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## Article

### Return on assets and market stock prices of quoted deposit money banks in Nigeria

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Original Research Article

## **Return on Assets and Market Stock Prices of Quoted Deposit Money Banks in Nigeria**

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### **Abstract**

*The study examined the impact of return on assets on market stock prices of quoted deposit money banks in Nigerian. This study adopted ex-post facto research design to assess the relationship between return on assets and stock prices of deposit money banks in Nigeria. A sample of 10 deposit banks quoted on the NSE was selected between the year 2009 to 2017. Preliminary analysis such as descriptive analysis was first conducted and this was followed by panel data regression. The results obtained disclose that the market prices of commercial banks' stock and net asset per share ratio are related in the long run. Additional Granger Causality Test indicated that unidirectional causality found the existence between stock prices and returns on assets. The study concluded that returns on assets do not significantly associate with stock prices of money deposit banks in Nigeria. The study suggested that further research could address other financial ratios and even for a longer period of time. A study on the combine effects of these ratios, as against the effects of individual ratios, is also recommended.*

**Keywords:** Return on Assets, Market stock price, *Efficiency*, Ratio, Quoted Banks.

**JEL Classification:** E50, E51, E52

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**INTRODUCTION**

It is needful for an investor and a potential investor to have the understanding of the environments surrounding the stock market for the purpose of the associated degree of risk involved in investment decisions. Risk is an element or probability that the unexpected may occur and adequate precaution ought to be taken to forestall it.

In view of the possibility that an investor may lose his investments, it is essential to assess or evaluate investment opportunities to minimize the occurrence of this risk. One of the ways of evaluating the potentials of an investment is through the use of return on asset which is one of the financial ratios. Financial ratios are simply relationships between two or more figures in the financial statements which ultimately give direction as to the performance of the firm. These relationships are established to measure the success or failure of managerial decisions in the light of the movement in stock prices. According to Remi (2005), the firm stock prices have direct relationship with managerial efficiency, which is one of the signals of firm performances.

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings.

The ROA figure gives investors an idea of how effectively the company is converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment.

Financial reporting is aimed at providing investors and analysts with the information needed to assess the operational results and financial standing of a firm for the purpose of making informed investment decisions. Stock prices often times serve as the basis for the assessment of whether a firm is breaking even or not. These prices are

relevant metrics of returns to stakeholders, therefore the value attached to them and their direction of movement matters so much to both existing and prospective investors in the capital market. Over time, financial ratios have been used as proxies to predict the stock market prices of firms (Remi, 2005). This notwithstanding, many still questions the efficacy of financial ratios in predicting stock prices.

Banks in Nigeria operate under a turbulent economic environment, characterized by massive deceleration in money supply and credit, poor asset quality, undercapitalization, a weakening exchange rate, fluctuating inflation rate, decline in global oil prices, poor corporate governance, weak risk management framework, and shortage of foreign currencies and high cost of capital (Adedoyin, 2011). However a bank's stock price is susceptible to all of these factors which it has no control over. A section of the market participants has attributed the trend in stock price movements to the availability of accounting information while another camp of analysts opined that exogenous variables (non-accounting information) sparked off by government's loose monetary policies is the formidable cause (Stephen and Okoro, 2014). However, from literature there are several factors in share price determination in the capital market; these factors are either accounting or non-accounting information (Khanagha, 2011; Cheng, Shamsher, and Annuar, 2008).

Several studies have shown that non-accounting parameters such as speculation, gambling, and forced sales form the basis for the determination of share prices (Cheng, Shamsher, and Annuar, 2008; Francis and Schipper, 1999). Incidentally, only few studies in Nigeria (Oyerinde, 2009; Umar and Musa, 2013) have attempted to provide empirical evidence of the relationship between stock price movements and accounting information, and these few studies are not specifically in the

banking sector. The study is to establish whether or not there exists relationship between return on asset and stock prices in the banking industry in Nigeria.

