

# Impact of Banking Sector Reforms On Stock Market Performance in Nigeria (2004-2018)

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**Abstract:** Central Bank of Nigeria (CBN) has over time structured out different kinds of banking sector reforms to boost commercial banks and its allies in the sector to adequately perform essentially their intermediation function. Therefore, this study critically examined banking sector reforms impact on stock market performance in Nigeria considered from 2004-2018; with particular interest to proxy banking sector reforms: as broad money supply, domestic credit to the private sector and interest rate spread. The variables employed in the study were tested using an ADF, Johansen co-integration and model stability test, while the error correction mechanism (ECM) was used to estimate the individual parameters and to validate the hypothesis outlined in the study. The empirical results of the study found a collective insignificant impact of banking sector reforms on stock market performance for the period under study. The study further reveals that, broad money supply as a reform proxy has a linear relationship with stock market performance. The study strongly recommends the need for Central Bank of Nigeria (CBN) and other monetary authorities to periodically review and sustain existing banking sector reforms in consonance with current challenges in the banking sector so as to boost performance in the Nigerian stock market.

**Keywords:** banking sector, reforms, stock market, performance, financial intermediation.

## 1.0 INTRODUCTION

The financial sector is one of the dominant economic sectors in Nigeria, and banks are key players in any country's financial sector. The banks occupy a strategic position in the economic equation of any country such that their good or bad performance invariably affects the economy of the country (Wilson, 2006). Hence, reforms to modernize and strengthen the financial sector have continued in recent years. The Nigerian financial system, which represents the umbrella of financial markets, intermediaries, instruments, regulatory agencies and the body of rules, norms and regulations that governs the interaction in the system, has evolved from a rudimentary to a more sophisticated one over the past few decades. Reforms are predicated upon the need for reorientation and reposition of existing status quo in order to attain an effective and efficient state (Ajayi 2005). Compos and Esfahani (1996) stressed that policy reform means "a renegotiation of contracts that entails direct government involvement in production towards more efficient market oriented ones. Also, Okeke (2007) posits that reforms are deliberate actions by the government to fast track, jump start and consolidate specified sectors of the economy to achieve desired objectives.

In the past three decades, the Nigerian banking sector has witnessed five distinct phases of banking sector reforms. During 1986 to 1993, when the banking industry was deregulated in order to allow for substantial private sector participation, the re-regulation era of 1993-1998, following the deep financial distress, the return of liberalization and the adoption of the universal banking model in 1999, banking sector consolidation which commenced in 2004 which was meant to correct the structural and operational weaknesses that constrained the banks from efficiently playing the catalytic role of financial intermediation and banking reform meant to substantially improve the banking infrastructure, strengthen the regulatory and supervisory framework and address the issue of impaired capital and provision of structured finance through various initiatives, so as to provide cheap credit to the real sector, and financial accommodation for small and medium-scale enterprises (Anyanwu, 2010).

Nevertheless, prior to the 2004 recapitalization policy, it was reported that a total of thirty two (32) licensed banks went into distress and were eventually liquidated. Out of these, thirteen (13) were commercial banks, eighteen (18) merchants banks, and one (1) cooperative bank (NDIC, 2004). More so, only 10 of the commercial banks were rated as sound, 51 were classified as unsatisfactory, 16 were rated as marginal, while another 10 were categorized as unsound (CBN, 2004). According to the then governor of Central Bank of Nigeria (CBN), Charles Soludo, the banking reform (the recapitalization policy) was meant to:

- (1) Reposition the nation's banking industry for global competitiveness
- (2) Ensure a strong and reliable banking sector that will guarantee the safety of the depositor's money
- (3) Play active development role in the nations' economy
- (4) Make the banks less dependent on public sector fund and
- (5) Be capable of financing the real sector (New Age April 17, 2005).

Generally, the reforms were anchored on four cardinal pillars, namely, enhancing the quality of banks, establishing financial stability, enabling healthy financial sector evolution, and ensuring that the financial sector contributes to the real economy. Following the fourth phase of the reforms which began in 2004, banks were consolidated through mergers and acquisitions, raising the capital base from ₦2 billion to a minimum of ₦25 billion which reduced the number of banks to 25 from 89 in 2005 and later to 24 at the end of December 2007, with the merging of Stanbic Bank Plc and IBTC Bank to form Stanbic IBTC. And to 23 thereafter with Fin bank merging with FCMB Plc. And finally Diamond bank acquisition by access bank Plc, making current total of 22 commercial banks in Nigeria.

The Central Bank of Nigeria (CBN) intervened again purportedly to save the banking industry from imminent collapse. Five banks were identified for rescue as a result of poor capital adequacy, high risk assets, poor corporate governance tending towards CEOs corruption, erosion of shareholders fund, high liquidity ratio and credit crises. Whereas the twenty five (25) banks that passed the recapitalization test were declared sound in 2005, by 2006, ten (10) were declared sound, five (5) satisfactory, five (5) as marginal

and five (5) unsound (CBN, 2010). The other components of the recent banking sector reforms in Nigeria, according to (Sanusi, 2012), include the adoption of risk focused and rule-based regulatory framework, adoption of zero tolerance in regulatory framework in data/information rendition/reporting and infractions, strict enforcement of corporate governance principles in banking, expeditious process for rendition of returns by banks and other financial institutions through e-FASS, revision and updating of relevant laws for effective corporate governance and ensuring greater transparency and accountability in the implementation of banking laws and regulation.

