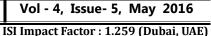
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# IMPACT OF FINANCIAL DEVELOPMENT ON ECONOMIC GROWTH IN NIGERIA: VECTOR ERROR CORRECTION MODEL

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## ABSTRACT

he general objective of this study is to evaluate the relationship between financial development L and economic growth in Nigeria from 1980-2013. Using co integration techniques to investigate the relationship between financial development and economic growth, we obtained the following results. (i) the trace statistics of the Johansen co integrating equation shows that there exist a long run equilibrium relationship between financial development and economic growth in Nigeria, (ii) ratio of broad money supply to GDP have no significant impact on economic growth in Nigeria, it is estimated from the normalized co integrating coefficient that 1% increase in the ratio of broad money supply to GDP, on the average will lead to 0.2% increase in the growth rate of GDP. (iii) ratio of domestic credit to private sector to GDP have no significant impact on economic growth in Nigeria, it is also estimated from the normalized co integrating coefficient that 1% increase in the ratio of domestic credit to the private sector to GDP will cause 0.5% increase in the growth rate of GDP, (iv) the causal relationship between financial development and economic growth indicated that ratio of Domestic Credit to the Private sector granger cause the economy. In the estimation of VECM, the error correction term indicated that the system corrects its previous disequilibrium at a speed of 74.6% each year. Based on the results, the policy implications are in three directions, (i) government should encourage the monetary authority like the central bank of Nigeria to reduce interest rate thereby increasing money supply so that prospective investors can increase their investment and raise the nation's production capacity, (ii) the development of the finance sector is also very necessary so as to make credit accessible to micro entrepreneurs who are often left out in the formal credit markets. These will boost private sector development and investments which is the engine of growth and development, (iii) government must also ensure efficiency in its regulation and supervision of all financial institutions in allowing more private banks and non-bank financial institutions to broaden their financial market to accelerate financial development and improve the financial structure that leads to increase in economic growth of Nigeria.

**KEYWORDS:** Financial Development, Economic Growth, Co-integration, GDP, VECM, M<sub>a</sub>.

## EPRA International Journal of Economic and Business Review 1.1 INTRODUCTION

The reforms in the financial system in Nigeria which heightened with the 1986 deregulation, affected the level of financial development of the country and the level of relevance of the financial system to economic development (Nnanna and Dogo, 1998). However, the rapid globalization of the financial markets since then and the increased level of integration of the Nigerian financial system to the global system have generated interest on the level of financial development that has occurred and that is required to guarantee steady growth. The financial system comprises various institutions, instruments and regulators (Oluita, 2010). According to the Central Bank of Nigeria (CBN) (2012), the financial system refers to the set of rules and regulations and the aggregation 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.

Nzotta (2004) opine that financial system serve as a catalyst to economic development through various institutional structures. The system vigorously seek out and attract the reservoir of savings and idle funds and allocate same to entrepreneurs, businesses, households and government for investments projects and other purposes with a view of returns. This forms the basis for economic development. The financial system play a key role in the mobilization and allocation of savings for productive use, provide structures for monetary management, the basis for managing liquidity in the system. It also assists in the reduction of risks faced by firms and businesses in their productive processes, improvement of portfolio diversification and the insulation of the economy from the vicissitudes of international economic changes. Additionally, the system provides linkages for the different sectors of the economy and encourages a high level of specialization expertise and economies of scale.

Nzotta (2004) further contends that the financial system, additionally, provides the necessary environment for the implementation of various economic policies of the government which is intended to achieve noninflationary growth, exchange rate stability, balance of payments equilibrium, foreign exchange management and high levels of employment. The Nigerian financial system can be broadly divided into two sub-sectors, the informal and formal sectors. The informal sector has no formalized institutional framework, no formal structure of rates and comprises the local money lenders, thrifts, savings and loans associations and all forms of 'isusu' associations. According to Olofin and Afandigeh (2008), this sector is poorly developed, limited in reach and not integrated into the formal financial system. Its exact size and effect on the economy remain unknown and a matter of speculation. The formal sector, on the other hand, could be clearly distinguished into the money and capital market institutions. The money market is the short-term end of the market and institutions and deal on short term instruments and funds. The capital market encompasses the institutions that deal on long-term funds and securities (NSE, 2012).

Financial development is the process that marks improvement in quantity, quality and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly associated with economic growth. Therefore, financial development can be defined as the policies, factors and the institutions that lead to the efficient intermediation and effective financial markets (Nouren, 2009). The regulatory institutions in the financial system are the Federal Ministry of Finance, the Central Bank of Nigeria as the apex institution in the money market, the Securities and Exchange Commission (SEC) is the apex institution in the capital market, Nigerian Deposit Insurance Corporation, (NDIC), National Insurance Commission (NAICOM) and the National Pensions Commission (PENCOM) play varying regulatory roles in the Nigerian financial system.

