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FINANCIAL DEVELOPMENT AND ECONOMIC PERFORMANCE IN NIGERIA: GRANGER CAUSALITY ANALYSIS; TEST OF SUPPLY LEADING HYPOTHESIS (NIGERIAN EXPERIENCE)

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Abstract

In a well-structured economy, financial development is expected to stimulate growth of the economy however, this paper tend to empirical investigate the relationship between financial development and economic growth in Nigeria using time series data spanning from 1986 to 2014. The output of our empirical analysis reflect that all the data used in this process of research are stationary after first differencing in the order of 1(1) as specifies by the output of the Phillip peron unit root test. the output of the parsimonious error correction model shows that of all the variable used in the process of research, only credit to the private sector (CPS) has a positive and significant influence on the growth of the Nigeria economy while other variable are negative and insignificant. Mine while, the result of the granger causality test shows that there exist 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 show that in the Nigeria context, economic growth determine financial sector development. This suggest 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 i.e. the speedy the economic growth, the rapid the development of the financial sector in Nigeria.

Keyword: broad money supply, insurance intermediation ratio, credit to the private sector, economic performance

1.0 introduction

The financial sector of an economy comprise of institution, market and regulators that deal in financial instruments under the large framework within which the activities of the various participant are regulated. Put separately, the Nigerian financial system apart from the central bank of Nigeria and some other bodies who serve as a regulators comprises of the "bank financial intermediaries, non-bank financial intermediaries and the financial market" (monogbe, 2015). A whole lots of scholar has written on the topic financial intermediation and how it affect the economic in their respective countries. Intermediation process involve mobilisation of funds from surplus economic unit to the deficit economic unit who has the business ideas but lack financial capacity. This intermediating function is not only restricted to

the banking financial institution only. However, non-banking financial institutions like insurance company, pension and administrative institution also intermediate. The term financial intermediation has created a great puzzler in the literature as some authors argue that financial intermediation is a catalyse to economic growth while some opted that financial intermediation is demand following. This argument has degenerate into what we refers to "supply leading hypothesis and demand following hypothesis. The first theory of financial intermediation is seen in the work of goldsmith" (1969). Mackinnon and Shaw attributed the role of economic development to financial market. To them, they argue that the effectiveness of the financial market through the quality and quantity of financial services render will serve as a stimuli to economic development. Hence, there argue that financial intermediation stimulate economic development. Mine while, "Levine (2010), beck, et al (2000) in there empirical research also support the view of MacKinnon and Shaw by stating that financial intermediation has a positive and significant impact on economic development. However in the Nigeria context, Nwaeze (2014) also support the fact that financial intermediation has a positive and significant impact on the Nigeria economic development but did not specify the direction of causality flows. On the other hand however, Robinson (1953) was of the contrary opinion, he led the supply leading hypothesis and argues that economic development is a catalyse to financial development". His born of contention here is that increase in the economic development through increase in the real national income of the economy and per capital income of household in the economy will stimulate the morale of the general public towards new investment ideals which will help in improving the financial market. Furthermore, Mushin and Eric(2008) in there empirical work discovered a causality flow between economic development and financial development with causality flowing from the economy to the financial market hence there conclude that economic development drives financial market.

Consequently in the Nigeria context, there has not really been a justifying ground to conclude whether financial development stimulate economic growth or not. The major challenges intermediation process is facing in Nigeria is the informal sector. Larger percentage of the citizens are yet to be expose to the intermediation services due to lack of trust, confidence and convenience. For financial intermediation to be efficient and glamorous in Nigeria, the three C's of financial intermediation must be well managed. This study tends to capture the financial system and test how the services in the market drives the economy. However, it must be noted that the Nigeria financial system comprises of financial institution, financial market and the regulators. "The scope of this study is restricted to the banking, non-banking financial institution and the financial market harms of the financial system using granger causality test in identifying the direction of causality flow"

Statement of problems

Larger percentage of the Nigeria citizen still leave a barbaric world of informal savings. These may be due to lack of orientation, illiteracy, or mix-conceptualised and asymmetry information about how some bank customer's losses their savings during bank distress and failure. This place a limitation on intermediation services as the quantum of fund in the informal sector is on the increase.