Beyond the need to recapitalize the banks, the reforms focused on ensuring minimal reliance on public sector for funds, but rather relying on the private sector. However, a new set of problems were said to have emerged and threatened the financial system from 2008, following the global financial crisis.

The surge in capital did not only put pressure on the availability of human capacity in the sector but it also led to margin loans and other high risk investments, among other things. The balance sheet of banks became eroded to the extent that most of them remained for some time on ‘life support’ from the CBN. Interbank rates spiked as banks could borrow at any rate in order to remain afloat, the size of non-performing loans enlarged, customer panic re-emerged and several unethical conducts among the managements of banks were revealed. These problems, according to Sanusi (2012) led to a new set of reform, whose cardinal pillars encompassed: Enhancing the quality of banks; establishing financial stability; enabling healthy financial sector evolution and ensuring that the financial sector contributes to the real economy.

The Central Bank of Nigeria (CBN) equally articulated a blue print known as “*The Project Alpha Initiative*” for reforming the Nigerian financial system in general and the banking sector in particular following the 2008 global financial crisis. The reforms were meant to remove the inherent weaknesses and fragmentation of the financial system, integrate the various ad-hoc and piecemeal reforms and unleash the huge potential of the economy.

The Nigerian stock market is an important component of the Nigerian financial system. According to Anyanwu (1993), the stock market is a complex mechanism made up of procedures, instruments and institutions through which efficient economic units (the users of funds, e.g. government, corporate bodies) and the surplus units (i.e. suppliers of funds) carries out mutual transactions on daily basis.

The Nigerian banking sector has undergone series of reforms as stated earlier from 1959 till date. This is basically to ensure a stable and sound banking system that will support bank’s financial performance and the general economic development of the country. This notion is tied to the school of thought who holds that banks via the mobilization of surplus funds through their heterogeneous branch networks help stimulate their financial performance by channeling investible funds efficiently to deficit business units of the economy. This is otherwise known as finance leading economic growth hypothesis.

Therefore, the question of whether banking sector reforms has an unprecedented effect on the Nigerian stock market performance still remains' unanswered. However, this study is to examine the impact of the above mentioned subject.

This study is partitioned in five sections. Section one is the introduction, section two is review of related literatures, section three is the methodology, section four is for analyses and interpretation of data and section five is on summary, conclusion and recommendations.

## **2.0 REVIEW OF RELATED LITERATURES**

### **2.1 Conceptual Framework**

#### **2.1.1 Stock Market and its Operations**

As the activities on a stock market tends to be specialized and understood by common people, this conceptual review will give some basic definitions, stock market history, participants, operations and its importance, so as to serve as a basis for understanding how the stock market can help promote investment and trade in a monetary zone.

**Definition:** Although common, the term stock market is somehow abstract for the mechanism that enables the trading of company stocks. It is also used to describe the totality of all stocks especially within a country. For example in the phrase “the stock market was up to day or in the term “stock market bubble”

Stock market is different from stock exchange, which is an entity (a corporation or mutual organization) in the business of bringing buyers and sellers of stock together. For example, the stock market in the United States includes the trading of stocks listed on the New York Stock Exchange (NYSE), NASDAQ and Amex and also on the OTCBB and pink sheets.

**History of stock market:** In 12<sup>th</sup> century France, the courratier de change was concerned with managing and regulating the debts of agricultural commodities on behalf of the banks because these men also traded with debts. They could be called the first brokers.

The early 13<sup>th</sup> century, Bruges commodity traders gathered inside the house of a man called Van der Beurse, and 1309 they institutionalized this but until then informal meeting and became the Brugse Beurse. The idea quickly spread around Flanders and neighbouring counties and beurzen and zoon opened in Ghent and Amsterdam.

In the middle of the 13<sup>th</sup> century, Venetian bankers began to trade in government securities. 1351, the Venetian government out lawed, spreading rumors intending to lower the price of government funds. Bankers in Pisa, Verona, Genoa and Florence also began trading in government securities during the 14<sup>th</sup> century. This was only possible because these were independent city states not ruled by a duke but a council of influential citizens.

The Dutch latter started joint stock companies, which let shareholders invest in business ventures and get a share of their profit or loses. In 1602, the Dutch East India Company issued the first share on the Amsterdam Stock Exchange. It was the first company to issue stocks and bonds.

The first stock exchange to trade continuously was the Amsterdam Beurs. In the early 17<sup>th</sup> century, the Dutch pioneered short selling option trading. Equity swaps, Merchant banking, Units Trust and other speculative instruments much as we know them.

Now, there are stock markets in virtually every developed country and most developing countries of which Nigeria is no exception. Worldwide, the biggest markets are in the United States of America, UK, Germany and Japan.