## LITERATURE REVIEW

### CONCEPT OF RETURN ON ASSET

The Return on Asset (ROA), is one of the most widely used profitability ratios because it is related to both profit margin and asset turnover, and shows the rate of return for both creditors and investors of the company. ROA shows how well a company controls its cost and utilizes its resources. It is calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment". ROA tells you what earnings were generated from invested capital (assets). Return on Asset (ROA) is also one of the major ratios used in the financial analysis.

According to ACCA (2010), Financial Analysis is the selection, evaluation, and interpretation of financial data, with other pertinent information, to assist in investment and financial decision-making. It is the process of critical evaluation of the financial information contained in the financial statements in order to understand and make decisions regarding the operations of the firm. It also refers to the process of determining financial strength and weaknesses of the firm by establishing strategic relationship between the items of the balance sheet, income statement and other operative data. Financial analysis may be used internally to evaluate issues such as employees' performance, the efficiency of operations and credit policies, and externally to evaluate potential investments and the credit-worthiness of borrowers, among other things.

ROA for public companies can vary substantially and will be highly dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous

ROA numbers or the ROA of a similar company. The assets of the company are comprised of both debt and equity. Both of these types of financing are used to fund the operations of the company. The ROA figure gives investors an idea of how effectively the company is converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment. The core variables that are used in determining ROA are the company's Net income and her Total Asset. These will be discussed below:

### Total Asset:

An asset is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit. Assets are reported on a company's balance sheet, and they are bought or created to increase the value of a firm or benefit the firm's operations. An asset can be thought of as something that in the future can generate cash flow, reduce expenses, improve sales, regardless of whether it's a company's manufacturing equipment or a patent on a particular technology. The accounting equation is the mathematical structure of the balance sheet. It relates assets, liabilities, and owner's equity:

Assets = Liabilities + Capital (which for a corporation equals owner's equity)

Liabilities = Assets – Capital

Equity = Assets – Liabilities

Assets can be broadly categorized into short-term (or current) assets, fixed assets, financial investments and intangible assets. Assets are recorded on companies' balance sheets based on the concept of historical cost, which represents the original cost of the asset, adjusted for any improvements or aging. Historical cost is also called the book value.

### **Current asset**

Current assets are short-term economic resources that are expected to be converted into cash within one year. Current assets include cash and cash equivalents, accounts receivable, inventory, and various prepaid expenses. While cash is easy to value, accountants periodically reassess their cover ability of inventory and accounts receivable. If there is persuasive evidence that collectability of accounts receivable is impaired or that inventory becomes obsolete, companies may write off these assets.

### **Fixed Assets**

Fixed assets are long-term resources, such as plants, equipment and buildings. An adjustment for aging of fixed assets is made based on periodic charges called depreciation, which may or may not reflect the loss of earning power of a fixed asset. Generally accepted accounting principles (GAAP) allow depreciation under two broad methods: the straight-line method assumes that a fixed asset loses its value in proportion to its useful life, while the accelerated method assumes that the asset loses its value faster in its first years of use.

### **Financial Assets**

Financial assets represent investments in the assets and securities of other institutions. Financial assets include stocks, sovereign and corporate bonds, preferred equity, and other hybrid securities. Financial assets are valued depending on how the investment is categorized and the motive of such investment.

### **Intangible Assets**

Intangible assets are economic resources that have no physical presence. They include patents, trademarks, copyrights and goodwill. Accounting for intangible assets differs depending on the type of asset, and they can be either amortized or tested for impairment each year.

### **Net Income:**

In business, net income (total comprehensive income, net earnings, net profit, and bottom line) is an entity's income minus cost of goods sold, expenses and taxes for an accounting period. It is computed as the residual of all revenues and gains over all expenses and losses for the period and has also been defined as the net increase in shareholders' equity that results from a company's operations.

In the context of the presentation of financial statements, the IFRS Foundation defines net income as synonymous with profit and loss.