However, MacKinnon and Shaw (1973) argues that one of the major challenges faced by the developing countries is the excess intervention and interference of the government in the financial system which is mitigating against the expected growth trend of the financial sector. He explained that irrespective of the saving and investment, the developing countries are experiencing poor performance due to financial repression, high level of regulation and financial control. Mine while, there has been an argument that elimination of financial repression through financial liberalisation, deregulation and privatisation is essential so as to

extirpate the ill-effect of financial repression and on the other hand stimulate saving and investment which is capable of promoting economic growth and encouraging foreign investors.
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According to history, Nigeria banking system is faced with some challenges majorly lack of confidence on the side of the customers due to the bank failure recorded in the past decade mostly in the early 40's. moreover, the recent instability and bank failure in the Nigeria financial institution has really deteriorate the confidence of the customers and hence depositors prefer to save their money in the corner of their bed than to save in the bank which is really affecting the intermediation processes as large quantum of money are still in the informal sector.
Despite the enormous rate of merger that took place in the Nigerian banking institutions recently due to increment capital base policy implemented by the CBN to solidified the Nigeria banks, can we practically say that the operation of the financial institution has really stimulate the economy or nor? Sequel to the above observation, this research work tends to find out the causal flow between the activities of the financial sector and growth of the Nigeria economic laying emphasis on the activities of the banking, non-banking financial institution and financial market as proxy for financial development indicator in Nigeria.

Research objectives
This research work tends to investigate the direction of causality flow between the activities of the intermediation services of the financial system and growth of the Nigeria economic laying emphasis on the activities of the banking, non-banking financial institution and financial market as there are proxy for financial sector indicators in Nigeria. The specific objectives are stated below

- To empirically investigate how effective is the credit allocated to the individual own enterprise ("private sector") and its impact on growth of the Nigeria economy.
- To statistically investigate the effect of insurance intermediation ratio and it influence on the Nigeria economic performance
- To test the Effect of broad money supply on the growth of the Nigeria economy.
- To empirically test the contribution of market capitalisation ratio to the growth of the Nigeria economic

Research question
In an tempt to actualise the objectives of this research work the following research question is noted

- How effective does credit allocated to the individual enterprise ("private sector") stimulate the growth of the Nigeria economy?
- To what extent does insurance intermediation ratio promoting the growth of the Nigeria economy?
- To what extent does broad money supply influence the growth of the Nigeria economy?
- How frequently is market capitalisation rate contribute to the growth of the Nigeria Economic?

Research hypothesis
We formulate our research hypothesis in their respective null form thus

Ho1: allocated credit to the individual enterprise ("private sector") does not significantly stimulate the growth of the Nigeria economic
Ho2: Insurance intermediation ratio does not significantly promote the growth of the Nigeria economic
Ho3: Broad money supply does not significantly relate to economic growth in Nigeria
Ho4: Market capitalization ratio does not significantly contribute to the growth of the Nigeria economic

2.0 Literature review

Basically, there are series of argument in the literature, but the two major argument that transpire between "Robinson (1952) , MacKinnon and Shaw (1973) as to whether economic growth drives financial development or the other way round can be classify into two different hypothesis which include the supply leading hypothesis and demand following hypothesis. However, the postulation that financial development stimulate economic growth was first referenced in the work of Schumpeter 1912, follow by (goldsmith 1969), (McKinnon 1973) and (Shaw 1973) and many more"

Financial development and intermediation theory

"Supply leading hypothesis" as led by Robinson (1952), he however argues that "financial market are essentially hand maiden of domestic industry, and respond passively to other factors that produce cross country different in growth . Robinson school of thought therefore believes that economic growth will lead to the expansion of the financial sector". According to him, economic development is a catalyst to financial development. This implies that increase in the real national income of an economy flowing down to house hold per capital income will bring about increase in consumable income and saving which will however trigger the interest of household to invest in financial instrument which hence lead to development and promoting the financial services. On the other hand, "financial intermediation theory was first formalized in the work of goldsmith (1969), MacKinnon (1973) and shaw(1973) who attributed the role of economic growth to the efficacy and vibrancy of the financial market". There however attributed the growth of the economy to the quality and quantity of financial service rendered by the financial institution. "Goldsmith (1969) attribute a positive nexus between the level of par capital gross national product and financial development to the positive effect that financial development has in encourage more efficient use of capital stock. Moreover, the process of growth has feedback effect on financial market by creating incentive for further financial development"