Financial systems play a vital role in economic development and, to be successful in the longer term, countries must take a holistic view by identifying and improving long-term factors that are crucial to their development. Such a process would allow countries to encourage economic prosperity for all participants in the global economy. This approach is supported by empirical studies that have generally found that cross-country differences in levels of financial development explain a considerable portion of the cross-country differences in growth rates of economies (World Financial Development Report, 2013).

Economic growth means the expansion of a country's capacity to produce the goods and services its people want within a given period. Gross Domestic Product (GDP) refers to the total market value of all final goods and services produced in an economy within a given period (Gbosi and Omoke, 2004). Economic growth which is usually measured as the annual rate of increase in a nation's real GDP, is taken as a main objective for overcoming persistent poverty and offering a hope for the possible improvement of society (Ketema, 2006). The abandonment of growth as an important objective would be a tragic mistake that might condemn a large proportion of the population of the

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developing countries to a life of misery even if that were accompanied by full employment, stable prices and income, and an even income distribution. Only growth can create, if not the certainty, at least the option of a more comfortable life for the masses (Meier, 1971; Tanzi and Schuknecht, 1997).

Economic growth is the increase in the amount of goods and services produced by an economy over a period of time. It is conventionally measured as the percentage rate of increase in real gross domestic product, or real GDP. Economic growth can be measured as a percentage change in the Gross Domestic Product (GDP) or Gross National Product (GNP). The major source of per capital output in any country; whether developing or developed, with a market economy or centrally planned is an increase in productivity.

## 1.2 Statement of the Problem:-

The Nigerian financial sector, like those of many other less developed countries, was highly regulated leading to financial disintermediation which retarded the growth of the economy, (Audu and Nathan, 2013). The link between the financial sector and the growth of the economy has been weak, (Akpan, 2007). The real sector of the economy, most especially the high priority sectors which are also said to be economic growth drivers are not effectively and efficiently serviced by the financial sector. The banks are declaring billions of profit but yet the real sector continues to show signs of weakness thereby reducing the productivity level of the economy. Most of the operators in the productive sector are folding up due to the inability to get loan from the financial institutions or the cost of borrowing was too outrageous. The Nigerian banks have concentrated on short term lending as against the long term investment which should have formed the bedrock of a virile economic transformation (Audu and Nathan, 2013).

Aggregate output as measured by GDP recorded negative growth rates of -13.13% in 1981, -0.23% in 1982, -5.229% in 1983 and -4.82% in 1984. Thereafter the economy recovered and recorded improved performance with positive growth rates of 9.7% and 2.5% in 1985 and 1986 respectively. One year after the introduction of SAP the economy witnessed a negative growth rate of -0.7% from a weak rate of 2.5% recorded in 1986. This is understandable because the SAP period was a period of tightening government policy. Though GDP recorded positive growth rates from 1990 to 1999, the rates were weak with an average of 3%. Between 2000 and 2008 the economy of Nigeria performed satisfactorily well with an average growth of 5%.

These myriad financing challenges facing the real sector call for the reassessment of finance-growth nexus in Nigeria (Abdulsalam and Gani, 2013). From 1980 to 2013, indicators of financial sector development have been inconsistent. Looking at the indicators (DCPS/GDP andM<sub>2</sub>/GDP) in the recent years (1980-2013), it has not been relatively stable. In 1980, it was about 12.2% and 28.6% respectively while it dropped to 11.5% and 20.55 respectively in 2013. Also at the same period, the economic growth as a proxy of gross domestic product has not been relatively stable. In 1980, it was about 4.2% while it increased to 9.7% in 2013 (CBN, 2013). This is an indication that despite the emphasis placed on financial sector development in the management and growth of the economy, the Nigerian economy is yet to come to the path of sound growth and development.

Evidence from available literature (Victor and Samuel 2014; Abdulsalam and Gani, 2013; Adekunle, et al, 2013) confirms that very few studies have been done to examine the factors that account for the persistence of slow contribution of financial sector development to the economic growth in Nigeria. Thus, the extent to which financial sector development affect Nigerian economy has remained undetermined and less investigated because of inconsistency on the choice of variables, scope and geographical areas covered. The inability of financial sector development to impact positively on Nigerian economy no doubt calls for investigation. This study fills the identified gaps created in knowledge by investigating the impact of financial development on economic growth in Nigeria over the period 1980-2013.

## 1.3 Objectives of the study:-

The general objective of this study is to evaluate the relationship between financial development and economic growth in Nigeria from 1980-2013.

The specific objectives of the research include; to:

- determine to what extent significant stable longrun relationship exists between financial development and economic growth in Nigeria.
- determine to what extent, ratio of broad money supply to GDP impact significantly on economic growth in Nigeria.
- investigate the impact of ratio of Domestic Credit to Private Sector to GDP on economic growth in Nigeria.
- investigate the degree of significant causal relationship between financial development and economic growth in Nigeria.

