
Peter Ego Ayunkua*

*aDepartment of Banking, Finance and Insurance, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria

Abstract: This research examined the nexus between financial sector development and economic growth in Nigeria. The study employed credit to private sector, total bank deposit, prime lending rate, market capitalization, money market instruments as proxy to measure financial sector development, while GDP was used to capture economic growth, using annual data from 1981 to 2016. All the variables were stationary at first difference using the Augmented Dickey Fuller (ADF) and Phillip Perron (PP) tests. The Johansen Cointegration test result showed that a long-run relationship between financial sector development and economic growth existed. The research shows that out of the five proxies for financial sector development, four exhibited significant relationship with economic growth. These findings therefore imply that a relationship exists between financial sector development and economic growth, indicating that a growth in the financial sector will cause same in the economy. Finally, the study recommends that the government formulate policies that will enhance credit to the private sector, such as not operating the Treasury Single Account (TSA) Policy in a holistic manner, so that banks will have fund to propel their credit delivery function effectively; considering the fact that the public sector drives the Nigerian economy as it stands now. However for capital market development, investors’ protection policies should be enhanced in order to strengthen and improve public confidence in the capital market, such as reducing charges for the purchase and sale of securities and reduction of listing requirements for new companies on the exchange.

Keywords: Nexus, Treasury Single Account, Capital Market, Cointegration Approach.

1. Introduction

The debate as to the precise link and relationship between financial sector development and economic growth has continued to remain a contentious one amongst scholars for decades. This debate arguably gathered momentum with the empirical works of King and Levine (1993) who, in a cross country study comprising data from 77 countries over the period 1960-1989, found that the level of financial sector development stimulates economic growth. This relationship between financial sector development and economic growth is also contentious as it leads to different views regarding the part that any financial tool or system or even structure plays in the economy (Kenourgios and Samitas, 2007). In this regard, financial sector development is considered to be a mediator that produces economic efficiency, which may eventually lead to economic growth (Levine, 1997a).

According to Dorrucci and Drutti. (2007), financial sector development imply the capability of a country to channel its savings into investments effectively and efficiently within its own borders owing to the quality of its institutional and regulatory framework, the size of its financial markets, the diversity of its financial instruments and private agent’s ease of access to them and the financial market’s performance in terms of efficiency and liquidity. Likewise, Hartmann et al. (2007) defined financial development as the process of financial innovation as well as institutional and organizational improvements in a financial system, which reduce asymmetric information, increase the completeness of markets, add possibilities for agents to engage in financial transactions through contracts, reduce transaction costs and increase competition. A strong financial system offers risk diversification and effective capital allocation. This therefore implies that the greater the financial development, the higher would be the mobilization of savings and its allocation to high return projects. Levine (1993) emphasized that financial sector development can be measured by a number of factors including the depth, size, access, and soundness of financial system. It can also be measured by examining the performance and activities of the financial
Economic growth, as stated by (Mohr, 1998), is a rise in the capacity of an economy to create goods and services, comparing one period of time to another. Economic growth can be measured in nominal terms, which comprise inflation, or in real terms, which are adjusted for inflation. Likewise, economic growth can be used to equate one country’s economic growth to another, through measurement such as GDP (Gross Domestic Product). A further study of the relationship between financial sector development and economic growth will espouse if these economic concepts complement each other and if financial development stimulates growth. On the other hand, Djoumessi (2009) states that the establishment of a suitable financial sector policy is of utmost importance for economic growth, and as such, if the factors underlying differences in financial development can be identified, the financial sectors can provide more effective public policy advice to those countries and therefore potentially improve living standards.

2. Statement of Problem

The financial sector plays a vital role in economic growth and development as it channels resources from area of surpluses to those of deficit in the economy. Its liquidity role stands the most significant, as the major players consists of the Central Bank of Nigeria, commercial banks, capital markets, discount houses, insurance companies, asset management companies and pension houses. In recent years, the sector has witnessed major reforms to enhance its performance, notably the deregulation of the banking system. Conventional wisdom holds an interaction exists between financial sector development and economic growth exists, as a vibrant financial sector will lead to a growth of the Nigerian economy. At the same time, whether or not financial sector development precedes economic growth or economic growth precedes financial development, is still a debatable topic for both developed and developing countries.

It is against this back drop, that major economies of the world strive to develop their financial sector so as to achieve sustainable economic growth.

3. Objectives of the Study

The broad objective of the study is to examine the nexus of financial sector development and economic growth in Nigeria. Specifically, the study seeks;

i  To evaluate the impact of financial sector development on Economic Growth in Nigeria.

ii  To examine the long-run relationship between financial sector development and Economic Growth in Nigeria.

3.1. Research Questions

To what extent has financial sector development impacted on Economic Growth in Nigeria?

Is there any long-run relationship between financial sector development and Economic Growth in Nigeria?

3.2. Research Hypothesis

The following hypotheses shall be tested in relation to this study.

Ho: There is no significant relationship between financial sector development and Economic Growth in Nigeria

H1: There exist a significant relationship between financial sector development and Economic Growth in Nigeria

3.3. Significance of the Study

Having clearer insights into the relationship between financial sector development and economic growth has three main benefits: (1) enhancing reconciliation of conflicting views and theories on the subject; (2) aiding resource prioritization and (3) guiding the formulation of appropriate economic policy. The second benefit is particularly noteworthy for developing countries such as Nigeria that is structurally, i.e. economically, politically, and socially, different and comparatively underdeveloped.
3.4. Scope of the Study
This study covers a wide range of time spanning a period of thirty-four years from 1981 – 2016. The study basically examines the impact of financial sector development on economic growth in Nigeria.