According to Reed et al 1980, as cited in Torbira 2014, he outline the three basic approach targeted toward analysing the behaviour of financial institution in respect to financial intermediation. The first approach is called pool of fund approach with anchor on a premises that fund should be pooled and allocated to various investment whose expected rate of return is promising and higher without giving consideration to the source of such funds. There born of contention here is that investors are interested in investing on project with high returns hence, rate of returns determines the quantum of fund allocated to each investment.

The second theory is called the conversion of funds or asset allocation approach. This approach anchor on the premises that different sources of fund should put be into consideration when making allocation decision. This approach regard the sources of funds in the process of allocation decision and hence make rational decision. The third approach is the linear programming theory. This approach requires an explicit statement of objective to be optimized and the specific constrain facing the optimizer. The first and the last approach agree with the doctrine of unconstrained and constrained profit maximization. The overall approach is

targeted towards ensuring that financial institutions asset are primarily related to and distribution of goods and services in the economy. "According to Shaw(1973), he propose the debt intermediation hypothesis, whereby expanded financial intermediation between the saver and investors resulting from financial liberalisation (high real interest rate) and development increase the incentive to save and invest, stimulate investment due to an increase supply of credit, and raises the average efficiency of investment. This view stress the importance of free entry into and competition within the financial market as prerequisite for successful financial intermediation". Mine while, some school of thought suggested that the nexus between "financial development and economic growth" depend on the nature and process of economic development. It is also believe that an economy with well-structured financial system could respond and stimulate economic expansion through financing the effort of the entrepreneur (Schumpeter 1912). Schumpeter lay much emphasis on the development of new technology through innovation and invention, discovery of new technics, practical application of new technics coupled with the capacity of the financial institution to financial the new discovery will definitely promote economic growth hence, "financial development and economic development are positively interdependent and their nexus could lead to feedback causality (Luintel and Khan, 1999)"

Empirical review

Shittu Ayodele (2012), investigate the financial intermediation and economic growth in Nigeria using time series data spanning from 1970 to 2010. The output of his investigation reveals that there exist a positive relationship between economic growth and financial intermediation in Nigeria. Out of the two financial intermediation indicator used in the process of research, only broad money supply was positive and has significant impact on the economic growth.

Onlike Mina Baliamoune (2001) uses vector error correction mechanism to investigate the nexus between financial liberalization and economic growth in morocco using time series data spanning from 1970 to 1999. Output of his econometrics result reveals that there exist a weak relationship between economic growth and financial liberalization while he finally concluded that there exist a demand following view of financial reform which simply means that economic growth is a catalyse to finance.

Mine while, kings and Levine (1993a), beck et al (2000), bencivenga and smith (1991) argues that finance takes the lead in the process of development. They opted that the process of growth is a determinate of productivity improvement also economic development.

An empirical evidence was provided by Levine and zervos (1998) that financial development and market liquidity are both significantly and positively associated with future trends of economic development. "they explained that well developed and established stock market is capable of mobilizing capital funds and risk diversification between marketing agents, provide diverse form of financial services than banking sector and finally stimulate economic performance"

Demirguoc-kunt and Levine (1996) carried out a statistical investigation using polled data of forty four industrial and LDC's for a period of 1986 and 1993. They found that stock market development goes in a sequential manna with financial intermediary development. They finally concluded thus, that a well- structured stock market will bring about a well -developed banking and non-banking financial intermediaries.