## 2.0 REVIEW OF RELATED LITERATURE 2.1 Theoretical Review:-

One of the main issues in development economic literature and that of the developing economies like Nigeria is to look for the major determinants of long-term economic growth. Hence the causal relationships between financial development and real sector growth have been a major concern to researchers since the last few decades. It is now widely acknowledged that faster economic growth will not be possible without a deepening of the financial system and with the banking sector setting the pace (Rodrik, 2005; Temple, 2003; Barro and Sala-i-Martin, 2004).

## 2.1.1 Stage of Development Theory:-

The theoretical basis of this study is anchored on stage of development hypothesis of financial development by Hugh Patrick (1966) which states that the direction of causality between financial development and economic growth changes over the course of development. That is, at the early stage of development, the supplyleading impetus is evident but as real growth occurs in the economy, it will spark demand for financial services.

This theory suggests a demand – following relationship between financial and economic developments. High economic growth creates the demand for modern financial institutions; their services, their assets and liabilities and arrangements, by investors and savers in the real economy. The financial market in turn responds to such demands. In this case, the evolutionary development of the financial system is a continuing consequence of the pervasive, sweeping process of economic development. The level of demand for financial services depends upon growth of real output, and commercialization and monetization of agriculture and other traditional substance sectors.

## 2.1.2 Financial Liberalization Theory.-

The Financial Liberalization hypothesis as developed by Mckinnon and Shaw (1973) sees the role of government intervention in the financial markets as a major constraint to savings mobilization, investment, and growth. The main critique of the financial liberalization theory emanates from the imperfect information Paradigm. This school of thought disagrees with the proposition of these scholars and examines the problem of financial development in the context of information asymmetry and costly information that results in credit rationing. As observed by Stiglitz and Weiss (1981), asymmetric information leads to two serious problems, first, adverse selection and second, moral hazard. The implication is that the information asymmetries of higher interest rates which actually follow financial reforms and financial liberalization policies in particular exacerbate risk taking throughout the economy and hence threatens the stability of the financial system, which can easily lead to financial crises while the Feed back theory suggests a two-way causality between economic growth and financial development.

## 2.1.3 Theory of Financial Repression:-

Financial repression refers to the notion that a set of government regulations, laws, and other non-market restrictions prevent the financial intermediaries of an economy from functioning at their full capacity. The policies that cause financial repression include interest rate ceilings, liquidity ratio requirements, high bank reserve requirements, capital controls, restrictions on market entry into the financial sector, credit ceilings or restrictions on directions of credit allocation, and government ownership or domination of banks. Economists have commonly argued that financial repression prevents the efficient allocation of capital and thereby impairs economic growth Okpara(2010), Esso (2010), Darrat and Siowadi (2010).

## 2.2 Impacts of Financial Repression:-

Because financial repression leads to inefficient allocation of capital, high costs of financial intermediation, and lower rates of return to savers, it is theoretically clear that financial repression inhibits growth (Nzota and Okereke, 2009, Sala-i-Martin, 1992). The empirical findings on the effect of removing financial repression, i.e., financial liberalization on growth supports this view, but various channels through which liberalization spurs growth have been evidenced.

The possible negative effect of financial repression on economic growth does not automatically mean that countries should adopt a laissez-faire stance on financial development and remove all regulations and controls that create financial repression. Many developing countries that liberalized their financial markets experienced crises partly because of the external shocks that financial liberalization introduces or amplifies. Financial liberalization can create short-term volatility despite its long-term gains (Kaminsky and Schmukler, 2002). Also, because of market imperfections and information asymmetries, removing all public financial regulations may not yield an optimal environment for financial development. An alternative to a financially repressive administration would be a new set of regulations to ensure market competition as well as prudential regulation and supervision.

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### 2.3. Empirical Review:-

This section provides perspective as to how this study fits into existing empirical results and methodologies previously employed in the finance-growth literature. Looking at the studies in the field underscores the historical scale of the finance-growth debate.

Victor and Samuel (2014) examined empirically, the implications of financial development for economic growth in Nigeria, using time series data covering the period between 1990 and 2011 from Nigeria. The co integration technique with its implied Error Correction Mechanism (ECM) was applied. This commenced with the ADF unit root test, followed by the Johansen co integration test. The Over parameterizes and Parsimonious ECM was next and this was followed by the Vector Error Correction, diagnostic tests and Cholesky variance decomposition. The variables included Real Gross Domestic Product, Financial deepening which is a ratio of money supply to Gross Domestic Product, liquidity ratio, interest rate and credit to the private sector. Financial sector development has not significantly improved private sector development. The minimum capital base and liquidity ratio has improved the level of economic growth in Nigeria. The Johansen co integration test suggests a long run relationship among the variables and the significant ECM which is negatively signed supports the long run relation among the variables and indicates a satisfactory speed of adjustment. Although financial sector development has on the aggregate significantly improved the level of economic performance, the credit to the private sector did not play significant role according to the study. The study recommends, amongst others, that further development of the financial sector should be oriented towards the development of the private sector.