Net income is a distinct accounting concept from profit but the same as net profit. Net income can also be calculated by adding a company's operating income to non-operating income and then subtracting off taxes. Net income can be distributed among holders of common stock as a dividend or held by the firm as an addition to retained earnings. As profit and earnings are used synonymously for income, net earnings and net profit are commonly found as Definition synonyms for net income. Often, the term income is substituted for net income, yet this is not preferred due to the possible ambiguity. Net income is informally called the bottom line because it is typically found on the last line of a company's income statement (a related term is top line, meaning revenue, which forms the first line of the account statement). The items deducted will typically include tax expense, financing expense (interest expense), and minority interest.

Likewise, preferred stock dividends will be subtracted too, though they are not an expense. For a merchandising company, subtracted costs maybe the cost of goods sold, sales discounts, and sales returns and allowances. For a product company advertising, manufacturing, and design and development costs are included.

An equation for net income:

Net sales (revenue) – Cost of goods sold =  
Gross profit – SG&A expenses (combined  
costs of operating the company) – Research  
and development (R&D) = Earnings before  
interest, taxes, depreciation and  
amortization (EBITDA) – Depreciation and  
amortization = Earnings before interest and  
taxes (EBIT) – Interest expense (cost of  
borrowing money) = Earnings before taxes

(EBT) – Tax expense = Net income (EAT).

Net sales = gross sales – (customer  
discounts, returns, and allowances).

Gross profit = net sales – cost of goods sold.

Operating profit = gross profit – total  
operating expenses.

Other terms:

Net profit = operating profit – taxes –  
interest

Net profit = net sales – cost of goods sold –  
operating expense – taxes – interest

### Concept of Stock Price

The stock market has become an essential  
market playing a vital role in economic  
prosperity that fostering capital formation  
and sustaining economic growth. Stock  
markets are more than a place to trade  
securities; they operate as a facilitator  
between savers and users of capital by  
means of pooling of funds, sharing risk, and  
transferring wealth. Stock markets are  
essential for economic growth as they  
ensure the flow of resources to the most  
productive investment opportunities.

Stock prices change in stock markets on a  
daily basis. Moreover, during certain times  
of the year, it is easy to notice that stock  
prices appreciate every morning, and this  
may take place many times in one day for  
some stocks. This means that stock prices  
are determined by supply and demand  
forces influenced by corporate firm  
characteristics. There is no full proof system  
that indicates the exact movement of stock  
prices. However, the factors behind

increases or decreases in the demand and/or  
supply of a particular stock could include  
company fundamentals, external factors,  
and market behavior.

Following the works of Al – Tamimi  
(2007), he identified company fundamental  
factors; performance of the company, a  
change in board of directors, appointment of  
new management, and the creation of new  
assets, dividends, earnings, and external  
factors; government rules and regulations,  
inflation, and other economic conditions,  
investor behavior, market conditions, money  
supply, competition, uncontrolled natural or  
environmental circumstances as influencers  
of share prices. He developed a simple  
regression model to measure the coefficients  
of correlation between stock price and  
Earnings per share; Dividend per share; Oil  
price; Gross domestic product; Consumer  
price index; Interest rate and Money supply.  
He discovered that Earnings per share had  
the most influencing factor over the market.

Information reflected by the current stock  
price includes information particular to the  
company offering the shares and  
information general to the market. For  
example, the former set of information  
includes earnings information, dividend  
announcement, firm growth, firm size  
company solvency rating, mergers and  
acquisition etc. while the latter set includes  
all those information pertaining to the macro  
economy of the nation like the inflation rate,  
interest rate, unemployment rate etc. which  
are general to all stocks traded on the stock  
exchange. All this information follows a  
random order in their occurrences and are  
reflected by the share prices, therefore no  
one can accurately predict their occurrence.

The behaviour of stock returns has been  
extensively debated over the years.  
Researchers have examined the efficient  
market and random walk characterization of  
returns and alternatives to random walk.  
The validation of random walk implies that  
market is informationally efficient. In an

efficient market, current prices fully reflect available information and hence there is no scope for any investor to make abnormal profits (Fama, 1970). In respect of empirical evidences, the early studies have found evidences in favour of random walk hypothesis (RWH). In later period, however, studies have supported mean reversion in returns. The Fama's model is criticized for its assumption that market participants arrive at a rational expectations forecast.