3.5. Review of Related Literature
The relationship between financial development and economic growth has been the subject of much debate both at theoretical and empirical levels. Financial systems have long been recognised for their important role in economic growth and development. Earlier economic growth theories argued that economic growth is a process of innovations whereby the interactions of innovations in both financial and real sectors provide a driving force for dynamic economic growth. According to Levine (1997a), in order for economic growth to take place, it is necessary to increase labour productivity, followed by the size of the workforce and improved technology. In other words, economic growth requires an increase in all aspects of growth.

4. Conceptual Framework
4.1. Institutional Environment
The institutional environment of a developed financial system involves policies, regulations, laws and supervision. Ram (1999) found that in some cases dysfunctional institutions are one of the main obstacles in financial development. However, countries with strong institutional environments and investors safeguard and achieve high levels of financial development Wood (1993). Thus, through constant monitoring of the financial system it is possible to achieve higher levels of financial development with certified international audits.

Beck (2002) suggested that banks should be evaluated on international standards, and by international rating organizations. Many countries are following the Basel rule to strengthen their capital regulations. These measures can help to improve financial health of an economy. Capital account openness and domestic financial liberalization play a significant role in increasing the depth of the financial system. It also helps to increase intermediation between investors and savers. Additionally, this helps to increase the level of financial mobilization in the economy (De-Hass and Vau-Horen, 2013).

4.2. Business Environment
The second important determinant of financial development is considered the business environment. This is important for an improved financial system in terms of the availability of skilled labourers, physical and technological infrastructure and especially the cost of doing business. The availability of skilled workers helps to develop the quality of financial services. According to Levine (1999), an examination was done on the relationship between human development index and financial development in 57 countries and it has been found that human capital and financial development are positively correlated. It simply means that the degree of training, research and development, availability of good quality management schools, as well as quality education of mathematics and science, are important factors for the production of skilled workers. Conjointly, it is an allocation, which measures the strength of the business environment in an economy and is referred to as an important indicator of financial development (Bank, 2006).

4.3. Financial Stability
Financial stability can be referred to as the trade-off between risks and returns. The stability and soundness of a financial system is important for measuring financial development, which makes the financial regulation a key element in this regard (Krugman, 1991; Mckinnon, 1973). This system protects against systemic risks, namely those risks that involve the factors that have chain effects and can cause the financial system to collapse. For example, the failure of one entity can lead to the failure of the financial system or market. Financial regulations safeguard consumers from opportunist behaviours, which occur when sellers try to take the benefit of their understanding or knowledge and attempt to conceal information from the buyer that can have a negative effect on buying behaviours.
Financial regulations also help to improve the efficiency of the financial system. A highly supervised and regulated financial system may be very stable; however, such a controlled system may equally hamper financial development and innovation. In contrast, a financial system that is innovative and has high supervision and regulation can also become unbalanced and trigger credit booms causing a severe negative effect on growth. Financial soundness involves the risk related to the currency crises, systematic banking crises, and sovereign debt crises.
4.4. Banking System

Banks are one of the important elements of financial development. Most countries are still completely reliant on their banking sector rather than financial markets. Banks serve as a bridge between the savers and borrowers. They offer insurance to savers by providing them with a portfolio of less risky liquid returns and high risky illiquid investments. In this way, investors can get higher returns on their investments as they hold diversified portfolios. Banks offer full insurance to their clients by offering long-term investments against liquidity risk (Levine, 1997b). Liquidity risk can be defined as the risk that banks may sell their assets at a loss to meet the cash demand.

Strong financial systems banks offer low transaction and information costs. Efficient allocation of credit to the private sector and potential businesses will lead to an increase in industrial growth and in turn boost economic growth. The allocation of credit to potential projects enhances the innovation in the country and increases the confidence of prospective businesses (Vazakidis and Adomopoulos, 2009). Non-bank financial institutions do not accept the demand deposits but provide a number of financial instruments. Non-banks and banks compete in strong financial systems, especially for the lending opportunities. The lending by non-banks does not affect the money supply but increases the amount of credit in market debt. Non-banks borrow at low rates for the short term and lend at high rates for the long term. There is a need to maintain excellent ratings for bank operations (Brealey and Kaplanis, 1996). The competition between banks and non-banks improves the efficiencies in both, which contributes further in the development of the financial system.

4.5. Financial Markets

Financial markets are one of the most important measures of financial development. It is considered that countries with developed financial systems are more focused towards the development of financial markets as compare to banks. The four types of financial markets are discussed below (Levine, 1999;2001); Schumpeter (1934).

A capital market is one in which individuals and institutions trade financial securities. Organizations and institutions in the public and private sectors also often sell securities on the capital markets in order to raise funds. Thus, this type of market is composed of both the primary and secondary markets. Stock markets allow investors to buy and sell shares in publicly traded companies. They are one of the most vital areas of a market economy as they provide companies with access to capital and investors with a slice of ownership in the company and the potential of gains based on the company’s future performance (Vazakidis and Adomopoulos, 2009).

In addition, the money market is a segment of the financial market in which financial instruments with high liquidity and very short maturities are traded. The money market is used by participants as a means for borrowing and lending in the short term, from several days to just under a year. Money market securities consist of negotiable certificates of deposit (CDs), banker’s acceptances, Treasury bills and commercial paper. Money market investments are also called cash investments because of their short maturities. Investing in the cash or “spot” market is highly sophisticated, with opportunities for both big losses and big gains. In the cash market, goods are sold for cash and are delivered immediately. By the same token, contracts bought and sold on the spot market are immediately effective (Schumpeter, 1934).