Abdulsalam and Gani (2013) examined the long run relationship between financial development indicators and economic growth in Nigeria over the period 1970-2010. Using the Johansen and Juselius (1990) approach to co integration and Vector Error Correction Modeling (VECM). The findings of the study revealed that in the long-run, liquid liabilities of commercial banks and trade openness exert significant positive influence on economic growth, conversely, credit to the private sector, interest rate spread and government expenditure exert significant negative influence. The findings implied that, credit to the private sector is marred by the identified problems and government borrowing and high interest rate are crowding out investment and growth. The study recommended that financial reforms in Nigeria should focus more on deepening the sector in terms of financial

instruments so that firms can have alternatives to banks' credit which proved to be inefficient and detrimental to growth, moreover, government should inculcate fiscal discipline so as to reduce excessive borrowing from the financial sector and thereby crowding out private investment.

Owolabi and Olanrewaju (2013) studied the causal linkages between banking sector reforms and output growth of manufacturing sector as well as the direction of such causality. A selected sample of financial development and manufacturing output of Nigeria with annual data between 1970 and 2008 were used and co integration and Granger-causality techniques were applied to ascertain evidence regarding this important issue. The result of Granger causality analysis according to the study showed that the MGDP and banking sector reforms indicators (BF) move differently with one not predicting the other within the study period. Moreover, the empirical results showed that Bank assets, Lending Interest rate with co-efficient, Exchange rate and Real rate of interest positively and significantly affected the manufacturing sector's output growth in Nigeria. On the other hand, the financial deepening indicator (M2/GDP) and Interest rate spread negatively and significantly impacted on the MGDP in Nigeria, showing that the effects of banking sector reform indicators could vary widely in an economy. The study concludes that with proper banking policy formulations and guidance in the financial sector, the manufacturing output growth would be positively affected.

Adekunle, Salami and Adedipe (2013) examined the impact of financial sector development and economic growth in Nigeria. They contended that an efficient financial system is essential for building a sustained economic growth and an open vibrant economic system. According to the study, Countries with well developed financial institutions tend to grow faster; especially the size of the banking system and the liquidity of the stock markets tend to have strong positive impact on economic growth.. They employed the OLS method of the regression analysis; the financial development was proxied by ratio of liquidity liabilities to GDP (M2GDP), real interest rate (INTR), ratio of credit to private sector to GDP (CPGDP) while the economic growth was measured by the real GDP (RGDP).The study finds that only the real interest rate is negatively related. All the explanatory variables were statistically insignificant. Though the overall statistic shows that the independent variables were able to explain 74 percent variation in the dependent but contrary to a priori expectation, it is statistically insignificant. The link between

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the financial and real sector still remains weak and could not propel the needed growth towards the vision 202020. The study recommended the need for consistent, transparent, fair policy, and also a resilient& strong institutional development of the sector.

Kehinde and Adejuwon (2011) Financial systems have long been recognized to play an important role in economic development. The financial system plays a key role in the mobilisation and allocation of savings for productive purposes, provision of structures for monetary management serves as the basis for managing liquidity in the system. This was the conclusion of this study on the importance of financial institutions to the economic development of Nigeria. It discusses the financial reforms in Nigeria and how the reforms have impacted positively on the banking industry. Their contributions towards economic development in Nigeria was also highlighted. The study suggests that the policy direction should emphasize the overall growth of the financial system with r educed transaction cost, rather than focusing on any of the structures as both impacts in a similar way on the overall economy. The study emphasised that economic policy is important to Nigeria's economic recovery and transition into a competitive market economy.

Mbadike and Okereke (2009) examined financial deepening and economic development in Nigeria between 1986 and 2007 and the central focus is that a high level of financial deepening is a necessary condition for accelerating growth in an economy. This is because of the central role of the financial system in mobilizing savings and allocating same for the development process. The study made use of secondary data, sourced for a period of 22 years. The study specified nine explanatory variables for the study based on theoretical underpinnings. It sought to establish a relationship between these variables and financial deepening index. The two stages least squares analytical framework was used in the analysis. A trend analysis was also done in the study. At the end of the study, it was discovered that financial deepening index is low in Nigeria over the years. It was also found that the nine explanatory variables, as a whole were useful and had a statistical relationship with financial deepening. But four of the variables; lending rates, financial savings ratio, cheques/GDP ratio and the deposit money banks/ GDP ratio had a significant relationship with financial deepening. The study concluded that: the financial system has not sustained an effective financial intermediation, especially credit allocation and a high level of monetization of the economy. Thus the regulatory framework should be restructured to ensure good risk management,

corporate governance and stemming systemic crisis in the system.