It is argued that trade demands heterogeneity (bull and bear traders) and therefore returns can be predicted. In other words, psychological and behavioral elements in stock price determination help to predict the future prices. Further, in contrast to Fama's model, Campbell, Lo & Mackinlay (1997) states that asset returns are predictable to some degree. Consensus on this issue thus continues to be elusive. It has been pointed out that the use of several tests, parametric and non-parametric, each of which having been based on restrictive assumptions, has been a prime reason for lack of consensus. Further, the use of data of different frequencies has also been another reason for divergent findings.

The conventional tests such as auto correlation, runs, spectral and variance ratio tests have some limitations. They are capable of detecting only linear correlation in the series. The Great Market Crash of 1987 triggered interest in non-linear dependencies in the return series. Since then researchers have addressed the issue of presence of non-linear dependencies. It may be pertinent to note that rejection of presence of linear correlation does not validate EMH as non-linear dependencies might help to predict the future prices (Granger & Anderson, 1978). The issue of non-linear dependence in the series has been examined by Hinich and Patterson (1995). Following the framework of Hinich-Patterson, the portmanteau bi-correlation test is employed in their study to examine the issue of non-linear dependencies.

### **Empirical Review**

Mirfakhr, Dehavi, Zarezadeh, Armesh, Manafi, and Zraezadehand (2011) studied the relationship between financial variables and stock price through Fuzzy regression in Iran Khodro Company (Accepted in Tehran Stock Exchange) during the years 1998 to 2007. They used the variables of earnings per share (EPS), dividends per share (DPS) and the ratio of price to earnings as financial variables. The research findings showed that there is a significant and positive relationship between earnings per share (EPS) and stock price, but the relationship between cash dividend per share (DPS) and the ratio of price to earnings (P/E) with stock price is negative and significant.

Zeytinoglu, Akarim, Çelik (2012) tested the effects of market ratios on the stock return of current and future year of insurance companies listed in the Istanbul Stock Exchange during the years 2000 to 2009. In this study, the market ratios include price to earnings ratio (P/E), ratio of market value to book value (M/B) and earnings per share (EPS). Research findings suggest that there is no significant relationship between market ratios and stock return of current and future year and only the relationship between the ratio of market value to book value (M/B) and stock return of current and future year is positive and significant.

Irungu (2013) explored the impact of the financial performance indicators on the stock prices of the commercial banks in Kenya. The study used the company size (total assets), liabilities and cost to income ratio as independent variables, while market share price is used as dependent variable. The study sample consist 10 commercial banks listed on the Nairobi Stock Exchange (NSE), Kenya for the year 2011. Multiple regression models have been deployed to analyze the impact of the independent variables on the dependent variables. The results concluded that the model is significant.

Fun and Basana (2012) investigated the relationship between the ratio of price to earnings (P/E) and stock return in 45 companies listed in the Indonesia Stock Exchange during the period 2005 to 2010. The results indicate that there is no significant relationship between the ratio of price to earnings (P/E) and stock returns.

Maxwell and Kehinde (2012) study that was conducted on the 50 companies listed in the Nigerian Stock Exchange during the period 2001 to 2006, reached to this conclusion that there is a significant linear relationship between price to earnings ratio (P/E) and stock return.

Glezakos, Mylonakis and Kafouros (2012) examined the impact of accounting information on stock prices in Athens. They found that the explanatory power of earnings and book value in the formulation of prices increases over times. In addition, the study showed that earnings appear to play an increasingly diminishing role in the interpretation of stock prices, compared with the book value and in an attempt to interpret this, it is assumed that investors strive more towards fundamental parameters of businesses, than stock market data.

Menaje (2012) aimed to determine that impact of financial variables on share price of publicly listed firms on the Philippine. For this purpose, he used the Earning per Share (EPS) and Return on Assets (ROA) as independent variables while the Share Price as dependent variable. The study sample consisted of 50 publicly listed firms in the Philippine. The sample set consist financial reports of 2009, which were taken from OSIRIS electronic database. The multiple regression results of the study showed that a strong positive correlation exists between EPS and share price; whereas there exists a weak negative correlation between ROA and share price. Thus, the paper concluded that the chosen model was able to explain the 73% of variation in the Share Prices.