According to the traditional growth theorist, they strongly argues that there exist no link along economic expansion and equity market development. moreover, the stock market is view as an instrument that can damage economic development as a result of its instability (Stiglitz 1985). Mine while, quite a number of writers such as Pagano (1993), Atje and Jovanovich (1993),

Rousseau and Wachel (2000) in their various empirical research work discovered that there is a very strong causality flow along "stock market development and economic growth".
Arestis and Demetriades (1997) justify the fact that the stock market has a direct and significant link to the development of the US economic while in Germany, insignificancies prevail. Judging by this, it implies that the significant influence of stock market to economic development depend on individual countries. However, Okuda highlighted some determinant of causality link between economic development and financial sector which includes policies and market persuade by individual countries followed by the pattern of operation in the financial institution of each country.
In a thesis research work carried out by Folorunsho Oladele(2012) titled "financial development and economic growth in Nigeria" using vector error correction model and granger causality estimator to justifies the causality direction. Result reveals that "there exist a long run relationship between financial development and economic growth as specified by the result of the Johansson co-integration test while the granger causality test reveals that there is a unidirectional relationship between economic growth and financial development with causality flowing from the financial development indicator to economic growth". This implies that finance lead and hence canvass support for supply leading hypothesis. It is glaring that empirical argument about financial development and economic development is far from been settled while contribution in the Nigeria context is very minuet.
Monogbe,(2105) studied the impact of insurance sector development on the growth of the Nigeria economy sourcing data from the central bank of Nigeria statistical bulletin spanning from 1981 to 2013. The major intension of the research work was to identify the extent to which the non-banking has promoted the economy overtime. In actualising the objective of the research three variable were used as proxy for insurance sector and judging by the output of the granger causality test, we found that the direction of causality flow between insurance sector development indicator and economic growth are bidirectional in nature and hence there causality nexus is symbiotic

Some conceptual fact about the Nigeria financial market

Table 1: REAL GDP, BROAD MONEY SUPPLY, CREDIT TO PRIVATE SECTOR, MARKET CAPITALIZATION , INSURANCE TOTAL ASSET AND POPULATION FROM 1986 TO 2014

YEARS	Real GDP(Billion)	Broad Money Supply (billion)	Credit to Private Sectors (Billion)	Market capitalization (Billion)	Total Insurance Asset (million)	Population
1986	**257.78**	23.81	15.25	6.8		80.69
1987	**256.00**	27.57	21.08	8.2		83.04
1988	**275.41**	38.36	27.33	10.0		85.49
1989	**295.09**	45.90	30.40	12.8		88
1990	**328.61**	52.86	33.55	16.3		90.56
1991	**328.64**	75.40	41.35	23.1		93.16
1992	**337.29**	111.11	58.12	31.2		95.73
1993	**342.54**	165.34	127.12	47.5		98.36
1994	**345.23**	230.29	143.42	66.3		101.07

1995	**352.65**	289.09	180.00	180.4		103.85
1996	**367.22**	345.85	238.60	285.8	28,934.9	106.71
1997	**377.83**	413.28	316.21	281.9	37,928.2	109.65
1998	**388.47**	488.15	351.96	262.6	41,451.2	112.67
1999	**393.11**	628.95	431.17	300.0	50,131.7	115.77
2000	**412.33**	878.46	530.37	472.3	61,600.0	118.95
2001	**431.78**	1,269.32	764.96	662.5	78,060.5	122.23
2002	**451.79**	1,505.96	930.49	764.9	85,255.7	125.59
2003	**495.01**	1,952.92	1,096.54	1,359.3	124,267.4	129.05
2004	**527.58**	2,131.82	1,421.66	2,112.5	141,222.0	132.6
2005	**561.93**	2,637.91	1,838.39	2,900.1	203,113.1	136.25
2006	**595.82**	3,797.91	2,290.62	5,120.9	307,542.6	140
2007	**634.25**	5,127.40	3,680.09	13,181.7	427,497.2	143.85
2008	**672.20**	8,008.20	6,941.38	9,563.0	573,154.5	147.81
2009	**718.98**	9,411.11	9,147.42	7,030.8	586,459.5	151.87
2010	**776.33**	11,034.94	10,157.02	9,918.2	585,015.8	156.05
2011	**834.00**	12,172.49	10,660.07	10,275.3	621,095.1	160.34
2012	**888.89**	13,895.39	14,649.28	14,800.9		164.75
2013	**950.11**	15,160.29	15,751.84	19,077.4		169.28
2014	**949.11**	17,680.52	17,128.98	16,875.1		173.94

