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Assessment of the Impact of Nigerian Capital Market on the Growth of Banking Sector: A Time Series Analysis for the Period 1998 – 2017 (20 Years)

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Abstract: *This research examines the impact of the Nigerian capital market on the growth of banking sector using a 20-year period from 1998 – 2017. Time series econometric method of correlation matrix and multiple regression analysis was employed for the analysis. The study measures the relationship between capital market developments and growth of banking sector. The market capitalization and All-Share-Index were used as proxy of the developments of the Nigerian capital market, while total banks' assets were used as the proxy for growth in the banking sector. The analysis showed that developments in the Nigerian capital market impact positively on the growth of banking sector over the period of this study. As the resultsimplies that increase in stock market capitalization instantaneously increases total bank assets in Nigeria by 0.06 per cent and all-share-index was found to have a direct relationship with total bank assets implying that a one per cent increase in all share index would lead to a 0.11 per cent increase in total bank assets and vice versa. The study recommended that the regulatory institutions should ensure adequate oversight on the activities of banks and capital market and continue to introduce programs that will better reposition the banking sector as a major player in the Nigerian capital market. Also, government through the Central Bank of Nigeria and Securities and Exchange Commission, to introduce policies that will increase the level and size of market capitalization, as it's increase will surely increase fund availability for investment which in turn will increase productivity and economic growth.*

Keywords: *Nigerian Capital Market, Banking Sector, Market Capitalization, All-Share-Index, Total Bank Assets, Economic Growth*

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I. Introduction

It is largely accepted that banking sector plays significant role in the economic development process of any country, as it establishes a suitable means of capital growth and technological revolution, which invariably promotes economic growth. The development of any economy is relatively dependent on the growth of its banking system. The last two decades witnessed the process of banking sector globalization. However, banking industry's policy of openness in many countries are not generally accepted. The recent global financial crisis affected the banking industry, where extra-ordinary declines in banks assets and earnings were experienced in many countries. In order to support the operational effectiveness of banks in Nigeria with the intention of enhancing global and public confidence in the banking system and the economy, the Central Bank of Nigeria (CBN) initiated a banking sector reform in 2004. One of the key element was the adoption of N25.0 billion capital base for each bank. The CBN also encouraged mergers and acquisitions among the then 89 banks, which resulted in 25 consolidated banks meeting the requirements. The reform made the Nigerian banking industry to become one of the most vibrant and viable industries in the country, and also improved the performance of their shares on the Nigerian capital market.

Globally, the position and development of the capital market provides the awareness of the strength of a country's economy and it measures the financial stability of the economy. According to Ologunwa and Sadibo (2016) capital market compliments the contribution of the banking sector through mobilization of resources for long-term investment.

The capital market consists of institutions designed to facilitate the creation and trading of medium to long term financial instruments. It provides the platform for raising equity and debt financing instruments such as bonds, and equities. It is made up of institutions which facilitates the issuance and secondary trading of long-term financial instruments. The market provides funds to industries and government to meet their long-term capital requirements, such as financing of fixed investments (CBN 2013).

The performance of the Nigerian capital market has been motivated by so many reasons. Majority of the Nigerian banks are investing in the Nigerian capital market so that they can move the money and earn some good profit from the market. The reform introduced by Central Bank of Nigeria (CBN) of minimum capital requirements for the banks have encouraged them to choose the capital markets. The Nigerian capital market is still gaining depth and so that it was a bit risky for the banks to take the decision but they took the risk and the results are very positive. It not only encouraged the individual investors but at the same time provided some good support to the growth of the Nigerian capital market. It is true that the Nigerian capital market is performing well and the country experienced several public offers by the banks like the Access Bank, Zenith Bank, United Bank for Africa, etc. But at the same time, the market requires improved performance, because the Nigerian Stock Exchanges market capitalization is still much lower than the GDP. According to the ongoing trends, the market capitalization should be nearer to the GDP or more than the GDP as in the case of Johannesburg that recorded 239% of GDP. In 2017, the total market capitalization, as percentage of nominal GDP in the Nigeria stock exchange was 20.1 per cent which is low considering the quantum of economic activities in Nigeria.

In view of the above, it is apparent that the capital market activities and operations are not new in Nigeria. The sector has undergone series of reforms to strengthen its performance. The fact is that the market is capable of mobilizing fund for investment and the promotion of business enterprise. It has been observed that the composition of the financial sector follows the production structure of the economy (Kurranen, 2015). Therefore, it's possible for countries to experience different levels of capital market developments and growth in the banking sector.