### **Theoretical Framework**

The concept of stock prices originated from Random Walk theory in the work of Fama (1980). This study which is aimed at determining the predictive power of accounting ratios on stock prices is based on the Efficient Markets Hypothesis (EMH), popularly known as the Random Walk Theory.

### **Random Walk Theory/Efficient Market Hypothesis**

The efficient market hypothesis is associated with the idea of a random walk, which is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random departures from previous prices. The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and will be independent of the price changes today. But news is by definition unpredictable and, thus, resulting price changes must be unpredictable and random. As a result, prices fully reflect all known information, and even uninformed investors buying a diversified portfolio at the tableau of prices given by the market will obtain a rate of return as generous as that achieved by the experts. (Malkiel, 2003).

The Efficient Markets Hypothesis (EMH), popularly known as the Random Walk Theory, is the proposition that current stock prices fully reflect available information about the value of the firm, and there is no way to earn excess profits, (more than the market overall), by using this information. It deals with one of the most fundamental and exciting issues in finance why prices change in security markets and how those changes take place. It has very important implications for investors as well as for financial managers. Fama (1980) sees an efficient market, as one that reflects full effects of new information on intrinsic values to be reflected instantaneously in



actual prices. Many investors try to identify securities that are undervalued, and are expected to increase in value in the future, and particularly those that will increase more than others. Many investors, including investment managers, believe that they can select securities that will outperform the market. They use a variety of forecasting and valuation techniques to aid them in their investment decisions. Obviously, any edge that an investor possesses can be translated into substantial profits.

Fama (1980) concluded that daily changes had a very small positive correlation, approaching zero for practical purposes. The stock market seemed to work in a way that allowed all information reflected in past prices to be incorporated into the current price. In other words, the market efficiently processed the information contained in past prices.

In literature, three distinctive potential levels of efficiency, namely weak, semi-strong and strong each relating to a specific set of information which is increasingly more comprehensive than the previous one, are identified. The market is efficient in the weak sense if share prices fully reflect the information implied by all prior price movements. Price movements, in effect, are totally independent of earlier movements. Consequently, investors are unable to profit from studying charts of past prices. In addition, efficiency at the weak level rules out the validity of trading rules designed to produce above-average returns. The weak form of efficiency has also been designated in literature as advocated by Chaudhuri (1991) as random walk hypotheses.

In the semi-strong form, the information set comprises of publicly available information. The implication of market being efficient in the semi-strong sense is that it would be rather futile for investors to search for bargain opportunities (i.e., mispriced shares) from an analysis of published data.

The market is efficient in the strong sense if shares fully reflect not only published information, but also all relevant information including information not yet publicly available. If the market were strongly efficient, then even an insider would not be able to profit from his privileged position. Needless to say, these three levels are not independent of one another. For the market to be efficient in the strong sense it must also be efficient at the two lower levels, otherwise the price would not capture all relevant information.

## METHODOLOGY

This study adopted the *ex-post facto* research design to assess the relationship between return on asset and stock prices of deposit money banks in Nigeria. The choice of this research design is based on the premise that the study involved gathering data which was already in existence and which has not been created by the researcher.

The fourteen (14) deposit money banks listed on the Nigerian Stock Exchange formed the population of this study. From the fourteen (14) deposit money banks listed on the Nigerian Stock Exchange, a sample of ten (10) banks was purposively selected based on the availability of their annual reports and share prices as at the time of the study. The final sample, therefore, consisted of ten (10) banks for a seven-year period, covering 2009 to 2017. The study made use of data from secondary sources. The Nigerian Stock Exchange (NSE), annual reports and accounts of banks were the major sources of data for the study. The technique for data analysis employed in this study is panel multiple regression. The technique was adopted because it helps to explore the long run relationship between the dependent variable (stock price) and the independent variable or predictors (Returns on Assets).