Source: CBN statistical bulletin and World Bank data base

From the data presented above, we found that the real gross domestic product in Nigeria is experiencing a rapid change starting from 1986 to 2014 however, between 1986 and 1996 i.e. at ten years interval, the value of the broad money supply increase with about 150% while between 1997 and 2007 there exist a double increment in the value of broad money supply till 2014.credit to the private sector also experience increment over time. Mine while, Market capitalisation rate experience speedy increment between 1986 to 2007 however, from 2008 downward diminishing returns began to set in while, total insurance asset continue to increase from 1996 to 2011 as specified in the CBN statistical bulletin. The rationale behind this brief analysis is justify the fact that if the indicators of financial sector development in Nigeria are improving over time, then one will expect that financial development would lead the economy. mine while various empirical studies in other countries argues that finance leads their respective economy based on this premise, the research work want to identify the direction of causality between economic growth and financial development in Nigeria.

3.0 Research methodology

This paper recognised the fact that financial sector of an economy comprise of institution, market and regulators that deal in financial instruments under the large framework within which the activities of the various participant are regulated. Put separately, the Nigerian financial system apart from the central bank of Nigeria and some other bodies who serve as a regulators comprises of the "bank financial intermediaries, non-bank financial intermediaries

and the financial market" (monogbe, 2015). However, three major variable are commonly used in the literature as proxy for financial development indicators which include broad money supply (M2), credit to the private sector (CPS), and stock market ratio (SMR). But, for the purpose of this research work, we added insurance intermediation ratio (IIR) which is an indicator of non-banking financial institution and market capitalisation ratio (MCPR) to the existing variable specified in the literature so as to capture the holistic view of financial development in Nigeria.

Data and operational measure

This study uses time series data sourced from the central bank of Nigeria statistical bulletin and stock exchange market spanning from 1986 to 2014. It must however be noted that the break-down of the total asset of insurance company data was only available from 1996 to 2011 hence, insurance intermediation ratio is captured using total asset of insurance company divided by nominal gross domestic product. The variable used in this research work are operationalized thus : "PCGDP is captured using real gross domestic product divided by the total population, Broad money supply M2 is captured using total money supply divided by nominal gross domestic product, Credit to the private sector ratio (CPS) is operationalized using absolute value of credit to the private sector divided by nominal gross domestic product, IIR is captured using insurance total asset divided by nominal gross domestic product while MCPR is captured using real absolute value of market capitalisation rate divided by nominal gross domestic product". All the variable used in this process of research is captured in the ratio of NGDP.

The model

Sequel to the theoretical and empirical review stated above, we formulate our model in a log linear manna and hypothesising that gross domestic product per capital income is a function of financial development indicator.

$Log(PCGDP)= \beta0 + \beta1log(M2t) + \beta2LOG(CPSt) + \beta3log(IIRt) + \beta4log(MCPRt) + \mu i$----------(1)

Where

PCGDP = par capital gross domestic product
M2 = Broad money supply
CPS = Credit to private sector
IIR = Insurance intermediation ratio
MCPR = Market capitalisation ratio
μi = Error term
$\beta0$ = Intercept

Apriori Expectation

Sequel to the above empirical review and theoretical justification, independent variable is expected to have a direct and positive nexus with the regressand criterion variable which is mathematically stated thus:

$\beta1, \beta2, \beta3$, and $\beta4 > 0$.