Audu, Pelesai, Pearce (2013) suggests that the theoretical modelling requirements for all the variables used in the regression satisfy the statistical requirements which determine the choice of our model. The result of the co-integration estimates in the study revealed that the selected independent variable used in this study explains long-run relationship between financial development and economic growth between the period under consideration. The result from the estimated longrun Parsimonious Error Correction Model (ECM) shows that all the variables used in the study were statistically significant. The study also reveals that lending rate did not conform to our theoretical expectation but impacts significantly on gross domestic product. Commercial bank credit to private sector has the expected a priori expectation sign and also positively affected financial development and economic growth in our study. Contrary to our expectation, MGDP negatively influenced financial development and economic growth in Nigeria. The study also indicates that commercial bank credit to non-financial private firm did not conforms to a priori expectation but significantly influenced or stimulated financial development and economic growth in the Nigerian economy. The ratio of commercial bank deposit to gross domestic product (RDEP) appeared with the right sign and also impacts significantly on financial development and economic growth in Nigeria. The evidence from the study shows that the entire model is stable within the period of study.

## METHODOLOGY 3.1 Research Design:-

Ex-post facto research design is systematic and empirical inquiry in which the researcher does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulated (Akuezuilo, 1990). Thus, it is adopted as a research design for this seminar work. This design is used because the study intends to use what already exist and look backwards to explain why. This kind of study is based on analytical examination of dependent and independent variables. More so, independent variables are studied in retrospect for seeking possible and plausible relations and the likely effects, the changes in independent variables produce on a dependent variable. The variables used in this study is growth rate of GDP (GGDP), specified to depend in the financial sector indicators which are the ratio of M2 to GDP, (M2/GDP), the ratio of domestic credit to private sector to GDP (DCPS/ GDP). In broad terms, co integration method is employed and E view analytical tool used.

### 3.2 Model Specification:-

The theoretical basis of this study is anchored on stage of development hypothesis of financial development by Hugh Patrick (1966) which states that thedirection of causality between financial development and economic growth changes over thecourse of development. That is, at the early stage of development, the supply-leading impetus is evident but as real growth occurs in the economy, it will spark demand for financial services. The general model adopted from the works of Yanique C and others (2012), Financial and growth causality: A test of the Patrick's stage of development hypothesis is

$$\Delta Y \mathbf{t} = \mu + \sum_{i=1}^{p-1} \Phi_i \Delta Y \mathbf{t} - i + \prod \mathbf{d} \mathbf{t} - 1 + pXt + \varepsilon \mathbf{t}$$

where  $\Delta$  is the first difference operator, yt is a *n*×1 vector of variables consisting of real GDP and the ratio of M2 to GDP

( the ratio of credit to GDP), X is a set of control variables,  $\mu$  is a *n*×1 vector of deterministic variables, and <sup>‡</sup> is a *n*×*n* coefficient matrix. The rank of  $\prod$  determines the number of co-integrating relationships, J is the correcting term and  $\xi$  is a *n*×1 vector of disturbances with normal properties.

The VECM is used only when the variables are co-integrated, that is, there exist a long-run relationship between the non-stationary variables in  $Y_t$ . The error correction mechanism (ECM), presupposes that some variable y has an equilibrium path. In the short-run, there are adjustments to deviations from the long-run path which are defined by Long-run causality is determined by . Short-run causality is ascertained by a test on the joint significance of the lagged explanatory variable. This is restated in this study as follows:

GGDP = f(M2/GDP,DCPS/GDP,) - -

Where: GGDP=growth rate of gross domestic product, M2/GDP=m2 (broad money supply) as a percentage of GDP and DCPS/GDP= domestic credit to private sector as a percentage of GDP.

Expressing in structural form equation 2 becomes:	
$GGDP = \alpha_0 + \alpha_1 M2/GDP + \alpha_2 DCPS/GDP + U_t$	(3)

where;  $U_{t=}$  the white noise random element and  $\alpha_{0+}$ ,  $\alpha_n$  are parameters.

### 3.3 Data Discussion:-

Broad Money Supply (M2): This is a measure of money supply that includes cash and checking deposits (M1) as well as near money. Near money in M2 includes savings deposits, money market mutual funds and time deposits, which are less liquid and not as suitable as exchange mediums but can be quickly converted into cash or checking deposits.

Domestic Credits to Private Sector: Domestic credit to provide sector refers to financial resources provided to the private sector by financial corporationssuch as loans, purchases of non equity that establish a claim for a replacement. For some countries these claims include credits to public enterprise. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available. The chosen economic growth indicator is growth

securities and trade credits and other accounts receivable

rate of GDP (GGDP) specified to depend in the financial sector indicators which are the ratio of M2 to GDP, (M2/GDP), the ratio of domestic credit to private sector to GDP (DCPS/GDP).