The derivative is named so for a reason: its value is derived from its underlying asset or assets. A derivative is a contract, but in this case the contract price is determined by the market price of the core asset. If that sounds complicated, it’s because it is. The derivatives market adds yet another layer of complexity and is therefore not ideal for inexperienced traders looking to speculate. However, it can be used quite effectively as part of a risk management program. The interbank market is the financial system and trading of currencies among banks and financial institutions, excluding retail investors and smaller trading parties. While some interbank trading is performed by banks on behalf of large customers, most interbank trading takes place from the banks’ own accounts (Levine, 2001).

The forex market is where currencies are traded. The forex market is the largest, most liquid market in the world with an average traded value that exceeds $1.9 trillion per day and includes all of the currencies in the world. The forex is the largest market in the world in terms of the total cash value traded, and any person, firm or country may participate in this market.

A primary market issues new securities on an exchange. Companies, governments and other groups obtain financing through debt or equity based securities. Primary markets, also known as “new issue markets,” are facilitated by underwriting groups, which consist of investment banks that will set a beginning price range for a given security and then oversee its sale directly to investors. The primary markets are where investors have their first chance to participate in a new security issuance. The issuing company or group receives cash proceeds from the sale, which is then used to fund operations or expand the business Allen and Gale (2001).
4.6. Capital Availability and Access

The measure of size, depth and access reflects the output of a financial system; it measures how large and deep is the financial system. The size and depth of the financial system reflects the size of savings and investments. Large financial systems reduce the limitation related to credit. It improves the process of savings and efficient allocation of credit is the main feature of a developed financial system De La Torre and Schmukler (2007).

According to Allen and Gale (2001) the larger the size of the banking sector, the greater would be the services offered to its clients. To study the depth of financial systems, the proxy of liquid liabilities to GDP is employed. The access of financial system refers to the greater availability to financial services. If a financial system offers greater accessibility to financial services it is considered as one of the important steps towards financial development.

4.7. Determinants of Economic Growth

There has been numerous of studies that have analysed the factors underlying economic performance (Chen, 1997; Klein and Olivei, 2008). A great number of studies have established evidence proposing that educated population is a crucial determinant of economic growth (Barro, 1996).

Investment is the most fundamental determinant of economic growth identified by both neoclassical and endogenous growth theories. However, in the neoclassical model, investment has impact on the transitional period, while the endogenous growth models argue for effects that are more permanent (Rostow, 1960). The importance attached to investment has led to an enormous amount of empirical studies examining the relationship between investment and economic growth. In addition to investment, openness to trade is another potentially significant determinant of growth performance.

Openness enables the exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure to competition.

Another important determinant of economic growth that has received much attention is geography. The effects of geography on long-run economic growth are multidimensional. Health, population growth, food productivity, resources endowment and mobility of factors of production are all characteristics of geography that play important roles in affecting long-run economic growth. According to (Arvanitidis et al., 2009), tropical climate has adverse effects on human health and agricultural productivity, which result in lower levels of per capita income. If geography is of utmost importance, then we expect that resource rich countries should experience a faster growth and a higher per capita income relative to those countries that are resource-poor. It has been observed, however, that the opposite is closer to reality.

Innovation and research and development activities can play a major role in economic progress, increasing productivity and growth. This is due to the increasing use of technology that enables the introduction of new and superior products and processes. Various endogenous growth models have stressed this role, and the strong relation between innovation, research and development, and economic growth has been affirmed empirically by many studies.

Openness to trade has been used extensively in the economic growth literature as a major determinant of growth performance. There are sound theoretical reasons for believing that there is a strong and positive link between openness and growth. Openness affects economic growth through several channels such as exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure to competition. Openness is usually measured by the ratio of exports to GDP (Yarikkaya, 2003).

There is substantial and growing empirical literature investigating the relationship between openness and growth. On the one hand, a large part of the literature has found that economies that are more open to trade and capital flows have higher GDP per capita and grow faster, (Dollar and Kruary, 2003).

Lastly, It is on these grounds that (Easterly, 2001) argued that none of the traditional factors would have any impact on economic performance if there had not been a stable and trustworthy institutional environment developed.

Throughout the different determinants, models came into existence to generate growth in the most effective manner. Rostow (1960) Argued that economic growth initially must be led by a few individual sectors, This belief echoes with David Ricardo's comparative advantage thesis and analyses Marxist revolutionaries push for economic self-reliance in that they push for the initial development of only one or two sectors over the development of all sectors equally.
4.8. Measures Enabling Financial Sector Development Systems

A number of factors including the depth, size, access, and soundness of financial system can measure financial development. It can be measured by examining the performance and activities of the financial markets, banks, bond markets and financial institutions (Arestis et al., 2001).

It is observed that the higher the degree of financial development in a country, the wider will be the availability of financial services. A developed financial system offers higher returns with less risk. In this paper, it is attempted to collect determinants of financial development including bank systems, financial markets, institution and business environment, and capital availability and access (Beck and Levine, 1999). This index can be used to assess the financial strength of an economy and further can be related to growth.

5. Theoretical Framework

This study is based on the following theories:

5.1. Theory of Economic Growth

The economic growth of an economy is not only thought of as an increase in a productive capacity but also as an improvement in the quality of life to the people of that economy. The endogenous growth theory suggested that financial intermediation has a positive effect on steady-state growth but the government intervention in the financial system has a negative effect on economic growth (Adamopoulos, 2010).

Economic growth can be defined as an increase in real GDP, which is GDP adjusted for inflation. Economic growth is a complex problem because several factors contribute to the growth process. In the economic literature, several factors drive economic growth. These include the investment ratio as it the Harrod-Domar model; (Pagano, 1993): human capital, research development and trade openness.