Definition of variable

PCGDP is captured by real gross domestic product in the economic divided by total population M2 show the degree of monetization in the economy and it comprises of both narrow money supply (M1) and quasi-money. It however captures the financial capacity of the bank to mobilize fund for investment purposes

CPS is the quantum of loan allocated to the private sector from the commercial bank. It however measure the financial opportunities available to private firm.
IIR it is define as the ratio of insurance total asset to nominal gross domestic product. This tends to capture the non-banking financial institution as there are part of the financial system
MCPR this is the value of listed domestic shares on domestic exchange. The rationale behind this is that the overall market size is positively correlated with the ability to mobilise capital and diversify risk on an economy wide base (Levine, 1996)

4.0 Data presentation and analysis

We are pleased to start the empirical result and analysis by testing for stationality of the data used in the process of research to avoid having spurious result.

Phillip peron test of normality

Since time series data usually have the problem of stationality, it is statistically ideal for us to test for stationality of the data used for the research work using PP test.

Table 2 (unit root test)

VARIABLE	PP Test	5% critical val	Prob	Remark	Order
log(PCGDP)	-4.0566	-2.9627	0.0043	stationary	1(1)
log(M2)	-4.9028	-2.9627	0.0005	stationary	1(1)
log(CPS)	-5.2394	-2.9627	0.0002	stationary	1(1)
log(MCPR)	-4.1707	-2.9627	0.0032	stationary	1(1)
log(IIR)	-3.8868	-3.0521	0.0100	stationary	1(1)
Residual (ECM)	-8.3499	-3.0521	0.0000	stationary	1(1)

Author's computation

From the above output, we discovered that all the data used in this process of research has a unit root at level and hence, there are not stationary at level. Further test reveal that the data became stationary after fist differencing in the order of 1(1) which justifies the fact that all the data used in this process of research are stationary hence, we proceed to test for long-run nexus between all the variable using Johansson co-integration tests.

Table 3 Johansson co-integration test
Series: LOG(PCGDP) LOG(M2) LOG(CPS) LOG(MCPR) LOG(IIR)

Hypothesized No. of CE(s)	Eigenvalue	Trace stat	0.05 Critical Value	prob	Max-Eigen stat	0.05 critical Value	Prob
None *	0.986042	163.9190	69.81889	0.0000	72.61943	33.67687	0.0000
At most 1 *	0.962520	91.29959	47.85613	0.0000	55.82695	27.58434	0.0000
At most 2 *	0.759857	35.47264	29.79707	0.0100	24.25085	21.13162	0.0176
At most 3	0.337048	11.22180	15.49471	0.1982	6.987894	14.2646	0.4906
At most 4 *	0.220461	4.233901	3.841466	0.0396	4.233901	3.841466	0.0396

Trace test indicates 3 co-integrating eqn(s) at 0.05 level

from the output above, we found that there exist a long run relationship between all the variable used in the process of research as the result justifies the fact that there are three co-integrating equation. The existence of the long run nexus depict that all the variable used in the process of research share mutual stochastic trend and are linked in common long-run equilibrium.

Table 4 Parsimonious error correction mechanism

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.98879	0.212052	37.67375	0
LOG(M2)	-0.229963	0.179195	-1.28331	0.2236
LOG(CPS)	0.343019	0.121348	2.826735	0.0153
LOG(MCPR)	0.102376	0.049822	2.054824	0.0623
LOG(IIR)	-0.072332	0.02391	-3.02512	0.0106
ECM(-1)	0.121896	0.325693	0.374265	0.7147
R-squared	0.895175	Mean dependent var		8.355485
Adjusted R-squared	0.851498	S.D. dependent var		0.184471
S.E. of regression	0.071088	Akaike info criterion		-2.18861
Sum squared resid	0.060641	Schwarz criterion		-1.89182
Log likelihood	25.69746	Hannan-Quinn criter.		-2.14768
F-statistic	20.49535	Durbin-Watson stat		1.818675
Prob(F-statistic)	0.000017			