**Stock Market Participation and Trading:** Many years ago, worldwide, buyers and sellers were individuals investors such as wealthy businessmen, with long family histories (and emotional ties) to particular corporations think over time, markets have become more institutionalized with buyers and sellers largely institutions. E.g.: Pension Funds, Insurance Companies, Mutual Funds, Hedge Funds, Investors Groups and Banks. The rise of institutional investors has brought with it some improvement in the stock market operations, but not necessarily in the interest of the small investors or even of the naïve institutions of which there are many.

Now, participants in the market ranges from small individuals stock investors to large hedge funds traders. Who can be based anywhere. Their orders usually end up with a professional at a stock exchange who executes the order.

Most stocks are traded on exchanges. E.g: NYSE which are places where buyers and sellers meet and decide on a price. Some exchanges are done in a physical location where transactions are carried out on a trading floor, by a method known as open outcry.

The other type of exchange is virtual kind. Eg: NASDAQ, composed of a network of computers where trades are made electronically via traders at computer terminals.

Actual trades are based on auction market paradigm where a potential buyer bids a specific price for a stock and a potential seller ask a specific price for a stock. When the bid and ask prices match, sale takes place on the basis of first come first serve if there are multiple bidders and askers at a given price.

The purpose of a stock exchange is to facilitate the exchange of securities between buyers and sellers, thus providing a market place (virtual or real). Really a stock exchange is nothing more than a super sophisticated farmers market providing a meeting place for buyers and sellers.

### **Importance of Stock Market**

Just as it important that network of transportation, electricity and telecommunications properly, so it essential that payment can transacted, capital can be saved and channeled to the most profitable investment projects and that both households and firms get help in handing financial uncertainty and risk as well as possibilities of spreading consumption overtime. Financial market constitutes an important part of the total infrastructure for every society that has passed the stage of largely domestic economies. Stock market which is part of the financial markets, perform the following functions in an economy:

- i. **Raising Capital for Business:** The stock exchange provides companies with the facility to raise capital for expansion through selling shares to the investing public.
- ii. **Mobilizing Savings for Investment:** when people draw their savings and invest in shares, it leads to a more rational allocation of resources because funds, could have been consumed or kept in idle deposits with banks, are mobilized and redirected to promote business activities with the benefit for several economic sectors such as: agriculture, commerce and industry, resulting in a stronger economic growth and higher productivity levels.
- iii. **Facilitate Company Growth:** companies view acquisition as opportunity to expand product line, increase distribution channels, hedge against volatility, increase its market share or acquire other necessary business assets. A takeover bid or merger agreement through the stock market is the simplest and most common way to company growing by acquisition or fusion.
- iv. **Redistribution of Wealth:** By giving a wide spectrum of people a chance to buy shares and therefore become part owners (shareholders) of profitable enterprises, the stock market helps to reduce large income inequalities. Both casual and professional stock investors through stock price rise and dividends get a chance to share in the profits of promising business that were set up by other people.
- v. **Corporate Governance:** By having a wide and varied scope of owners, companies generally tend to improve on their management standards and efficiency in order to satisfy the demands of these shareholders and the more stringent rules for public corporations by public stock exchange and the government.

Consequently, it is believed that public companies (companies that are owned by shareholders who are members of the general public and trade shares on the public exchanges) tends to have better management records than privately held companies (those companies where shares are not publicly traded, often owned by the company founders and/or their families and heirs or otherwise by small group of investors).

However, some well documented cases are known where it is alleged that there has been considerable slippage in corporate governance on the part of some public companies. (MCI WorldCom, Nig breweries, Nestle, Total Nig Ltd or parmalat).

- vi. **Create Investment Opportunities for small Investors:** As opposed to other businesses that require huge capital outlay, investing in shares is open to both the large and small stock investors because a person buys the number of shares they can afford. Therefore the stock exchange provides an extra source of income for small savers.

vii. **Government Raise Capital for Development Projects:** The Government and even local municipalities may decide to borrow money in order to finance huge infrastructure projects such as sewerage and water treatment works or housing estates by selling another category of securities known as bonds.

These bonds can be raised through the stock exchange whereby members of the public can buy them. When the government or municipal councils gets this alternative source of funds, it no longer has the need to overtax the people in order to finance these development projects.

viii. **Barometer of the Economy:** At the stock exchange, share prices rise and fall depending largely on the market. Share prices tend to rise or remain stable when companies or the economy in general show signs of stability. Therefore the movement of share prices can be an indicator of the general trend in the economy.

### **The Behavior of the Stock Market**

From past experience, it is known that investors may temporarily pull financial prices away from their long term trend level. Over reactions may occur so that excessive optimism (euphoria) may drive prices unduly high or excessiveS pessimism may drive prices unduly low.

#### **2.1.2 The Concept of Banking Reforms**

Banking reforms can be referred to as regular or irregular interception in rules and regulations guiding the operation of financial institution, toward attainment of international best standard, and sufficient backing of economic performance and development in a country. Many inextricable factors may warrant reform in the sector, but majorly prompted with hope of regulating milieu of macroeconomic variables. In addition, it's generally recognized the need to deepen the financial sector and its repositioning for increase equally propelled banking sector reforms. Banking reform can be categorized into systemic and big-bang banking reforms.