Although there is a lack of joining theory, there are a number of partial theories that discuss the role of various factors in determining economic growth and what can ultimately increase economic growth. Pagano (1993) also suggests three ways in which the development of the financial sector might affect economic growth under the basic endogenous growth model. First, it can increase the productivity of investments. Secondly, an efficient financial sector reduces transaction costs and thus increases the share of savings channeled into productive investments. An efficient financial sector improves the liquidity of investments. Lastly, financial sector development can either promote or decrease savings.

The theories of Marx and Weber give the impression to be in disapproval to one another, they both rest upon the idea that the economic growth gives rise to and from speculation in labour and machines. Recent theories of economic growth have been premised on the same hypothesis about speculation and saving as sources of economic growth. One model of development in specific, by Harrod (1939), designed the fundamental principle of most economic growth approaches employed in Latin America, Africa and Asia after World War II. The Harrod-Domar model indicated the dimension of savings and efficiency of investment as the keys to stimulating economic growth. The Harrod-Domar model has been comprehensively evaluated and extended by Solow (1956), who adapted some new factors of production, which include labour, technological change and some other conventions into the model.

A growing number of empirical studies have accompanied theoretical developments Smith (1904); Adam Smith’s growth model continued the principal model of Classical Growth but in another conventional study Ricardo highlighted two significant properties for growth.

Firstly, increasing property-owner's rents over time due to the restricted supply of land should cut into the revenues of capitalists and secondly, wage goods from cultivation would cause an escalation in price over time which would then diminish the profits of corporations as workers have need of higher wages. Primarily research focused on the concern of economic convergence and divergence, since this possibly will provide a test of soundness between the two main growth theories like the neoclassical and the endogenous growth theory. In the end, focus moved to causes determining economic growth.(Olayiwola and Okodua, 2013).

5.2. Theory of Financial Sector Development

Economists have different views regarding the importance of financial development for economic growth. According to Levine (1997b) and Hicks (1969), it can be argued that financial development played an important role in forming industrialization in England through means of facilitating the mobilization of capital for immense works. Besides, Schumpeter (1934) opposed that some well-functioning banks tend to spur technological modernization, through identifying and even funding some entrepreneurs with better opportunities of successfully applying those innovative products and production.
processors. This may make banks one of the most effective engines invented to spur up economic growth. As suggested by Adamopoulos (2010) financial development could be defined as the policies, factors and institutions, which lead to efficient intermediation and effective financial markets.

Commonly, countries need to improve or increase the efficiency of their current financial sectors. By doing this, it allows financial sectors to regulate and adjust the appropriate policy reforms, which will stimulate faster economic growth. As stated by Djoumessi (2009), an important fact of financial development is that it aims to improve the allocation of capital, through means of allocating funds to specific developments, which enables marginal productivity to be higher. Thus focusing the role of intermediaries on financial institutions may eventually increase the productivity of capital, which will contribute to growth by means of gathering information that places them in a position to evaluate alternative investment developments and encouraging individuals to invest in risky projects.

Further, according to Djoumessi (2009), to establish a suitable financial sector policy is important for economic growth. Many organisations or financial intermediaries need to be in place to provide services such as risk management, monitoring borrowers, mobilisation of savings, exerting corporate control, and acquiring information about investment opportunities and facilitating the exchange of goods and services.

Due to the importance of identifying the determinants and measures of financial development, there can be a notable increase in research into the fundamental determinants of functioning financial systems (Levine, 1999). Technology seems to be one of the central factors underlying divergence.

Pagano (1993) suggests there are three ways in which the development of the financial sector might affect economic growth under the basic endogenous growth model. First, it can increase the productivity of investments. Secondly, an efficient financial sector reduces transaction costs and thus increases the share of savings channeled into productive investments. An efficient financial sector improves the liquidity of investments. Lastly, financial sector development can either promote or decline savings.

5.3. Empirical Review

The issue of the nexus between financial sector development and economic growth is well documented in the body of literature without consensus.

Scholars such as Goldsmith (1969); Shaw (1973) & Mckinnon (1973), had emphasized the importance of financials system in economic growth. Hicks (1969) contends that the industrialization process in England was as a result of the development of the financial sector which increased government and people access to funds that were used to finance capital project which necessitated the development of the economy.

Osinubi (2002) examined the effect of financial sector development in Nigeria from 1980 to 2000 using the OLS technique. The result showed a positive relationship between economic growth in Nigeria and all the capital market development variables used. The findings showed that 98% of the variation in economic growth is caused by the explanatory variables based on his findings. Ahmad and Malik (2009) examined the relationship between financial sector development and economic growth for 35 developing countries from 1970-2003. Using the GMM (Generalized Method Moment) technique, they observed that financial sector development affects per capital GDP mainly through its role in efficient resource allocation rather than its effect on capital accumulation.

(Godfrey, 2013) studied the relationship between financial sector development and economic growth in Zimbabwe from 1980-2006. The cointegration and multivariate Granger causality technique adopted showed a unidirectional causality from economic growth to financial development. Jayaraman and Choong (2007) examined the impact of financial sector development on economic growth in Fiji. The ARDL (Autoregressive Distributed Lag) and cointegration technique were used, the results showed the presence of a long-run relationship with linkage from domestic private sector credit to economic growth but not vice-versa. Their result further indicated evidence of a bi-directional short-run causality between the variables suggesting that private sector credit not only promoted economic growth, but also affected trade balance.