**Model specification**

With respect to the main objective of this study, which was to assess the predictive influence of financial ratios on stock prices of deposit money banks in Nigeria, the model below was developed for the study;

$$SP_{i,t} = \alpha_0 + \alpha_1 ROA_{i,t} + \epsilon_{i,t} \quad \text{----- (I)}$$

Where;  $i, t$  is for bank  $i$  in year  $t$ ,

$SP$  = the stock price at fiscal year-end,

$ROA$  = return on assets,

$\alpha_0, \alpha_1$  = the coefficients of the variables  $\epsilon$  is the error term.

**Variables Measurement**

**Return on Assets (ROA)** – ROA measures the profitability of the assets of the firm after all expenses and taxes. It was calculated as Net Profit after Tax/Total Asset, from Consolidated Income Statement and Statement of Financial Position of selected banks for the period 2009 to 2017.

**RESULTS AND DISCUSSION**

**Descriptive Analyses**

The selected data series consisting of seventy data points were pooled in the analyses of the measures of central tendency, variability and normality. And this is expected to give a holistic idea of the entire data series of the selected companies without considering the different cross sections.

**Table 1: Results of Descriptive Statistics**

	<b>ROA</b>	<b>SP</b>
Mean	0.013494	0.684919
Median	0.013550	0.689734
Maximum	0.079300	1.437751
Minimum	-0.044800	-0.283997
Std. Dev.	0.018451	0.448300
Skewness	-0.135967	-0.183523
Kurtosis	6.076748	2.003978
Jarque-Bera	27.82596	3.286446
Probability	0.000001	0.193356
Sum	0.944600	47.94431
Sum Sq. Dev.	0.023489	13.86715
Observations	70	70

*Source: Researcher’s Eviews Computations*

The result of the descriptive analyses of the various series in table 1 above shows a considerable level of variability in the behavioral pattern of the series. For return on assets (ROA), the maximum is 0.07 whereas the minimum value of -0.04 shows that among the selected banks were those who had negative returns on assets implying inefficiency in the use of total assets for the generation of revenue. The mean value of 0.01 indicates that an average bank in the cross section generates returns of 1% per asset invested in the organization whereas the Jacque-Berra test of normality indicates abnormal arrangement for the returns on assets.

**Panel Unit Root Test at First Differencing**

**Table2: Results of Panel Unit Root Tests**

**Variables at First Differencing**

	With intercept	LLC	P-value for LLC	PP-Fisher Chi-square	P-value for PP-Fisher Chi-square
<b>ROA</b>	“	-45.7331	0.0000	86.3380	0.0000
<b>SP</b>	“	-7.84508	0.0000	48.1542	0.0004

*Source: Researchers’ Eviews Output 2018*

Having described the nature of our data series and found some of them to be normal, the data were analyzed for unit root at individual intercept. The purpose for selecting individual intercept is to ensure that the data will be treated with recognition of differences in the cross sections; that is, each bank in the panel is treated as different from other banks instead of pooling them together as was obtainable in the descriptive statistics section above. The unit root test was conducted at two stages comprising of:

- i. Common unit root process (Adopting Levin, Lin & Chu t)
- ii. Individual unit root process (Adopting PP – Fisher Chi-square)

The result of the unit root test as is contained in table 4.2 above shows that all the selected data series are stationary at first differencing as all the null hypotheses of

unit root both with assumption of common unit root process and individual unit root process were rejected given that each series' probability value consistently yield a value less than 5%. Hence, we accept that there is no unit root in the data series selected for the study based on the result in table 2 above.

### 3 Panel Co-integration Analysis

Having ascertained in Table 4.2 that the data series have no unit root, this section is dedicated to analyzing possibility of estimating an ordinary least square long run relationship among the variables selected in this study using Kao Residual Co-integration Test. This test is Engle Granger based cointegration test intended to prescribe possible long run equilibrium relationship among the selected variables. The results are given in Table 3 below.

