insurance premium is a significant determinant of economic growth and therefore the null hypothesis that state that insurance companies related financial deepening variable has no significant impact on economic growth should be rejected. Finally, the study also revealed that public debt is a significant determinant of economic growth in Nigeria. This study is consistent with the a-priori expectation and also consistent with the study of Nzotta, 2009; Onwumere, *et al.* 2013; Torruam, 2013 and Aye, 2015. The study is consistent with the theory of theory of financial intermediation advocates that financial intermediaries play a crucial role of intermediation in the growth process by transferring financial resources from the net savers to net borrowers, thus influencing investment and thereby leading to economic growth.

5. CONCLUSION AND RECOMMENDATIONS

Error correction model was employed to examine the impact of financial deepening on economic growth in Nigeria. The findings of the study revealed that banking sector is a significant determinant of economic growth in Nigeria. The findings of the study also revealed that market capitalization is a significant determinant of economic growth in Nigeria. Finally, the findings of the study revealed that insurance sector is a significant determinant of economic growth in Nigeria. The study concluded that deposit money banks related financial deepening variable is a determinant of economic growth. The study also concluded that capital market related financial deepening variable is a significant determinant of economic growth in Nigeria. Furthermore, the study concluded that insurance companies' related financial deepening variable determines the economic growth in Nigeria. Finally the study concluded that financial deepening promotes economic growth in Nigeria.

Based on the above conclusions, the following policy recommendations are suggested.

i. Central Bank of Nigeria, should encourage banks to be efficient in their financial intermediation function by ensuring that funds from the surplus sector is efficiently channeled to the deficit sector of the economy.
ii. The study further recommends that regulators like securities and exchange commission should be diligent in the supervision of the market in order to ensure that efficiency and discipline is maintained which will improve the capitalization of the market and in-turn promote economic growth.
iii. The National Insurance Commission (NAICOM) should implement policies and programs aimed at restoring the customers' confidence, trust and loyalty with a reflective effect in increased sales and insurance penetration.

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iv. A measure from recovering in the present financial crises is for central bank of Nigeria to pursue a lender of last resort so as to facilitate loan facility in financial crises.

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