Dandume (2014) examined the relationship between financial sector development, economic growth and poverty reduction in Nigeria covering the period of 1970-2011. The Autoregressive Distributed Lag model (ARDL) and Toda and Yamamoto No causality test, technique was adopted. The results of the study revealed that financial sector development does not cause poverty reduction and that economic growth causes financial sector growth. Kagochi (2013), investigated the relationship between the development of financial market and economic growth in Kenya during 1970–2008 using an expanded neoclassical growth model and ARDL technique. The findings suggest that development of the financial sector, especially the size of banking sector, leads to enhanced economic growth.
Chisunga (2015) examined the impact of financial sector development on economic growth in Zimbabwe from 1995 to 2008. The Granger causality and cointegration technique applied showed that economic growth Granger causes financial sector development and there are positively related in the long run. Vazakidis and Adomopoulos (2009) used annual data for the period 1978-2007, using Granger test based on Vector Error Correction Model (VECM) showed that a relationship runs from economic growth to financial sector development in Greece.

Nkoro and Uko (2013) examined the financial sector development-economic growth nexus in Nigeria with annual dataset covering the period, 1980-2000. The co integration/Error Correction Mechanism (ECM) adopted showed that there is a positive effect of financial sector development on economic growth in Nigeria. By employing cross-section data analysis during the period 1960 to 1999 for 159 countries, Khan and Senhadji (2003) examined the relationship between financial sector development and economic growth. They adopted the two-stage least squares (2SLS) to address the problem of potential endogeneity in the underlying relationship. The results of their study indicated that financial sector development has a positive and statistically significant effect on economic growth.


Adelakun (2010) empirically investigated financial sector development and economic growth in Nigeria, using the Ordinary Least Squares (OLS) method. The findings showed that financial sector development has a substantial positive effect on economic growth in Nigeria. Osuji and Chigbu. (2012) Investigated the impact of financial sector development variables on economic growth in Nigeria, using time series data for the period 1960-2008. The study utilized the co-integration technique, causality test and error correction mechanism. The results showed that money supply and credit to private sector positively impacted on economic growth in Nigeria and were as well co-integrated with GDP for the study period. While the Granger test shows a bi-directional causality existing between GDP and all the explanatory variables.

Sunde (2012) Investigated the nexus between financial sector development and economic growth in South Africa, from 1975-2010. Adopting the counteraction, error correction modeling and; the Granger causality tests. The results of the study showed that economic growth is explained by the financial sector variables. The Granger causality test results show that there is generally a bidirectional relationship between economic growth and financial sector development which implies that if the economy grows the financial services sector also grows and vice versa. Ubaje and Ubaje (2014) examined the linkage between financial sector development and economic for the period 1990 to 2010. The study employed Vector Error Correction (VEC) and co-integration technique. The findings suggest a strong positive relationship between financial sector and economic growth.

It is quite evident from empirical literature that there is a relationship between financial sector development and economic growth, however, this relationship varies among countries mainly because of factors such as regulation, level of government participation in the economy, trade openness level of income, time periods etc. However, according to De Gregorio and Guidotti (1995) there is no consensus to whether financial development spurs economic growth.

6. Research Methodology
6.1. Research Design
This study performs a time series analysis, as to examine the nexus between financial sector development and economic growth using secondary data. The study covers a period of thirty-four years (1981 – 2016) using the ex-post factor research design. Ex-post factor design uses historical information in studying existing phenomenon, with the intent of using the result to understand the current trend as regard the issue of study.

6.2. Method of Data Collection
The data collected include five variables as measures of financial sector development such as stock market capitalization, credit to the private sector, total bank deposit, prime interest rate and value of money market instruments. Lastly, GDP was used as a proxy for economic growth.
## Measurement of Variables

<table>
<thead>
<tr>
<th>Gross Domestic Product</th>
<th>GDP</th>
<th>The monetary value of all finished goods and services manufactured within a country at a particular period.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit to the Private Sector</td>
<td>CPS</td>
<td>This refers to funds such as loans, trade credits and other account receivables granted to the private sector by banks.</td>
</tr>
<tr>
<td>Prime Interest Rate</td>
<td>LENDRATE</td>
<td>It is the interest rate commercial banks charge their most trustworthy clients.</td>
</tr>
<tr>
<td>Total Bank Deposit</td>
<td>DEP</td>
<td>The total amount of funds placed in the banking sector.</td>
</tr>
<tr>
<td>Stock Market Capitalization</td>
<td>MKTCAP</td>
<td>Total market value of all shares outstanding.</td>
</tr>
<tr>
<td>Value of Money Market Instruments</td>
<td>MONIMKT</td>
<td>The total value of all short-term securities and debt sold on the money market.</td>
</tr>
</tbody>
</table>

**Source:** Author’s 2018

### 6.3. Method of Data Analysis

This study adopts the cointegration technique while the VECM (Vector Error Correction Method) methodology was used to analyze the data. The Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root test was used to access the stationarity and order of integration. The Johansen cointegration technique was employed to check for the existence of a long-run equilibrium relationship among the variables, since it has the advantages amongst others for allowing for more than one cointegration equation. While the error correction model will allow us access the various magnitudes. Finally, all statistical estimation was done using E-Views 9 software.