The paper focused on assessing the impact of Nigerian capital market on the growth of banking sector. There are several studies on the impact of capital market on the economic growth, but no single research had established a comprehensive study of the causal relationship between capital market developments and banking sector growth in Nigeria, that what informs the choice of this area of study.

The paper is made up of five sections. Section one is basically an introduction, giving a broad perspective of the research. Section two provides a survey of existing literature on the performance of capital market for influencing growth of the banking sector. While section three discussed issues regarding methodology and models for estimation. In section four data, results and a discussion of their interpretations were presented. The final section of the paper brings out the summary of findings, conclusions as well as policy implications arising from the empirical findings.

II. Literature Review

Theoretical Literature:

The banking system is typically the main segment of the financial system which mobilizes domestic resources and channels it to productive investment. The vicious cycle of poverty thesis brings out clearly the potential role the banking sector could play in the process of capital accumulation and economic development. According to Nurkse (cited in Jhingan 2011), the vicious cycle of poverty "implies a circular constellation of forces trending to act and react upon one another in such a way as to keep a poor country in a state of poverty (and underdevelopment).

The finance-led growth hypothesis account for the school of thought which believes that the importance banking and credit system in a country depends on its stage of development. It is asserted that financial system development plays significant role in different stages of development. For instance, Schumpeter distinguish between loans that are crucial in the early stages of creating new innovations from what would be required at an advance stage of creating innovations.

The second approach to examining the nexus between banking system and economic development is the demand-following finance paradigm (Blum et, al 2002). A useful statement in this regard is that of Robinson 1952 (cited in Levine 1997), "finance follows where enterprise leads" and this indicate that economic growth precedes financial sector development. Thus, the growth of manufacturing and other productive enterprises generates demand for expensive and new financial services that acts as for banking/financial development (CBN Bullion, 2016).

The third type of casual relationship between finance and growth is captured by the interdependence paradigm (bi-directional causality). The idea is that a mutual reinforcing relationship between finance and growth exist. A well-functioning financial or banking system is expected to spur investment and boost aggregate real output while a booming economy will engender for more financial services (Blum et, at, 2002).

Meanwhile, developing countries are working towards reforming and deepening their financial systems, through the expansion of their capital markets in order to improve their ability to mobilize resources and efficiently allocate them to the most productive sectors of the economy. A significant policy change has been the establishment of privatization programs, which have facilitated reduction in public debt, improved incentives and efficiency in the operations of the privatized entities, and facilitated better access to capital through the floating of shares to the general public (Claessens, 2005).

The capital market is significant to the growth, performance and strength of any country because it provides supports for government and corporate activities, finances the implementation of new ideas and enables the management of financial risk. The ratio of economic growth has been regularly linked to the robustness of the financial market and capital market efficiency. Both markets enable the mobilization and focusing of funds into productive areas and ensuring that the funds are used for the achievement of socioeconomic growth and development without being idle (Adebiyi 2005)

The Nigerian Stock Exchange (NSE) evolved from Lagos Stock Exchange. The stock exchange commenced operations in 1961, with 19 securities listed for trading. It currently has 261 listed securities, 167 listed companies. The listed securities are made up of 172 equities, 80 bonds, and 9 Exchange Traded Funds (SEC 2017) The exchange is the center point of the Nigerian capital market. it provides a mechanism for mobilizing private and public savings, and makes such funds available for productive purposes. From 1961, the Nigerian capital market has growth immensely, particularly during the periods of the indigenization of 1972 and 1977. For many years, the Nigerian capital market has witnessed reasonable stability and also recorded remarkable growth. This has placed it to positively impact the economy. There are various evidences that the capital market remained a vital source of capital for the nation's economic development in financing infrastructural projects, the privatization programme of the government and banking sector recapitalization in Nigeria. Sule and Momoh (2009) believed that the consolidation exercise of many financial institutions, particular the banking sector and the implementation of privatization processes of most government owned enterprises are major indications of government confidence in the capital market to stimulate growth of the Nigerian economy.

Therefore, the capital market has contributed to the financing of the growth of large corporations in certain African countries and those large corporations in Africa have made considerable use of the capital market to finance their growth (Yartey and Adjasi 2007). The point remained, no matter the extent of the argument that exists, the core aspect of the capital market is to consolidate growth in the economy and enhance the impact of the financial system on economic growth and development in the country.