Author's computation

From the out-put above, we found that of all the variable used in the process of research, only (CPS) with probability value of 0.0153 has a positive and significant effect on the growth of the Nigeria economy. This justifies the fact that increase in the credit allocated to the private sector will stimulate the Nigeria economy with about 34%. Consequently, this result is in line with our aprior expectation and in line with the work of Folorunsho Oladele(2012). However, IIR with the probability value of 0.0106 is significant but has a negative coefficient which implies that there is an inverse relationship between economic growth and IIR. Broad money

supply is also not significant and has a negative coefficient value of -0.2299. this justifies the fact that increase in money supply into the economy when the system is experiencing inflation could be disastrous to the growth of the economy while MCPR is positive but not significant in promoting the growth of the Nigeria economy. The overall view of the relative statistic shows that of all the financial development indicator, only credit to the private sector is positive and significant enough in stimulating economic growth while all other indicators proof inconsistence. Prior to this, it is difficult to conclude that finance lead in Nigeria context. The ECM value of 0.12189 indicate that the speed of adjustment from short run dis-equilibrium state is been corrected at a speed of 12% while from the global utility, the value of the adjusted R square stood at 0.89% which implies that 89% fluctuation in the dependent variable is captured and explained by the exogenous variable. The value of the Durbin Watson is 1.8186 which is within the accepted range and f statistic captures the overall significance.

Diagnostics test

In order to check the adequacy of a chosen model and the data for analysis, researchers are advised to apply some range of diagnostic tests. However, In accordance with some of the assumption of classical linear regression model, it is essential to carry out some diagnostic test so as to be save from spurious result.

Table 5 Breusch –Godfrey Serial Correlation LM Test

F-statistic 1.665478		Prob. F(1,11)	0.2233
Obs*R-squared	2.36695	Prob Chi-Square(1)	0.1239

Lagrange multiple (LM) test is a diagnostics test use in identifying the present or absence of serial correlation to prevent model from spurious result. The output of the Godfrey serial correlation LM test is discussed thus. From the result above, we observed that the Obs R-square value is 0.12 hence, greater than the probability level of 0.05 which suggest that we accept the null hypothesis meaning that there is absence of serial correlation. This result nullifies the previous result obtain from the Durbin Watson statistic value which suggest present of serial correlation in the parsimonious error correction model output.

Table 6 Heteroscedasticity test out-put

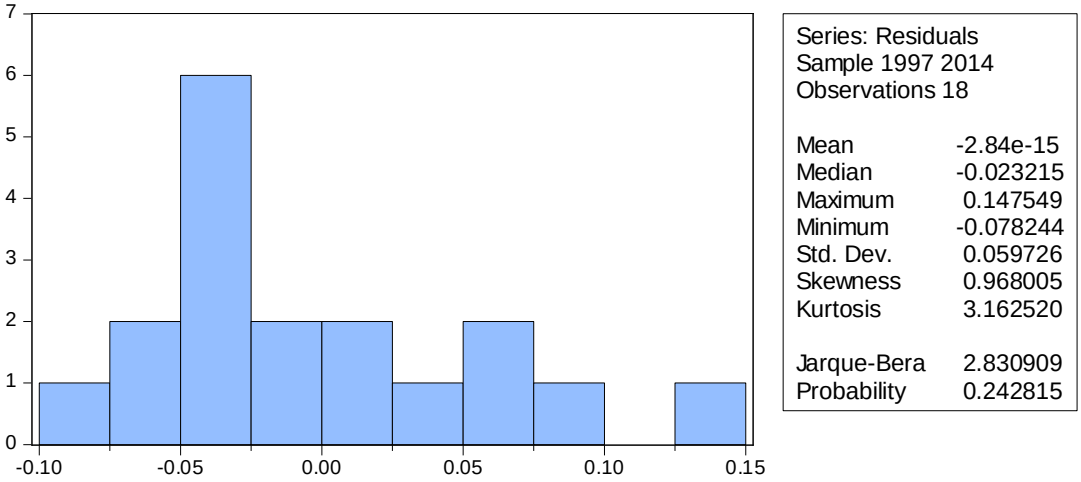
F-statistic	1.861053	Prob. F(5,12)	0.1753
Obs*R-squared	7.861662	Prob. Chi-Square(5)	0.164
Scaled explained SS	3.777999	Prob. Chi-Square(5)	0.5818

Author's computation

This test is conducted in other to identify whether there exist the presence of Heteroscedasticity or not. From the output, the value of the Obs R-square is 0.1573 which is greater than the 5% level of significant. This suggested that we accept the null hypothesis. That is, there is absence of Heteroscedasticity problem but rather there exist the present of homoscedasticity judging by

5% level of significant.