### 6.4. Model Specification

The VECM model adopted for the study is specified below:

\[
Y_t = r_o + \varepsilon_{t1} Y_{t-1} + \varepsilon
\]

Where \(Y_t\) is a vector of six variables (GDP, CPS, LENDRATE, DEP, MKTCAP and MONIMKT)

### Table 1. Data Presentation, Analysis and Discussion of the Findings

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GDP</th>
<th>CPS</th>
<th>DEP</th>
<th>LENDRATE</th>
<th>MKTCAP</th>
<th>MONIMKT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>15258</td>
<td>8.57</td>
<td>4.9</td>
<td>7.75</td>
<td>5</td>
<td>11.7</td>
</tr>
<tr>
<td>1982</td>
<td>14985.1</td>
<td>10.67</td>
<td>5.2</td>
<td>10.25</td>
<td>5</td>
<td>15.49</td>
</tr>
<tr>
<td>1983</td>
<td>13849.7</td>
<td>11.67</td>
<td>5.9</td>
<td>10.5</td>
<td>5.7</td>
<td>22.81</td>
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<td>1984</td>
<td>13779.3</td>
<td>12.46</td>
<td>6.3</td>
<td>12.5</td>
<td>5.5</td>
<td>26.11</td>
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<td>1985</td>
<td>14953.9</td>
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<td>6.6</td>
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<td>1986</td>
<td>15238</td>
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<td>6.6</td>
<td>10.5</td>
<td>6.8</td>
<td>28.98</td>
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<td>1987</td>
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<td>1988</td>
<td>16215.4</td>
<td>27.33</td>
<td>10.7</td>
<td>16.5</td>
<td>10</td>
<td>49.69</td>
</tr>
<tr>
<td>1989</td>
<td>17294.7</td>
<td>30.4</td>
<td>10.2</td>
<td>26.8</td>
<td>12.8</td>
<td>37.66</td>
</tr>
<tr>
<td>1990</td>
<td>19305.6</td>
<td>33.55</td>
<td>15.6</td>
<td>25.5</td>
<td>16.3</td>
<td>66.91</td>
</tr>
<tr>
<td>1991</td>
<td>19199.1</td>
<td>41.35</td>
<td>22</td>
<td>20.01</td>
<td>23.1</td>
<td>97.3</td>
</tr>
<tr>
<td>1992</td>
<td>19620.2</td>
<td>58.12</td>
<td>33.3</td>
<td>29.8</td>
<td>31.2</td>
<td>144.77</td>
</tr>
<tr>
<td>1993</td>
<td>19928</td>
<td>127.12</td>
<td>49.9</td>
<td>18.32</td>
<td>47.5</td>
<td>148.96</td>
</tr>
<tr>
<td>1994</td>
<td>19979.1</td>
<td>143.42</td>
<td>65.3</td>
<td>21</td>
<td>66.3</td>
<td>153.95</td>
</tr>
<tr>
<td>1995</td>
<td>20353.2</td>
<td>180</td>
<td>79.5</td>
<td>20.18</td>
<td>180.4</td>
<td>148.28</td>
</tr>
<tr>
<td>1996</td>
<td>21177.9</td>
<td>238.6</td>
<td>95.9</td>
<td>19.74</td>
<td>285.8</td>
<td>126.62</td>
</tr>
<tr>
<td>1997</td>
<td>21789.1</td>
<td>316.21</td>
<td>128.2</td>
<td>13.54</td>
<td>281.9</td>
<td>249.75</td>
</tr>
<tr>
<td>1998</td>
<td>22332.9</td>
<td>351.96</td>
<td>142.3</td>
<td>18.29</td>
<td>262.6</td>
<td>249.21</td>
</tr>
<tr>
<td>1999</td>
<td>22449.4</td>
<td>431.17</td>
<td>202.2</td>
<td>21.32</td>
<td>300</td>
<td>396.65</td>
</tr>
</tbody>
</table>
From Table 2, the descriptive statistics shows that the GDP in Nigeria for the study period has a mean value of 31,757.15 with the yearly rates fluctuating between a maximum of 69,023.93 and a minimum of 13,779.26. The skewness with a value of 0.874864 indicates that the distribution is positively skewed. While the kurtosis value of 2.318378 shows that the distribution is platykurtic. Furthermore the descriptive of values CPS (Credit to Private Sector), DEP (Deposit), LENDRATE (Prime Lending Rate), MKTCAP (Market Capitalization) and MONIMKT (Value of Money Market Instrument) were all positively skewed with their respective kurtosis values depicting a platykurtic distribution.

6.5. Diagnostic Tests

Before estimating the Johansen cointegration and VECM test, the following diagnostic tests were conducted to make sure that the estimated results are reliable, namely: Unit root, Serial Correlation, Heteroskedasticity, Normality and Spurious Regression.

6.5.1. Unit Root

Stationarity implies that the mean, variance and covariance are constant across different periods. This study tested for the stationarity of all variables used by applying two different unit root test namely; the Augmented Dickey Fuller and Phillips-Perron Test. According to Table 3 below, all variables attained stationarity after first differencing; thereby indicating that all variables were integrated of order 1, i.e. I(1).

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Test</th>
<th>Remarks</th>
<th>PP Test</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-3.229346**</td>
<td>1(1)</td>
<td>-3.044705**</td>
<td>1(1)</td>
</tr>
<tr>
<td>CPS</td>
<td>-4.252003*</td>
<td>1(1)</td>
<td>-4.135167*</td>
<td>1(1)</td>
</tr>
<tr>
<td>DEP</td>
<td>-3.893791*</td>
<td>1(1)</td>
<td>-3.866383*</td>
<td>1(1)</td>
</tr>
<tr>
<td>LENDRATE</td>
<td>-5.343738*</td>
<td>1(1)</td>
<td>-8.736918*</td>
<td>1(1)</td>
</tr>
<tr>
<td>MKTCAP</td>
<td>-4.375528*</td>
<td>1(1)</td>
<td>-4.40562*</td>
<td>1(1)</td>
</tr>
<tr>
<td>MONIMKT</td>
<td>-6.997824*</td>
<td>1(1)</td>
<td>-9.136962*</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

Source: Author’s Computation Using Eviews 9
Critical Values of ADF Test:  
1% level = -3.639407  
5% level = -2.951125  
10% level = -2.614300  

Critical Values of PP Test:  
1% level = -3.639407  
5% level = -2.951125  
10% level = -2.614  

**/**/***, indicates significance at 1%, 5% & 10% respectively.  
Test includes Trend and Intercept  
Source: Authors Computation Using Eviews 9

6.5.2. Serial Correlation  
When observations have a natural sequential order, serial correlation is said to have occurred. Table 4 below shows that the LM-Statistics at lag 1 with p-value of 0.4352 indicates the absence of serial correlation in the model since the p-values are greater than the critical value at 5% level of significance. Thus, we can conclude that there is no presence of serial correlation in the model.