**Table3: Panel Co-integration Test Results**

Kao Residual Cointegration Test  
 Series: ROA CDR EPS NAPS SP  
 Date: 06/04/17 Time: 20:25  
 Sample: 2009 2017  
 Included observations: 70  
 Null Hypothesis: No cointegration  
 Trend assumption: No deterministic trend  
 User-specified lag length: 1  
 Newey-West automatic bandwidth selection and Bartlett kernel

	t-Statistic	Prob.
ADF	-3.760709	0.0001
Residual variance	0.000223	
HAC variance	0.000107	

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(RESID)  
 Method: Least Squares  
 Date: 06/04/17 Time: 20:25  
 Sample (adjusted): 2011 2017  
 Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID(-1)	-1.065720	0.140810	-7.568504	0.0000
D(RESID(-1))	0.098781	0.075666	1.305488	0.1979
R-squared	0.689243	Mean dependent var		-0.002034

Adjusted R-squared	0.682769	S.D. dependent var	0.010449
S.E. of regression	0.005885	Akaike info criterion	-7.393525
Sum squared resid	0.001663	Schwarz criterion	-7.317044
Log likelihood	186.8381	Hannan-Quinn criter.	-7.364400
Durbin-Watson stat	1.766161		

**Source: Researcher’s Eviews Output 2018**

Hence we conclude on the basis of the above results that the market prices of commercial banks’ stock and ROA ratio are related in the long run.

**Granger Causality Test**

**Table 4: Ganger Causality Test Results**

Pairwise Granger Causality Tests  
 Date: 06/05/17 Time: 12:40  
 Sample: 2009 2017  
 Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.	Conclusions
ROA does not Granger Cause SP	60	1.96535	0.1664	Unidirectional Causality
SP does not Granger Cause ROA		8.09155	0.0062	

**Source: Researcher’s Eviews Output 2018**

Granger causality test has been described as a statistical test that explains the association of two variables on the basis of prediction. It goes beyond estimating the relationship between variables to assess the power of each variable to predict each other based on the information in any such explanatory variable. The two possible causal relationships usually identified in the Granger causality test in a pairwise manner include:

- a. Unidirectional relationship: where only one among two sampled variables causes a change in the other; and
- b. Multidirectional relationship: which exist when each of the two sampled variables in a given pair causes a change to occur in each other?

According to results obtained as contained in Table 4 above, stock prices of the various selected firms were paired with each financial ratio performance indicator to form five pairs of hypotheses; the result

This section is dedicated to the estimation of the Granger causality test in order to obtain the source of any relationship or association that may exist between stock prices of money deposit banks and any other variable paired with it among all the variables in our study.

of the first pair suggests that only the null hypothesis which proposes that stock prices Granger cause returns on assets will be rejected while we accept that returns on assets does not Granger cause stock prices. It follows that the relationship between ROA and stock prices of commercial banks is even more predicted by the values of stock prices. Summarily, unidirectional causality was found to exist between stock prices and returns on assets.

**CONCLUSION AND RECOMMENDATIONS**

This study was undertaken to evaluate the relationship between ROA and stock prices of deposit money banks in Nigeria. Data for the study were obtained from the financial statements of ten deposit money banks in Nigeria between 2009 and 2015. This study was carried out to statistically evaluate the explanatory power of ROA on stock prices of deposit money banks in Nigeria. From analyses, it

was found that returns on assets do not significantly associate with stock prices of money deposit banks in Nigeria. It is therefore concluded that some financial ratios associate significantly with stock prices of money deposit banks. This result is in line with the findings of Kheradyar and Ibrahim (2011) in Malaysia and Mirfakhr et al (2011) in Iran.

This study has extended the frontiers of existing literature by providing empirical evidence on the predictive power of ROA on stock prices in deposit money banks in Nigeria. It has also contributed an insight into decision management by highlighting those variables in the financial statement that are value relevant to investors and those that are not. The study has also stimulated research in other sectors of the economy.

It is suggested that further research could address other financial ratios and even for a longer period of time. A study on the combine effects of these ratios, as against the effects of individual ratios, is also recommended. This study is only on the banking sector; a clearer picture would be established if all listed companies are studied. Lastly, changes in stock price are functions of many factors including macro-economic variables. This study therefore only gives a partial analysis, hence a study on a wide analysis is recommended.

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