**The systemic banking reforms:** This banking reforms refer to a reform designed to resolve a combination of banking sector or economy wide problem(s). This normally takes the forms of liberalization, recapitalization, and deregulation of interest and credit operations (Okafor, 2011).

**The big-bang reforms:** This is targeted to achieve a particular course (for example: increase capital base of banks i.e. the 2004/2005 bank recapitalization exercise) is a good example of the big-bang reforms. Narrowly, the essentials of sound banking system can be viewed as liquidity and profitability. Crowther cited in Jhingan (2004) pointed out that, "The secret of successful banking is to distribute resources between the various forms of assets in such a way as to get a sound balance between liquidity and profitability, so that there is cash in hand or quickly realizable to meet every claim, and at the same time enough income for the bank to pay its wages

and earn profits for its shareholders." Other benefits that go with banking reforms are: (i). Safety of depositors' values. (ii). Stability of operation. (iii). Elasticity with respect to loan facility. (iv). Efficient reserve management. (v). Expansion which is a *sine-qu-a-non* to deposits mobilization and credit facilities availability (Jhingan, 2004).

The rationale behind banking reforms in Nigeria was for achievement of macroeconomic goals of price stability, full employment, high economic performance and internal and external balances. However, the reforms were expected to play actual role in financial intermediation, financial stability and confidence in the system (CBN, 2012). The backdrop of correcting structural and operational weakness in the year 2004, which was the fourth phase of banking reform in Nigeria, was the revitalization of financial intermediation in the sector.

## **2.2 Theoretical Framework**

This study rests on the theoretical linkage between financial development which is appropriate from banking reforms and stock market performance, as it was rightly established by: the doctrine of necessity and Goldsmith theory of financial development in 1969.

**2.2.1 The Doctrine of Necessity:** This posits that banks are the hub of every economy and as such plays a vital role in the survival of the entire economic system. The larger economy therefore depends on the banking system. For this reason, it becomes necessary to regulate the activities of the banks to fit into the economic policies of the government. As a result, banking regulations and control as well as banking reforms appear to be unavoidable instruments not only of banking sector management but of national macroeconomic management (Fries and Taci, 2002, cited in Okafor, 2014).

**2.2.2 Goldsmith Theory of Financial Development in 1969:** Peak of Goldsmith's theory is the recognition that financial development matters in turning the economic fortunes of nations as it lowers market imbalance which in essence increase the domestic savings rate and attract foreign capital. Supporting this assertion, Goldsmith analyzed the total assets of various financial institutions, trends in their types and allocation, in relation to long-run economic performance. According to Goldsmith, this helps indicate the extent and character of financial interrelations, which in turn helps to determine how capital expenditures are funded and how existing assets are shifted among others.

Explaining his position, Goldsmith opined that as a result of the fact that in the first quarter of the 20<sup>th</sup> century, the financial transactions of other financial institutions increased in relation to the funds mobilized by commercial banks, the central bank's ability to control or direct financial performance was weakened.

There is also a theoretical link between financial policy reforms and money market operations. In the conventional Keynesian theory and policy, impact of monetary policy can be transmitted to the rest of the economy through the monetary system. For instance, there is the assumption that in the presence of an efficient money market, interest rate elasticity permits the distribution of funds among competing uses in an efficient way. It is believed therefore, that liberalization of interest rate, accompanied by price competitiveness of the banking system would stimulate the rate of savings in a given level of income and hence supply of domestic capital (Ndekwu 2002).

### **2.3 Empirical Review**

Most recent studies globally and within the national boundaries on the edge of this study found mixed results on the studied phenomenon. The following are just few among many others: Usman (2008) studied the impact of consolidation reform on stock market performance, proxy's performance as efficiency and profitability between the period 2003 to 2008. The finding show that consolidation has impacted on both profitability and efficiency but not significant.

Sanni, Ebo and Adereti (2012), reported a positive significant difference between earnings per share of nine banks, following their study of post consolidation on profitability in Nigeria, using a time frame of 2006 to 2010, also employing cumulative earning per share as the profitability measure.

Adegbaaju and Olokoyo (2008), considered recapitalization and bank performance, using yield on earnings asset, return on asset and return on equity as performance proxy. The study found a positive significant relationship between recapitalization and profitability (ROA and ROE) and a negative significant relationship with yield on earning asset (YEA).

Ritu, Pablo, David and Raul (2004) reported a strong positive significant effect of bank consolidation reform on bank performance, which implies that bank return increases with consolidation. However, the reverse is the case with insolvency risk.

Umoren and Olokoyo (2007) also found return on equity to be positively and negatively significant to asset profile and capital structure of a bank which was used as proxy for consolidation in their study of merger and acquisition in Nigeria, analysis of pre and post consolidation between 2006 to 2008.