The Nigerian Capital market activities have been growing at a healthy rate in relation to its role in stimulating economic growth and development. The Volume and Value of traded securities were at increasing rate between 1997 to 2007. The performance was motivated by the increased awareness of the opportunities in the stock market, improved operating results of some quoted companies, available large float, especially in the banking sector, as a result of the reforms in the sector. But between 2008 and 2O11 the Volume and Value traded declined, attributed to the combined effect of several macroeconomic developments and steady divestment from the Nigerian market by foreign investors, following increased currency risk due to the global financial crisis.However, the NSE All Share Index increased by 35.5 and 47.2 per cent in 2012 and 2013, respectively, attributed, mainly to the strong corporate earnings by blue-chip companies and increased capital inflow, including portfolio investment. However, the NSE All Share Index declined by 16.1, 17.4, and 6.2 per cent in 2014, 2015 and 2016, respectively. The development was fueled by combination of factors including, falling global crude oil prices, continued depreciation and volatility of the naira exchange rate and uncertainty about the direction of the economy. Impressive gains and returns were recorded across various sectors and asset classes in 2017, due to sustained bullish sentiment in the market. The NSE All-Share Index, which is the lead barometer of the Exchange, closed at 38,243.19 at End-December 2017, representing 42.3 per cent increase over the 26,874.62 at End-December 2016. Also, the Premium Board Index rose by 51.2 per cent to close at 2,564.13 at End-December 2017, reflecting the attraction of investors to companies listed on the Premium Board. Similarly, the Main Board Index closed at 1,713.69 in 2017, indicating a 42.4 per cent increase over 1,203.79 at End-December 2016 Generally, the developments reflected investors' optimism on the positive outlook for the Nigerian economy, which informed the retention of Nigeria in the Morgan Stanley Capital International (MSCI) Frontier market Index at the June 2017 (CBN).

The is also the issue with volatility of stock market price which refers to the fluctuations that may be observed in stock market prices over time. The major reason for the ups and downs in the stock market may be traced to macroeconomic instability. Since the stock market operate in a macroeconomic environment, it is therefore necessary that the environment must be an enabling one in order to realize its full potentials (Sikiru 2017).

Empirical Literature:

According to Barajas et al., 2013 identified that the role played by the banking sector in economic growth process of countries exporting oil become weaker as the level of oil-dependence is increasing, but agreed that the growth influence of capital market performance may be stronger in countries exporting oil than countries importing oil. In another study by Kurronen (2015) revealed that the banking sector have a tendency to be less significant in resource dependent countries but discovered evidence that usage market-based financing is mostly common in resource-dependent countries. The study used a sample of 128 countries for the period 1995–2009.

In their research, Ujunwa and salami (2010) established that relationship exist between the stock market and economic growth used ordinary least square technique. The study used annual data from 1986 to 2006. Market capitalization ratio, value of the share traded and rate of turnover were employed to represent the stock market development variables while the dependent variable is represented by per capita gross domestic product. The result indicated that market capitalization and rate of turnover are positively correlated with economic growth. While the stock market liquidity is negatively connected with economic growth.

In his study, Adenuga (2010) conducted an investigation on the relationship between stock market development indicators and economic growth in Nigeria using quarterly time series data from 1990:1 to 2009:4. The vector error correction model were used for the stock market variable such as the total value of share traded ratio, turnover ratio and market capitalization. The stock market development indicators used were all found to be positively significant. When there is any shock in the market, the speed of adjustment estimated to be 53.4% when regarding market capitalization as a measure of the stock market indicators.

Alajekwu & Achugbu (2012) conducted a fifteen-year time series analysis. The study research examined the relationship between the stock market and economic growth. Stock market capitalization was used as a proxy for market size, the value of traded ratio and turnover ratio were used as a proxy for market liquidity. The result indicates that, market capitalization and value of traded stock have an insignificant and negative relationship with economic growth. But, stock market capitalization has a strong positive correlation with stock turnover. They concluded that the liquidity has a propensity to incentivized economic growth. Therefore, government should encourage domestic investors to invest by providing enabling environment and policies in order to promote capital market.