Formulae for Generating the Data Entering the Model

$$X_{C} - X_{B(1979)}$$
(100/1)  
% GDP AT PB =  $X_{B(1979)}$ X (100/1)

X is the variable used for the study.  $X_c$  is current value of the variable, and  $X_B$  is previous value of the variable X used as the base year to determine the growth rate of the variable within the years under study.

In the formulae above, GDP is gross domestic product, and PB is the previous year's GDP used as the base to determine growth rate of the variable.

(2)

## 4.0 RESULTS

This section is centered on the result for data analysis. Data analysis involves working to uncover patterns and trends in data sets while interpretation involves explaining those patterns and trends. Data analysis is considered an important step and it is the heart of the research in any research work. When data has been collected with the assistance of relevant tools and methods, the next logical step, is to analyze and interpret the data with a view to arriving at empirical solution to the problem. Hence, the results for the analysis are presented below.

## 4.1 Unit Root Test:-

The Augmented Dickey-Fuller (ADF) and Philip Perron (PP) formulae were employed to test for the existence of unit roots in the data using trend and intercept. The results are presented in table one below.

Trend and Inte	rcept @ Levels			_	
Series	ADF	5% critical	10% critical	Order	Remarks
	<b>Test Statistic</b>	values	values		
GGDP	-4.421089	-3.552973	-3.209642	1(0)	Stationary
M2G	-2.641075	-3.552973	-3.209642	1(0)	Not Stationary
DCG	-2.574167	-3.552973	-3.209642	1(0)	Not Stationary
Sauraan Dagaana	how's commitation from F	view (version 7.0)			

## **Table 1: Augmented Dickey Fuller Unit Root Test**

Sources: Researcher's compilation from E-view (version 7.0)

## **Table 2: Phillips-Perron Unit Root Test**

Trend and Ir	<u>itercept @ Levels</u>				
Series	ADF	5% critical	10% critical	Order	Remarks
	Test Statistic	values	values		
GGDP	-4.591924	-3.552973	-3.209642	1(1)	Stationary
M2G	-2.428049	-3.552973	-3.209642	1(1)	Not Stationary
DCG	-2.319795	-3.552973	-3.209642	1(1)	Not Stationary
C D					

Sources: Researcher's compilation from E-view (version 7.0)

## **Table 3: Augmented Dickey Fuller Unit Root Test**

## Trend and Intercent @ 1st Difference

Series	ADF	5% critical	10% critical	Order	Remarks
	<b>Test Statistic</b>	values	values		
GGDP	-9.605547	-3.557759	-3.212361	1(1)	Stationary
M2G	-5.002914	-3.557759	-3.212361	1(1)	Stationary
DCG	-5.033308	-3.557759	-3.212361	1(1)	Stationary

Sources: Researcher's compilation from E-view (version 7.0)

## **Table 4: Phillips-Perron Unit Root Test**

## Trend and Intercept @ 1st Difference

Series	ADF Test Statistic	5% critical values	10% critical values	Order	Remarks
GGDP	-10.71308	-3.557759	-3.212361	1(1)	Stationary
M2G	-6.908272	-3.557759	-3.212361	1(1)	Stationary
DCG	-8.087994	-3.557759	-3.212361	1(1)	Stationary

Sources: Researcher's compilation from E-view (version 7.0)

## 4.2 Model Estimation, Data Analysis and Presentation of Results:-4.2.1 Co-integration Test:-

This technique is employed to testing for the presence of co integration between the series of the same order of integration through forming a co integration equation. The basic idea behind co integration is that if, in the long-run, two or more series

move closely together, it is possible to regard these series as defining a long-run equilibrium relationship, as the difference between them is stationary. Lack of co integration implies that such variables have no longrun relationship.

## Table 5: Johansen co-integration test for the series; GGDP, M2G and DCG

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.392762	31.57101	29.79707	0.0309
At most 1 *	0.274417	15.60831	15.49471	0.0481
At most 2 *	0.153783	5.343359	3.841466	0.0208

Unrestricted Cointegration Rank Test (Trace)

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

ypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.392762	15.96269	21.13162	0.2270
At most 1	0.274417	10.26495	14.26460	0.1951
At most 2 *	0.153783	5.343359	3.841466	0.0208

Under the Johansen Co-integration Test, there are three co-integrating equations. In Johansen's Method, the trace statistic determines whether co-integrated variables exist.

## **4.2.2 Vector Error Correction** Mechanism (VECM):-

The presence of long run equilibrium relationship among the variables as found from the Johansen co integration led to the application of VECM. With this approach, both the long run equilibrium and short run dynamic relationships associated with variables under study is established.