Appah and John (2011) analysed the profit efficiency effects of Mergers and acquisition in the Nigerian Banking Industry. The Study used ex-post research design with data drawn, the annual reports of sampled banks for the period 2003 -2008 using ROE as proxy for profit efficiency while the sample size consist of 10 banks. The paired sample T-test statistics and descriptive analysis was used for analysis. Findings revealed that sampled banks performed better during the Pre-merger and acquisition period (2003-2005). The study concluded that there is no significant difference in ROE of all banks combined between the pre and post-merger period. This position was confirmed by:

Taiwo and Musa (2014) who examined the impact of consolidation on the performance of listed deposit money banks in Nigeria covering a period of 12 years from 2000 to 2011 (6yrs pre & post); using a sample of four banks. Paired sample T-test was used to test the hypothesis formulated with reference to the variables; Return on Asset, Return on Equity and Net profit margin. The study concluded that the consolidation reform in the Nigerian banking sector has impacted positively on Return on Assets, Net profit margin, but does not impact on Banks Return on equity.

However, Onikoyi and Awolusi (2014) differs from the earlier position on equity in their research; the effects of mergers and acquisitions on shareholders' wealth in Nigerian banking industry. In a bid to establish relationship between; increase in capital base and shareholders wealth, merged and acquired banks market share and shareholders wealth, increase in merged banks revenue and shareholders wealth, cost savings and shareholders wealth; exploratory and correlation research designs were used to analyses a sample of fifteen (15) merged banks. Five hundred and fifty seven (557) questionnaires were administered to the staff of the merged banks and a response rate of 58.3% was obtained.

The instrument was validated and Cross batches. Alpha coefficient result of 0.708 was obtained indicating the internal consistency of the instrument. The findings of study showed that there was a significant relationship between shareholders wealth and capital base (P-value of 0.000), market share ( $\rho$ -value of 0.000), and bank revenue ( $\rho$ -value of 0.000), cost savings ( $\rho$ -value of 0.000). The study concluded that mergers and acquisitions have positive effect on the shareholders wealth.

Olokoyo (2013) reviewed bank reforms if they have been able to achieve predetermined goals and set objectives in Nigeria. The study gathered data for analysis through the instrument of questionnaire. One hundred (100) copies were administered out of which eighty (80) copies were collated for the analysis. Analysis of Variance (ANOVA) method was used to test the hypothesis.

The study shows that the recapitalization and consolidation process has significant effect on the manufacturing sector of the economy and thus on the Nigerian economy at large. The study further reveals that despite the reforms, post consolidation challenges like challenges of increased return on investment still exist.

Odetayo and Olowe (2013) conducted an empirical analysis on the impact of post -merger on Nigerian Banks profitability. Multiple regression analysis and the estimation is OLS with the aid of STATA software was used to analysed date covering 2005-2012 for Net Assets and shareholders fund. The sample consists of 2 banks. The result showed that post-merger has not significantly impacted on bank's profitability.

Fadare (2010) investigated the effect of banking sector reforms on economic growth in Nigeria over the period of 1999-2009, using OLS regression technique.

The study found that interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, size of banking sector, capital and cash reserve ratios account for a very high proportion of the variation in economic growth in the country.

Ikenna (2012) studied the long and short run impact of financial deregulation and the possibility of a credit crunch in the real sector, using Autoregressive Distributed Lag (ARDL), and time series data ranging from 1970-2009. The study found that deregulating the Nigerian financial system had an adverse effect on the credit allocation to the real sector in the long run and in the short run. The study suggested mandatory credit allocation even in the long run as of utmost necessity as it had started with the latest banking reform.

Omankhanlen (2012) examined the financial sector reforms and its effect on the Nigerian economy from 1980-2008, using OLS method.

Financial intermediation was found to be necessary condition for stimulating investment, raising productive capacity and fostering economic growth.

Alajekwu and Obialor (2014) carried out a study on the Nigeria bank recapitalization reforms: effect on banks and the economy. The ordinary least square (OLS) regression was used for the analysis that span between the periods of 2000-2012. The study found that financial deepening was significantly influenced by the recapitalization.

Iganiga (2010) in his study: Evaluation of the Nigerian financial sector reforms. To assess the effect of the reforms on the effectiveness and efficiency of the Nigeria financial institutions, The classical least square technique was used for the analysis of the data sets from 1986-2009.

The study found out that the performance of financial sector has been greatly influenced over time by the reforms.

Related studies within the national boundaries reviewed have not considered sample coverage from 2004-2018. Hence this study aimed at bridging this obvious gap in literature. This will enable us assess and captured the real impact of banking sector reforms on the Nigerian stock market performance on current basis.

### 3.0 METHODOLOGY

**Hypothesis:** The hypothesis is formulated in null form in order to bring fort clarity of purpose. **Ho:** Banking sector reforms have no significant impact on the Nigerian Stock market performance.

**Data Requirement and Sources:** Given the nature of this study, it is imperative to choose data that will permit the estimation and testing of the hypothesis formulated. Broad money supply ( $M_2$ ), credit to the private sector (CPS) and the prime interest rate spread (PITR) as proxy of the impact variable (banking reforms) while market capitalization (MKPZ) is used as the explained variable (stock market performance) for the period under study.