While, Bashorun and Bakare-Aremu (2013) investigated the link between the performance of capital market and economic growth in Nigeria. The authors use annual data for a period of 30 years (1981-2011). The variables used are all-share index, market capitalization and numbers of deals. The authors employ vector autoregressive model and Granger causality technique. The result of the study indicates that market capitalization, All-shares index and number of deals have individual positive and significant effect. The pairwise Granger causality test shows that there is a unidirectional causality running from the capital market for economic development and response causality between market capitalization and economic growth therefore, the results support the endogenous growth theory (Umar et. al 2015)

However, Yadirichukwu and Chigbu (2014) in their study empirically examined the impact of capital market on economic growth in Nigeria. The study employed annual data from 1985 to 2012. They used regression analysis where multivariate and error correction is put in place to observe four formulated hypotheses. The result of the study shows that there is an inverse relationship between the stock market capitalization ratio and long-run economic growth. But it also shows a long run relationship between value of total the transaction and economic growth.

Naceur and Ghazouani (2007) in their research examined that the impact of stock market and banking sector development on economic growth in the Middle East and North Africa (MENA) region for the period 1979– 2003, in the study they included oil price among the control variables to capture the effect of the oil sector on economic on the region's economic activities, which is dominated by key oil-exporting countries including some countries that are members of OPEC; such as Iran, Kuwait and Saudi. The study empirically discovered the influence of capital market performance in the region on economic growth to be negative if liquid liabilities is used to capture banking sector performance and is positive if banking sector development is taken by means of domestic credit to private sector. Generally, the results showed the insignificant influence of capital market and banking sector performance on economic growth in the MENA region. The impact of the oil price on economic growth in the region is discovered to be considerably positive, which suggest that economic growth in the region is compelled by the oil sector.

The empirical studies above could therefore be categorized into two ways. Most of the studies observed the short-run and long-run relationship between capital market development and economic growth while other examine the impact of stock market and banking sector development on economic growth. In both the common measure of the stock market development are market capitalization, market capitalization ratio, value of the total transaction, all-share index, rate of turnover, number of listed securities. The other variables that indirectly influence the development of capital market were also highlighted. These are rate of inflation, interest rate, trade openness and government expenditure.

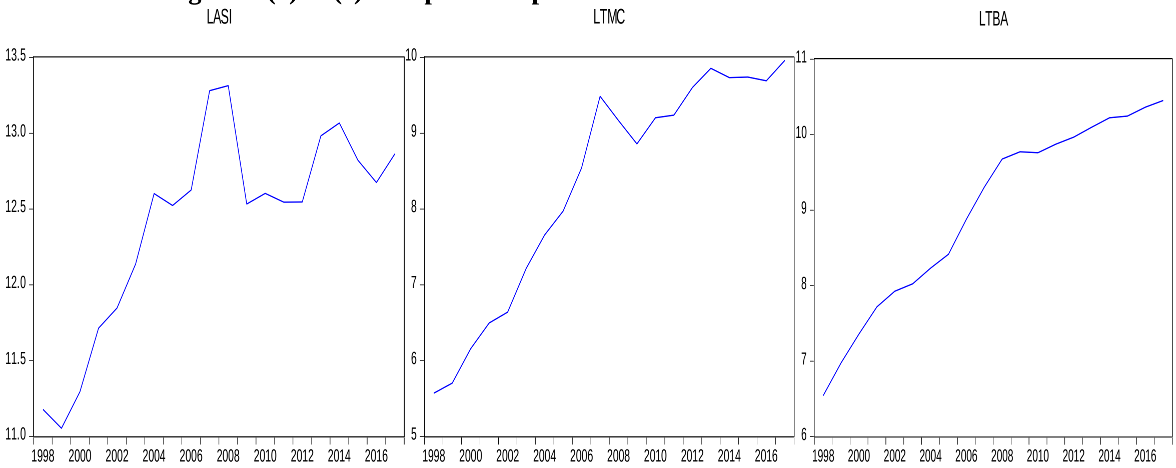
III. Methodological Approach

This study uses Annual data covering the relationship between Nigerian Capital Market and the Growth of the Banking Sector between 1998 and 2017. The data is sourced from the Nigerian Stock Exchange (NSE); Security and Stock Exchange Commission (SEC); Market Bulletins; and the Central Bank's Statistical Bulletins.

Banking Sector such as Total Bank Assets is the dependent variable. The Capital Market is the independent variable such as Stock Market Capitalization and All-Share-Index.