Table 7 Jarque -Bera Normality Test



From the out-put of the jarque Bera normality test, the mean value of the variable are greater than the median value which is expected. However, the standard deviation is generally high which captures the volatility of the data used in the process of research while the coefficient of the symmetry (skewness) of the entire variable is positively skewed to the right towards normality. Mine while, the kurtosis of all the variable is greater than 3 which shows that there are all leptokurtic in nature. Judging by 5% level of significant, all the variable used in the process of research are normally distributed courtesy the fact that the jarqu- bera probability value is greater than 5% level of significant

Table 8 Pairwise Granger causality tests

Pairwise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
LOG(M2) does not Granger Cause LOG(PCGDP)	1.70712	0.2033
LOG(PCGDP) does not Granger Cause LOG(M2)	1.8191	0.1895
LOG(CPS) does not Granger Cause LOG(PCGDP)	1.9562	0.1742
LOG(PCGDP) does not Granger Cause LOG(CPS)	4.7862	0.0383
LOG(IIR) does not Granger Cause LOG(PCGDP)	1.3355	0.2659
LOG(PCGDP) does not Granger Cause LOG(IIR)	4.8099	0.0445
LOG(MCPR) does not Granger Cause LOG(PCGDP)	1.5134	0.2301
LOG(PCGDP) does not Granger Cause LOG(MCPR)	0.0102	0.9202

Source: Author's computation

Judging by 5% alpha level, The output of the granger causality test report that this is no causality flow between PCGDP, M2, and MCPR has justify by their various probability value respectively. However, we record a unilateral causality flow between PCGDP, CPS and IIR with causality flowing from the PCGDP to the financial development indicators (CPS and IIR) respectively. Judging by the output of this research, it show that in the Nigeria context, economic growth determine financial sector development. Hence, the output of our result is in consonant with the work of Robinson (1952), Mushin and Eric (2000). Sequel to this, we conclude that economic growth is a catalyst to economic development in Nigeria.

SUMMARY AND CONCLUSION

This research work set out to empirical investigate the relationship between financial development and economic growth in Nigeria using time series data spanning from 1986 to 2014. The output of our empirical analysis reflect that all the data used in this process of research are all stationary after first differencing in the order of 1(1) as specifies by the output of the Phillip peron unit root test mine while, the result of the co-integration test reveals that there exist three co-integrating equation which indicate that there is a long run relationship between all the variable used in this research work. However, from the output of the parsimonious error correction model we observe that of all the variable used in the process of research, only credit to the private sector (CPS) has a positive and significant influence on the growth of the Nigeria economy while other variable are negative and insignificant. Based on this empirical justification, one cannot confidentially say that finance is leading in the Nigeria context using the short run estimator. Consequently, all the diagnostic test conducted indicate that our variable are all in good shape while the result of the granger causality test shows that there exist a causality flow between PCGDP, IIR and, CPS with causality flowing from PCGDP to financial development indicator respectively. This suggest 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 i.e. the speedy the economic growth, the rapid the development of the financial sector in Nigeria. This result is in consonant with the work of Robinson (1952), Mushin and Eric (2000).

6.0 RECOMMENDATIONS

From the output of our empirical findings, we recommend thus: In an advanced economy were financial market are well -structured, finance lead. But in the Nigeria context, reverse is the case. This implies that the government is not doing enough to encourage the financial sector. We advise that the financial sector of the economy should be standardise, emphasis should be lay on the stock market by expanding its transaction network as this will help in supporting the government effort and allow them concentrate on the major fundamental basic infrastructure needed in the economy as a well-developed financial system could respond and stimulate economic expansion through financing the effort of the entrepreneur (Schumpeter 1912). Furthermore, we advise that the comprehensive analysis of the non-banking financial institution indicator (IRR) be carried out with the view of justifying the rationale behind the inverse relationship between insurance intermediation ratio (IRR)and its unproductive ability in the economic.

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