Time series data are employed for this study. The data were obtained from Central Bank of Nigeria (CBN) annual statistical bulletin and National Bureau of Statistics (NBS) 2018.

- **Broad Money Supply ( $M_2$ ):** This represent a financial performance indicator for banks development, it is a ratio of broad money supply ( $M_2$ ) to Gross Domestic Product (GDP). This ratio is a measure of the size of the banking sector in relation to the economy as a whole.
- **Credit to Private Sector (CPS):** We used the domestic credit to the private sector in ratio of Gross Domestic Product (GDP) as one of the proxy for banking reforms because it account for financial intermediary development. Since both banks and stock markets intermediate funds (savings) towards investment projects, they can either complements or substitutes each other.
- **Prime Interest Rate Spread (PTR):** This is the rate of interest at which banks charges for lending money to individuals or corporate bodies which rates varies from time to time.
- **Stock Market Capitalization (MKPZ):** Market capitalization refers to the total market value of a company's outstanding shares; commonly referred as "market cap" It is calculated by multiplying a company's shares outstanding by the current market price of one share. The investment community uses this figure to determine a company's size as opposed to using sales or total asset figures.

Using market capitalization to show the size of a company is important because company size is basic determinant of various characteristics in which investors are interested including risks.

**Data Analysis Method:** The following econometric techniques shall be employed for the analysis of the data-set and the estimation of the model:

- (a). Augmented dickey-fuller (ADF) test. (b). Johansen Co-integration test for variables employed. (c). Test of stability of the model.
- (d). Ordinary least square regression (OLS) method and (e). Error Correction Mechanism (ECM) shall be employed in the study.

### 3.1 Model Specification

In accordance with the formulated hypothesis in this study, the model of this study will be specified as: stock market capitalization (MKPZ) as determinant for stock market performance, which is the explained variable while broad money supply ( $M_2$ ) domestic credit to private sector (CPS) and prime interest rate spread (PTR) are all explanatory variables employed in the study.

The specification of econometric model is based on economic theory relating to the studied phenomenon and as such, basic steps are required:

1. Determination of the dependent and independent variables.
  2. Theoretical apriori expectation and signs of functional parameters relationships.
  3. Determination of the mathematical form of model (Gujarati, 2004).

In analyzing the studied phenomenon we adopt and modified an empirical model of Osisioma, Egbunike and Adeaga (2015). Their model was used to study the impact of corporate governance on banks performance in Nigeria.

Their model will be adjusted to reflect the current study showing the functional relationship of the variables employed.

MKPZ =  $f(M_2, CPS, PTR,)$  ..... 1

Where,

MKPZ = Stock market capitalization.

$M_2$  = Broad money supply.

CPS = Domestic credit to private sector.

PTR = Prime interest rate spread.

The econometric specification of the explicit form of the multiple regression models is given as follows;

Where:

$a_0 = \text{intercept}$

$a_1 \dots a_3$  = Coefficients of the explanatory variables to be estimated. They measure the effect of a unit change in banking sector reforms on stock market performance in Nigeria.

$U_{et}$  = Error term of the time series for data set.

**Decision Rule:** In this study the decision rule is to reject the null hypothesis ( $H_0$ ) if the calculated  $t^*$  is greater than the table value at 5% level of significance.

#### 4.0 ANALYSIS AND INTERPRTATION OF DATA

##### DATA PRESENTAION

YEAR	M2/GDP	CPS/GDP	PTR	MKPZ (Nbn)	MKPZ/GDP
2004	10.8	7.3	16.72283192	2.11	23.3
2005	11.8	8.3	16.54839096	2.90	37
2006	13.3	8.0	16.84844693	5.12	53
2007	15.5	11.2	16.84238679	13.3	60
2008	20.5	17.7	16.42141957	9.5	39
2009	21.3	20.7	17.20401138	7.03	29
2010	20.2	18.6	16.92596997	10.33	32
2011	19.3	16.9	16.86833333	10.34	33
2012	19.4	20.4	16.69333333	10.11	31
2013	18.9	19.7	16.56342526	9.1	30
2014	19.9	19.2	17.13666667	11.12	46
2015	20.1	19.8	17.08333333	14.33	51
2016	21.3	20.8	16.08333333	14.21	44
2017	21.4	23.8	17.78333333	13.54	42
2018	22.4	25.0	18.08333333	15.3	41

SOURCE: CBN statistical bulletin 2018

**Table 1.1 Unit root test results for Market Capitalization (MKPZ)**

Null Hypothesis: MKPZ has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.167743	0.0364
Test critical values:		
1% level	-5.124875	
5% level	-3.933364	
10% level	-3.420030	

Source: E-view 9 output

Interpretation: Order of integration at 5% = 1(0)

**Table 1.2 Unit root test results for Broad Money Supply (M<sub>2</sub>)**

Null Hypothesis: M<sub>2</sub> has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 3 (Automatic - based on SIC, maxlag=3)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.466892	0.0006
Test critical values:		
1% level	-5.124875	
5% level	-3.933364	
10% level	-3.420030	