<table>
<thead>
<tr>
<th>Table 4. VEC Residual Serial Correlation LM Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Hypothesis: no serial correlation at lag order h</td>
</tr>
<tr>
<td>Sample: 1981 2016</td>
</tr>
<tr>
<td>Included observations: 35</td>
</tr>
<tr>
<td>Lags</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Source: Author’s Computation Using Eviews

6.5.3. Heteroskedasticity  
Heteroskedasticity occurs whenever the variance of the unobserved error term $u$, changes across different segments of the population over time. Table 5, below indicates that the VAR Residual Heteroskedasticity test with a chi-square value of 394.7885 and a p-value of 0.2657 confirms the absence of Heteroskedasticity in the model since its p-values are greater than the critical values at 5% level of significance.

<table>
<thead>
<tr>
<th>Table 5. VEC Residual Heteroskedasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests: No Cross Terms (only levels and squares)</td>
</tr>
<tr>
<td>Sample: 1981 2016</td>
</tr>
<tr>
<td>Included observations: 35</td>
</tr>
<tr>
<td>Joint test:</td>
</tr>
<tr>
<td>Chi-sq</td>
</tr>
<tr>
<td>394.7885</td>
</tr>
</tbody>
</table>

Source: Author’s Computation Using Eviews 9

6.5.4. Normality  
Normality test is a statistical process used to determine if a sample or any group of data fits a standard normal distribution. The result of the Jarque-Bera normality test (66.09429) with a joint probability value of 0.0000 at significance level of 1% indicates that the model residuals are not normally distributed. However, as per central limit theorem if the number of observations is greater than 30, the issue of normality can be ignored.

<table>
<thead>
<tr>
<th>Table 6. VEC Residual Normality Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthogonalization: Cholesky (Lutkepohl)</td>
</tr>
<tr>
<td>Null Hypothesis: residuals are multivariate normal</td>
</tr>
<tr>
<td>Sample: 1981 2016</td>
</tr>
<tr>
<td>Included observations: 35</td>
</tr>
<tr>
<td>Component</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>Joint</td>
</tr>
</tbody>
</table>

Source: Author’s Computation Using Eviews 9
6.5.5. Spurious Regression

As a rule of thumb, if the $R^2 >$ Durbin-Watson statistics, spurious regression is said to have occurred in the model. From Table 10 below, the results confirmed the absence of spurious regression, since the value of $R^2$ (0.760998) is less than DW statistics of 2.308250.

6.6. Johansen Cointegration Test

Since all variables are stationary and integrated of the same order, i.e. I(1). The next step is to check if a long-run relationship exists among the variables. A cointegration test was performed using the Johansen co-integration technique to check for the existence of a long-run relationship. From Table 7, the Trace statistic and Max-eigenvalue reveals 3 ranks in the trace and max-eigenvalues criteria respectively, thereby leading us to reject the null hypothesis of no cointegration equation among the variable at 5 per cent. The econometric results therefore indicate that a long-run relationship exists between financial sector development and economic growth. The implication of these findings is that financial sector development and economic growth are cointegrated, that is they move together in the long run. This result allows for the estimation of the VECM (Vector Error Correction Model).

Table 7. Johansen Cointegration Test Results

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>Critical Value</th>
<th>Prob.**</th>
<th>Max-Eigen Value</th>
<th>Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.961590</td>
<td>265.3450</td>
<td>95.75366</td>
<td>0.0000</td>
<td>110.8204</td>
<td>40.07757</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.939691</td>
<td>154.5245</td>
<td>69.81889</td>
<td>0.0000</td>
<td>95.48116</td>
<td>33.87687</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>At most 2 *</td>
<td>0.595646</td>
<td>59.04335</td>
<td>47.85613</td>
<td>0.0032</td>
<td>30.78578</td>
<td>27.58434</td>
<td>0.0187</td>
<td></td>
</tr>
<tr>
<td>At most 3</td>
<td>0.410184</td>
<td>28.25757</td>
<td>29.79707</td>
<td>0.0744</td>
<td>17.95009</td>
<td>21.13162</td>
<td>0.1317</td>
<td></td>
</tr>
<tr>
<td>At most 4</td>
<td>0.174733</td>
<td>10.30747</td>
<td>15.49471</td>
<td>0.2578</td>
<td>6.529630</td>
<td>14.26460</td>
<td>0.5462</td>
<td></td>
</tr>
<tr>
<td>At most 5</td>
<td>0.105162</td>
<td>3.777845</td>
<td>3.841466</td>
<td>0.0519</td>
<td>3.777845</td>
<td>3.841466</td>
<td>0.0519</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s Computation Using Eviews 9.