	Table 6: VE	СМ	
Co integrating Eq:	CointEq1		
GGDP(-1)	1.000000		
M2G(-1)	0.183349 (0.25200) [ 0.72759]		
DCG(-1)	0.518022 (0.26121) [ 1.98316]		
С	-14.28750		
Error Correction:	D(GGDP)	D(M2G)	D(DCG)
CointEq1	-0.745617 (0.20822) [-3.58094]	-0.177804 (0.23688) [-0.75060]	-0.129674 (0.22965) [-0.56465]
D(GGDP(-1))	-0.224951 (0.17104) [-1.31518]	0.330689 (0.19459) [ 1.69941]	0.376317 (0.18865) [ 1.99480]
D(M2G(-1))	-0.213582 (0.34033) [-0.62756]	0.183412 (0.38719) [ 0.47370]	0.244948 (0.37537) [ 0.65256]
D(DCG(-1))	0.240849 (0.37459) [ 0.64296]	0.093697 (0.42616) [ 0.21986]	0.089481 (0.41315) [ 0.21658]
С	0.600894 (0.86935) [ 0.69120]	-0.143025 (0.98903) [-0.14461]	0.037729 (0.95884) [ 0.03935]

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**Table 7: VECM SYSTEM EQUATION** 

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.745617	0.208218	-3.580940	0.0013
C(2)	-0.224951	0.171042	-1.315180	0.1995
C(3)	-0.213582	0.340334	-0.627565	0.5356
C(4)	0.240849	0.374594	0.642961	0.5257
C(5)	0.600894	0.869348	0.691201	0.4953

R-Squared = 0.552073, F-Statistics = 8.32, Prob(F-Statistic) = 0.000165, LM = 0.32

The existence of co integration among the variables as indicated above presents an evidence of long-run economic relationship among the variables. This implies that, vector error correction model is the best option for further analysis. It captures both the long run equilibrium and short run dynamic relationships associated with the above results.

## 4.2.3 Granger Causality Test:-

With this test, the pair-wise relationships between the estimated variables are ascertained. Thus the table is presented below:

### **Table 8: VEC Granger Causality**

Dependent va	riable: D(GGDP)		
Excluded	Chi-sq	Df	Prob.
D(M2G) D(DCG)	0.393837 0.413398	1 1	0.5303 0.5202
All	0.442968	2	0.8013

#### . . . . . . .

### Dependent variable: D(M2G)

Excluded	Chi-sq	Df	Prob.
D(GGDP) D(DCG)	2.888003 0.048339	1 1	0.0892 0.8260
All	3.125296	2	0.2096

#### **Dependent variable: D(DCG)**

Excluded	Chi-sq	Df	Prob.
D(GGDP) D(M2G)	3.979241 0.425830	1 1	0.0461 0.5140
All	4.582597	2	0.1011

## 4.3 Test of Research Hypotheses:-

Hypothesis testing is the use of statistics to determine the probability that a given hypothesis is true or not. Thus, in testing the first hypothesis, trace statistics of the Johansen co integration test is used. In the second and third hypotheses, P-values of the t-statistics in VECM are employed while in the fourth hypothesis, P-value of the F-statistic in Granger causality is employed.

## 4.3.1 Hypothesis One:-

There exist no significant long-run relationship between financial development and economic growth in Nigeria.

**Decision Rule:** If the trace statistic is greater than 0.05 critical value, the null hypothesis is rejected and it is concluded that there is existence of co integration among the variables under study.

The statistical test for the first hypothesis is trace statistics. This is found in the Johansen co integration test. The trace statistics [31.57101 > 29.79707], [15.60831 > 15.49471] and [5.343359 > 3.841466]. Therefore, we conclude that there is significant long-run relationship between financial development and economic growth in Nigeria within the period under study.

## 4.3.2 Hypothesis 11:

H<sub>a</sub>: Ratio of broad money supply to GDP has no significant impact on economic growth in Nigeria.

H.: Ratio of broad money supply to GDP has significant impact on economic growth in Nigeria.

**Decision Rule:** If the chosen level of significance (0.05) is greater than the P-value, the null hypothesis is rejected and it implies that the parameter for estimation is not statistically significant.

In the VECM Equation Result presented above, the t-statistics for M2G is -0.6276 while its P-value is [0.5356]. Since the level of significance [0.05] is less than the P-value [0.5356], the null hypothesis is accepted and it is concluded that ratio of broad money supply to GDP has no significant impact on economic growth in Nigeria within the period under study.

### 4.3.3 Hypotheses II1:-

H.: Ratio of Domestic Credit to Private Sector to GDP has no significant impact on economic growth in Nigeria. H.: Ratio of Domestic Credit to Private Sector to GDP has significant impact on economic growth in Nigeria.

**Decision Rule:** If the chosen level of significance (0.05) is greater than the P-value, the null hypothesis is

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rejected and it implies that the parameter for estimation is not statistically significant.

In the VECM Equation Result, the t-statistics for DCG is -0.6429 while its P-value is [0.5257]. Since the level of significance [0.05] is less than the P-value [0.5257], the null hypothesis is accepted and it is concluded that ratio of domestic credit to private sector to GDP has no significant impact on economic growth in Nigeria.