Source: E-view 9 output

Interpretation: Order of integration at 5% = 1(0)

**Table 1.3 Unit root test results for Domestic Credit to Private Sector (CPS)**

Null Hypothesis: D(CPS) has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=3)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.506405	0.0276
Test critical values:		
1% level	-4.121990	
5% level	-3.144920	
10% level	-2.713751	

Source: E-view 9 output

Interpretation: Order of integration at 5% = 1(1)

**Table 1.4 Unit root test results for Prime Interest Rate Spread (PTR)**

Null Hypothesis: PTR has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=3)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.302193	0.0243
Test critical values:		
1% level	-4.886426	
5% level	-3.828975	
10% level	-3.362984	

Source: E-view 9 output

Interpretation: Order of integration at 5% = 1(0)

[

Table 1.1 to 1.4 shows the unit root test results of the variables employed in the study. The results shows that almost all variables employed in the study are integrated at their levels, symbolized by 1(0) except for CPS that is integrated at first difference, symbolized by 1(1), all at 5% significance level.

Thus, this means that variables employed has no unit root problem. Note, a variable is stationary (has no unit root problem) if the test statistics is greater than the critical value in absolute terms. This shows that data employed can be used for meaningful decision making and forecasting.

**Table 1.5 Johansen Cointegration Test Results**

Date: 08/07/19 Time: 08:46

Sample (adjusted): 2008 2018

Included observations: 11 after adjustments

Trend assumption: Linear deterministic trend

Series: MKPZ CPS M2

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.974896	49.86346	29.79707	0.0001
At most 1	0.529398	9.331397	15.49471	0.3356
At most 2	0.090232	1.040219	3.841466	0.3078

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

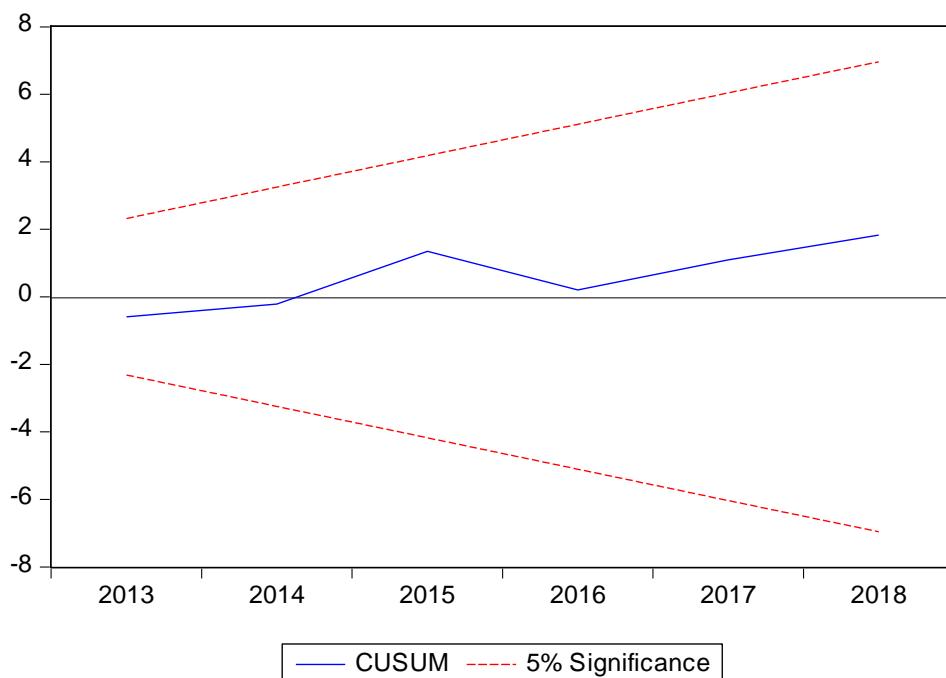
\* denotes rejection of the hypothesis at the 0.05 level

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

**Source:** E-view 9 output

Table 1.5 evidenced the Johansen cointegration test result that indicates the existence of one cointegrating long run relationship among variables employed in this study. We arrive at this conclusion by comparing the trace statistic against the Critical Values at 5% level of significance.

### Graph 1.1 Model Stability Test



**Source:** Author's computation: E-view 9 output

Graphs 1.1 for test of stability of the model shows that all variable used in the model are valid. This is because the blue line starts from the point of zero and increases gradually to fluctuate between the two red lines given. Therefore, we can run a regression on them for individual parameter estimate.