6.7. Vector Error Correction Model

Given the fact that the variables in the equation are cointegrated, the next step is the estimation of the short-run dynamics within a vector error correction model (VECM) in order to capture the speed of adjustment to equilibrium in the case of any shock to any of the independent variables. The error-correction term shows the adjustments of the model from short-run disequilibrium to long-run equilibrium trends. From Table 8, the over parameterized error correction model (ECM$_{t-1}$) is well specified and is of the expected negative sign and significant with GDP. The coefficient of the error correction term indicates that about 36.58% percent of the disequilibrium in the long run is offset by the short-run adjustment within a year. This implies a low speed of adjustment. Furthermore, the ECM model indicates that the value of prime interest rate (LENDRATE) has a negative and significant impact on GDP, suggesting that an increase in LENDRATE by N1 will reduce GDP by 6.57% holding the influence of other variables constant. Also, there is a positive and significant relationship between total bank deposit (DEP) and GDP, indicating that a rise in DEP by N1 will lead to an increase in GDP by 52.19%. Similarly, a positive and significant relationship exist between credit to the private sector (CPS) and GDP; but wiping out the influence of other regressors on GDP, will cause GDP to rise by 75.05% when CPS is increased by N1. Likewise, a significant and positive relationship was observed between market capitalization (MKTCAP) and GDP, therefore an increase in MKTCAP by N1 holding other explanatory variables constant will make GDP rise by 48.53%. Finally, the Value of Money Market Instrument (MONIMKT) was not significant with GDP. The adjusted $R^2$ of 0.671372 shows a fairly good fit, indicating that about 67.13% of variations in the dependent variable (GDP) are explained by the cumulative effects of the explanatory variables. While the standard error of 0.472358 signifies that about 47.23% of the variation in the dependent variable will not be explained by the explanatory variables. The F statistics of 8.490846 indicates that the model significant at 5% level and is a good fit.
Table 8. Overparametrized VECM Results Dependent Variable: GDP

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP(-1)</td>
<td>0.008154</td>
<td>0.055248</td>
<td>0.147588</td>
<td>0.8839</td>
</tr>
<tr>
<td>LENDRATE(-1)</td>
<td>-0.065756</td>
<td>0.646304</td>
<td>-2.793971</td>
<td>0.0101</td>
</tr>
<tr>
<td>DEP(-1)</td>
<td>0.521943</td>
<td>1.047968</td>
<td>2.482846</td>
<td>0.0204</td>
</tr>
<tr>
<td>MKTCAP(-1)</td>
<td>0.485338</td>
<td>0.191182</td>
<td>2.538618</td>
<td>0.0180</td>
</tr>
<tr>
<td>CPS(-1)</td>
<td>0.750551</td>
<td>0.256189</td>
<td>2.929679</td>
<td>0.0073</td>
</tr>
<tr>
<td>MONIMKT(-1)</td>
<td>26.56078</td>
<td>38.11984</td>
<td>0.696771</td>
<td>0.4926</td>
</tr>
<tr>
<td>C</td>
<td>1168.365</td>
<td>498.1356</td>
<td>2.345476</td>
<td>0.0276</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.365304</td>
<td>1.515612</td>
<td>-2.418366</td>
<td>0.0235</td>
</tr>
</tbody>
</table>

R-squared: 0.760998  Mean dependent var: 1557.240
Adjusted R-squared: 0.671372  S.D. dependent var: 1532.667
S.E. of regression: 0.472358  Akaike info criterion: 16.63450
Sum squared resid: 18527236  Schwarz criterion: 17.08343
Log likelihood: -272.7866  Hannan-Quinn criter.: 16.78760
F-statistic: 8.490846  Durbin-Watson stat: 2.308250
Prob(F-statistic): 0.000014

Source: Author’s Computation Using Eviews 9.

6.8. Test of Hypothesis
The hypotheses were tested using the p-values from the VECM result. The study adopted 10% level of significance.

6.9. Ho: There is no Significant Relationship Between Financial Sector Development and Economic Growth in Nigeria
As shown in table 10 above, the relationship between the variables adopted as proxies for financial sector development and economic growth indicates that four out of five variables namely; LENDRATE(Prime Lending Rate), DEP(Deposits), MKTCAP(Market Capitalization) and CPS(Credit to the Private Sector) were significant in explaining variations in economic growth. Hence, we therefore reject the null hypothesis and accept the alternate hypothesis.

7. Summary, Conclusion and Recommendations
7.1. Summary of Finding
The major objective of the research was to access the impact of financial sector development on economic growth in Nigeria using time series data from 1981-2016 sourced from the CBN statistical bulletin, 2016. The study employed credit to the private sector, prime lending rate, deposits, market capitalization and value of money market instruments as proxies for financial sector development, using the VECM (Vector Error Correction Model) technique in modeling the relationship between financial sector development and economic growth.

This research’s objective had been achieved since four out of five variables applied showed significant relationship with economic growth.

8. Conclusion
This research examined the impact of financial sector development on economic growth in Nigeria. Results from the findings shows that a positive and significant relationship exists between deposits, market capitalization and credit to the private sector with economic growth, while a negative and significant relationship was observed between prime lending rate and economic growth in Nigeria. The outcome provides evidence that financial sector development plays a crucial role in economic growth in Nigeria.

9. Recommendations
Based on the findings that growth in market capitalization, total bank deposit and credit to the private sector influences economic growth, we therefore recommend that to fully realize the growth potentials of the economy, it is therefore imperative to remove all obstacles that could hinder the growth of capital market development and banking sector. While government formulate policies that will enhance credit to the private sector, such as not operating the Treasury Single Account (TSA) Policy in a holistic manner, so that banks will have fund to propel their credit delivery function effectively; considering the fact that the public sector drives the Nigerian economy as it stands now. Again, having banks whose aim
will focus on enhancing development in the real sector of the economy is an imperative. In terms of capital market development, we also recommend that investor’s protection policies should be revisited in order to strengthen and improve public confidence in the capital market, such as reducing charges for the purchase and sale of securities, reduction of listing requirements for new companies on the exchange and establishment of an effective legal framework which will enhance speedy and satisfactory resolve of investment related dispute, thereby creating confidence among participants in the market, while attracting other potential investors.

References