The empirical investigation begins with the plots of the variables used in the paper in order to have preliminary insights to the behavior and characteristics of the series. They are displayed as follows:

Figure 1 (a) to (c): Graphical Representation of Variables used for Estimation



Summary of Statistics

The summary statistics of the variables are as shown in Table 1 below. The mean for the all share index, total bank assets and total market capitalization was 12.41, 8.99 and 8.324, respectively. The probabilities of Jarque-Bera for the variables are insignificant; hence there is not sufficient evidence to reject the null hypothesis that the series are normally distributed. In addition, the standard deviation values calculated indicate that total market capitalization exhibits the highest form of volatility amongst the variables followed by total bank assets and then all share index.

Table 1: Descriptive Statistics

	LASI	LTBA	LTMC
Mean	12.410	8.990	8.324
Median	12.574	9.490	9.012
Maximum	13.313	10.451	9.958
Minimum	11.054	6.543	5.571
Std. Dev.	0.666	1.239	1.515
Skewness	-0.768	-0.515	-0.615
Kurtosis	2.581	1.916	1.871
Jarque-Bera	2.114	1.862	2.322
Probability	0.348	0.394	0.313
Sum	248.201	179.797	166.485
Sum Sq. Dev.	8.439	29.170	43.637
Observations	20	20	20

IV. Discussion of Findings

The findings of this study on the assessment of the impact of Nigerian capital market on the growth of the banking sector using annual data which covered the period 1998 to 2017 is discussed as follows;

Correlation matrix

The ordinary correlation matrix of the variables is shown in the table below. The results show that there is positive relationship between all share index, total banking assets and total market capitalization in Nigeria over the review period. Based on a general threshold of 50, strong co-movements are observed between all share index and total banking assets as well as between total stock market capitalization and total banking assets. In addition, the correlation coefficient between all share index and total market capitalization was also found to be strong.

Table 2: Correlation Matrix

	LASI	LTBA	LTMC
LASI	1.000		
LTBA	0.858	1.000	
LTMC	0.915	0.981	1.000

Unit root tests

The results indicate that all the variables are non-stationary at level. This implies that there is not sufficient evidence to reject the null hypothesis of non-stationarity. However, they became stationary after first difference, which implies that they are integrated to the first order - I (1) series. The ADF statistics are presented in Table 3.

Table 3: Unit Root Tests

ADF Test Statistic and Critical Value			Order of Integration
Variable	**Test Statistic**	**Critical Value**	
LASI	-4.5319	-4.6162**	1
LTBA	-3.8655	-4.6678**	1
LTMC	-3.7909	-4.6162**	1

Source: E-views Output
Estimation Output

Table 4: Multiple Regression Results

Dependent Variable: D(LTBA)
Method: Least Squares
Date: 01/03/19 Time: 14:57
Sample (adjusted): 1999 2017
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.179619	0.044536	4.033141	0.0010
D(LTMC)	0.067846	0.160940	0.421560	0.6790
D(LASI)	0.117270	0.160786	0.729353	0.4763

R-squared	0.131357	Mean dependent var	0.205689
Adjusted R-squared	0.022777	S.D. dependent var	0.150521
S.E. of regression	0.148797	Akaike info criterion	-0.828532
Sum squared resid	0.354248	Schwarz criterion	-0.679410
Log likelihood	10.87105	Hannan-Quinn criter.	-0.803294
F-statistic	1.209768	Durbin-Watson stat	0.833828
Prob(F-statistic)	0.324138		

The empirical estimation results are presented in table 4. Ceteris paribus, contemporaneous stock market capitalization is found to be positively related to total bank assets. This implies that increase in stock market capitalization instantaneously increases total bank assets in Nigeria by 0.06 per cent. However, this relationship was found to be statistically insignificant. Furthermore, all share index was found to have a direct relationship with total bank assets implying that a one per cent increase in all share index would lead to a 0.11 per cent increase in total bank assets and vice versa.

V. Conclusion

This study investigates the impact of Nigerian capital market on the growth of banking sector over the period 1998 – 2017. The casual link between the variables of interest were established using correlation matrix while unit root test estimation technique was used for the regression. The results of the analysis showed that developments in the Nigerian capital market impact positively on the growth of banking sector over the period of this study. Based on the findings from the study, it is recommended that the regulatory institutions should ensure adequate oversight over the activities of banks and capital market and continue to introduce programs that will better reposition the banking sector as a major player in the Nigerian capital market. Also there is need for government through the Central Bank of Nigeria and Securities and Exchange Commission, to introduce policies that will increase the level and size of market capitalization, as it's increase will surely increase fund availability for investment which in turn will increase productivity and economic growth.

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