**Table 1.6 Parsimonious Error Correction Model (ECM)**

Dependent Variable: D(MKPZ)

Method: Least Squares

Date: 08/07/19 Time: 09:38

Sample (adjusted): 2008 2018

Included observations: 11 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.730145	0.675224	1.081338	0.3211
D(M <sub>2</sub> )	0.417980	0.788216	0.530286	0.6150
D(CPS)	-0.624340	0.412169	-1.514767	0.1806
D(PTR)	-0.423734	1.071383	-0.395502	0.7062
ECM(-1)	-0.338644	0.333985	-1.013948	0.3497
R-squared	0.776931	Mean dependent var	0.181818	
Adjusted R-squared	0.494884	S.D. dependent var	2.237985	
S.E. of regression	1.879262	Akaike info criterion	4.402590	
Sum squared resid	21.18975	Schwarz criterion	4.583452	
Log likelihood	-19.21425	Hannan-Quinn criter.	4.288583	
F-statistic	2.045518	Durbin-Watson stat	1.721937	
Prob(F-statistic)	0.006787			

Table 6 X-rays the impact of banking sector reforms on stock market performance in Nigeria. The t-test output will be used to test the hypothesis outlined in study. The error correction term will tell us the speed with which our model returns to equilibrium following short run fluctuations not captured in the Johansen test. The ECM coefficient of -0.338644 indicates that ECM is well specified and the diagnostic statistics are good. The negative sign depicts the short run adjustment of the explanatory variables to the

explained variable. The ECM term also shows 34% slow speed of adjustment towards equilibrium. This implies that 34% of disequilibrium caused by exogenous shocks or short run fluctuations in the previous period is corrected in the current year.

Using the a priori criteria of evaluating the parameters, all the variables including the constant ( $M_2$ , CPS, PTR and ECM(-1)) did not meet a priori expectations hence not fulfilling the economic criterion of the model.

The results also show that CPS and PTR is non-linear (negative) and statistically insignificant to MKPZ both in short and in the long run, while  $M_2$  is linear (positive) and also statistically insignificant to MKPZ both in short and in the long run respectively. Furthermore, the results of the test of the overall significance of the model using F-statistics shows that the entire model is statistically significant. We arrive at this conclusion because the F-statistics of 2.045518 is greater than the F-probability of 0.006787. Coefficients of determination ( $R^2$ ) indicate that approximately 78% of total variation in MKPZ is explained by the explanatory variables in the model. This means that the model is of good fit. Finally, the Durbin-Watson statistics, a rule of thumb for the measure of autocorrelation is greater than Coefficients of determination ( $R^2$ ) ( $1.721937 > 0.776931$ ) thus, indicating the absence of first order autocorrelation.

## TEST OF HYPOTHESIS

Table 6 above reveals that broad money supply ( $M_2$ ), domestic credit to private sector (CPS) and prime interest rate spread (PTR) as proxy of banking sector reforms have t-statistic of 0.530286, -1.514767 and -0.395502 with their probability values of 0.6150, 0.1806 and 0.7062 which are greater than 5% level of significance. This means banking sector reforms has no significant impact on stock market performance in Nigeria for the period under study. Therefore the null hypothesis is accepted.

## 4.1 DISCUSSIONS OF FINDINGS

The outcome of the error correction model (ECM) shown that the banking sector reforms introduced from 2004-2018 have had insignificant impact on the Nigerian stock market performance. As evidenced from our empirical results, the banking sector reforms proxy (broad money supply, domestic credit to the private sector and prime interest rate spread) had combined insignificant impact on the Nigerian stock market proxy (market capitalization) for the period under study. Boyd and Smith (2001) profess that banks and stock markets complement each other rather than been substitute. Empirically, Demirguc Kunt and Levine (2000) exhibited that the level of stock market performance has a direct positive impact on baking sector reforms. Conversely, the findings of Garcia (2002) conform to the findings of this study. He finds that Central Banks may generate negative relationship between banking reforms and stock market performance. However, broad money supply, which is an indicator for financial development (banking reforms) exhibit a positive relationship with stock market performance. It measures the extent of financial deepening in relation to the economy

as a whole, while credit to private sector measures the role of financial intermediaries in the provision of short and long term financing of investments for individual corporations. Upgrading of existing institutions is of utmost importance to stock market performance because it will remedy unstable economy, as well as to enhance regulatory authorities to improve external financing.

## 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

Several banking sector reforms has been embark upon in Nigeria ranging from privatization, debt management, pension and tax administration, insurance and banks consolidation, amongst others in the last decade. This study revealed that the banking sector reforms collectively, impacted insignificantly on Nigerian stock market performance for the period under study.

Thus, this is notwithstanding that, the implementation of banking sector reforms has caused an unprecedented process of revival and resuscitation of the Nigerian banking sector, shrinking the number of commercial banks from 89 to 22 banks.

Our conclusion therefore, is that banking sector reforms are good for Nigeria banking sector. What remains, is how the country will constantly maintain and review existing banking sector reforms from time to time to sustain the tempo of survival and stability in the banking sector which may affect stock market performance in the long-run.

From the empirical findings of the study, we are constrained to recommend as follows:

1. Central Bank of Nigeria and other monetary authorities should continue with its banking sector reforms with an effective implementation strategies structured out for its onward strives for stock market performance in respect to broad money supply ( $m_2$ ), domestic credit to the private sector (CPS) and prime interest rate spread (PTR). And
2. Regulatory authorities should be strengthened to embark on proactive measures to put in place the Nigerian stock exchange (NSE).

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