## 4.3.4 Hypotheses IV:-

 $H_0$ : There exists no significant causality between financial development and economic growth in Nigeria.

 $H_1$ : There exists significant causality between financial development and economic growth in Nigeria.

**Decision Rule:** If the chosen level of significance (0.05) is greater than the P-value, the null hypothesis is rejected and it implies that there is causality which runs within the variables.

The F-statistic for DCG => GGDP is 3.979 and its P-value is [0.0461]. The statistical value for causality from DCG => M2G is 0.425 while its P-value is [0.5140]. The causality that runs from [DCGG=>GGDP] is statistically significant as confirmed by P-value [0.0461]. However, the causality from [DCG=>M2G] is not statistically significant. This is confirmed by is P-value [0.5140]. Since the P-values of [DCGG=>GGDP] is less than 0.05, it is concluded that there is significant causality between financial development and economic growth in Nigeria.

## 5.0 SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION 5.1 Summary of Findings:-

This seminar paper examined the impact of financial development on economic growth in Nigeria from 1980 - 2013. In the model specified, Growth rate of Gross Domestic Product is a function of Ratio of Broad Money Supply to GDP and Ratio of Domestic Credit to Private Sector to GDP. With the aid of statistical and econometric techniques employed, the following results were found:

- 1. In the VECM Equation Result presented above, the t-statistics for M2G is -0.6276 while its P-value is [0.5356]. Since the level of significance [0.05] is less than the P-value [0.5356], the null hypothesis is accepted and it is concluded that ratio of broad money supply to GDP has no significant impact on economic growth in Nigeria within the period under study.
- 2. In the VECM Equation Result, the t-statistics for DCG is -0.6429 while its P-value is [0.5257]. Since

the level of significance [0.05] is less than the Pvalue [0.5257], the null hypothesis is accepted and it is concluded that ratio of domestic credit to private sector to GDP has no significant impact on economic growth in Nigeria.

- The F-statistic for DCG => GGDP is 3.979 and its P-value is [0.0461]. The statistical value for causality from DCG => M2G is 0.425 while its Pvalue is [0.5140]. The causality that runs from [DCGG=>GGDP] is statistically significant as confirmed by P-value [0.0461]. However, the causality from [DCG=>M2G] is not statistically significant. This is confirmed by is P-value [0.5140]. Since the P-values of [DCGG=>GGDP] is less than 0.05, it is concluded that there is significant causality between financial development and economic growth in Nigeria.
- The statistical test for the fourth hypothesis is trace statistics. This is found in the Johansen co integration test. The trace statistics [31.57101 > 29.79707], [15.60831 > 15.49471] and [5.343359 > 3.841466]. Therefore, we conclude that there is significant long-run relationship between financial development and economic growth in Nigeria within the period under study.

## 5.2 Conclusion:-

The general objective of this study is to evaluate the relationship between financial development and economic growth in Nigeria from 1980-2013 while the specific objectives of the research paper sought to determine if ratio of broad money supply to GDP impact significantly on economic growth in Nigeria, investigate if ratio of Domestic Credit to Private Sector to GDP impact on economic growth in Nigeria. It also investigated if there is significant causal relationship between financial development and economic growth in Nigeria. Finally, the study examined if there is significant stable long- run relationship exists between financial development and economic growth in Nigeria. The study employed ex-post facto research design using Nigeria's data obtained from CBN (1980-2013). The empirical results were on Augumented Dickey Fuller test and Philip Peron. In the second step, Johansen cointegration test was conducted. The presence of long run equilibrium found led to the use of Vector Error Correction Mechanism (VECM).

It was found that ratio of broad money supply to GDP has no significant impact on economic growth in Nigeria within the period under study. The ratio of domestic credit to private sector to GDP has no significant impact on economic growth in Nigeria. Granger Causality

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test conducted indicated the presence of causality running from ratio of domestic credit to the private sector to Growth rate of GDP. There is significant long-run relationship between financial development and economic growth in Nigeria within the period under study.

## 5.3 Recommendations:-

Based on the findings, the policy implications are in three directions.

- 1. Considering the ratio of broad money supply to GDP which has no significant impact on economic growth within the period under study, government should encourage the monetary authority like the central bank of Nigeria to reduce interest rate thereby increasing money supply so that prospective investors can increase their investment and raise the nation's production capacity.
- 2. As the ratio of domestic credit to private sector to GDP has no significant impact on economic growth in Nigeria within the period under study, the development of the finance sector is also very necessary so as to make credit accessible to micro entrepreneurs who are often left out in the formal credit markets. These will boost private sector development and investments which is the engine of growth and development.
- 3. It was found that financial development granger cause the economy, therefore government must also ensure efficiency in its regulation and supervision of all financial institutions in allowing more private banks and non-bank financial institutions to broaden their financial market to accelerate financial development and improve the financial structure that leads to increase economic growth of Nigeria.

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