

DETERMINANTS OF MARKET VALUE OF QUOTED FIRMS IN NIGERIA: A STUDY OF SELECTED DEPOSIT MONEY BANKS

AKOBUNDU, ECHEWODO C.

DEPARTMENT OF FINANCE AND BANKING, FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF PORT HARCOURT, PORT HARCOURT, NIGERIA

IFIONU, EBELE P. PhD.

DEPARTMENT OF FINANCE AND BANKING, FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF PORT HARCOURT, PORT HARCOURT, NIGERIA

And

NNAMDI, IKECHUKWU S., PhD.

DEPARTMENT OF FINANCE AND BANKING, FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF PORT HARCOURT, PORT HARCOURT, NIGERIA

Abstract

This study examined internal and external factors that determine market value of Nigeria commercial banks. Cross sectional data was sourced from financial statements of fifteen quoted commercial banks and Central Bank of Nigeria Statistical bulletin. Market value was proxy for dependent variables, internal variables were proxy by profitability, retained earnings, tax, risk, corporate governance, debt equity ratio, dividend payout ratio, company size and cost of capital while external variables were proxy by inflation rate, exchange rate, openness of the economy, regulation, real gross domestic product and real interest rate. After cross examination of the validity of the pooled effect, fixed effect and the random effect, the study accepts the fixed effect model. Results from the internal variable found that profitability, risk, debt equity ratio, company size and cost of capital have negative relationship with market value while retained earnings, tax, corporate governance and dividend payout ratio have positive relationship with market value of commercial banks while results that all the independent variables except inflation rate have negative but insignificant impact on the market value of the quoted commercial banks. The stationary test found that the variables are stationary at first difference while granger causality test found unidirectional and bidirectional causality among the variables. The study recommends that Management should formulate strategic and tactical measures to manage risks that affect the market value of the firms and optimal liquidity management policy that balance liquidity and corporate investment should be formulated. There is need for management to ensure optimal capital structure. Corporate governance codes should be complied by Management and retention funds should be well invested to maximize market value.

Keywords: Market Value, Debt, Equity, Commercial Banks

Introduction

The market value of any asset in a deregulated financial market is a function of the market forces of demand and supply which include micro and macro prudential factors. While micro factors are the internal such as profitability, cost of capital, capital structure, the macro factors include monetary and macroeconomic variables. It is the perceived or observed value of an asset on the market. Most assets that have market values have their values determined by specialized markets such as the stock exchange. The acceptance of

any asset depends on the perception of the potential investor after comparing the market value to the intrinsic value. An asset is undervalued or under-priced or favorably priced if the market value of the asset is less than the intrinsic value. If the intrinsic value of the asset is less the market value, then the asset is overvalued, over-priced or favorably priced. Where the latter occurs, the investor would ordinarily be acquiring an asset at more expensive value than he would ordinarily have paid. An

investor would acquire an overpriced asset if he expects the asset to record a bullish price movement such that if the anticipated price movement crystallizes, the investor can make capital gain (Ngerebo-a, 2007).

Prior to the deregulation of stock price in Nigeria, stock prices of newly issued and existing stocks were regulated by the regulatory agent of the market, Nigerian Securities and Exchange Commission, without reference to internal factors such as financial information that can affect stock price of firms listed. Stock prices in the Nigerian stock exchange moves up and down in response to news and information expected about the particular stock in the market. The news and information cause buyers and sellers of common stocks to take buying and selling decisions which generate market activities that affects market value of firms. Stock price constitute the value of a firm.

Factors that determine the market value of quoted firms have long been a major point of departure among scholars in finance. Policy makers, financial analysts and practitioners are yet to find solution to factors that influence the behavior of stock prices. The dividend policy argument by Gordon, Miller and Modigliani is remarkable in the controversy. The fundamentalist view sees the value of corporate stock as the function of the expectations regarding the future earnings and by the rate at which earnings is discounted over the time. The technical school of thought considers movement and stock price behavior as the function of monetary and macroeconomic variables. The macroeconomic view, asserts that movement in stock price is the function of macroeconomic variables such as inflation, interest rate, money supply and the other macroeconomic variables. From the perspective of agency theory as presented by Jensen and Macklin (1976), managers could be incapable of maximizing shareholders' wealth because of conflict of interests. Retained earnings can be invested in low risk projects because of manager's interest which may not affect share price as the

policy incentive. The efficient market hypothesis by Fama (1965) suggested that at any point of time, prices will fully reflect all available information about individual stocks and the stock market as a whole while the celebrated seminal work of Miller and Modigliani (1959), concluded that in an efficient market, a firm value is not affected by the taxes, bankruptcy costs, agency costs and information asymmetry. It will not matter how a firm is financed, the value will be completely unaffected by the type of security the firm use to finance the investment (Anyamaobi and Lucky, 2017).

The theories are very appealing but fail to explain the case of developing financial markets of Africa such as Nigeria. The application of the above theories in the developing financial market like Nigeria is very difficult. Scholars have questioned the existence of efficient market and perfect market as assumed by the theories. Factors that determine market value of quoted firms have been well documented in literature. Significant proportions of the studies examined the micro prudential factors such as dividend policy, profitability and other factors within the company control without consideration of the external factors such as macroeconomic variables in the developing countries of Africa like Nigeria. Existing studies that dealt with micro and macro prudential factors that determine market values are foreign studies apart from the study of Lucky et al (2015). From the above knowledge gap, this study examined micro and macro prudential factors that determine market values of Nigeria commercial banks.

Literature Review

Conceptual framework

Market Value

Market value is the value of an asset or security as determined by the forces of demand for and supply of the assets. It is the perceived or observed value of an asset on the market. It is also known as current value. It is in fact the mutually accepted worth (cost or price depending on the individual dealer) of the asset after

negotiation. Most assets that have market values have their values determined by specialized markets such as the stock exchange. The acceptance of any asset depends on the perception of the potential investor after comparing the market value to the intrinsic value. An asset is undervalued or under-priced or favorably priced if the market value of the asset is less than the intrinsic value. If the intrinsic value of the asset is less than the market value, then the asset is overvalued, over-priced or unfavorably priced. Where the latter occurs, the investor would ordinarily be acquiring an asset at more expensive value than he would ordinarily have paid. An investor would acquire an asset if he expects the asset to record a bullish price movement such that if the anticipated price movement crystallizes, the investor can make capital gain. In this case, the investor would describe the asset as being favourably priced at the time of acquisition. The opposite case would be where after acquiring an asset, the asset records a bearish trend and instead of making capital gain, a loss is sustained. This will be termed overpriced asset at the time of acquisition.

Theoretical framework

Mixed Distribution Hypothesis

The mixture of distribution hypothesis (MDH) developed by Clark (1973) and Epps and Epps (1976) gives an alternative volatility-volume nexus, in which the relation is critically dependent upon the rate of information flow into the market. The model assumes that the joint distribution of volume and volatility is bi-variate normal conditional upon the arrival of information. According to the hypothesis, all traders receive the new price signals simultaneously. This causes an immediate shift to new equilibrium without intermediate partial equilibrium. This is contrary to Sequential Information Arrival Hypothesis (SIAH), which assumes that there are intermediate equilibria en route to the final equilibrium. However, under MDH, there should be no information content in past volatility data that can be used to forecast volume since these variables contemporaneously change in response to new

information arrival. Thus, both volatility and volume change contemporaneously in response to the arrival of new information. The MDH is used to measure the amount of disagreement among investors as they reassess their market standing based on the arrival of new information into the market. Under the MDH, trading volume increases as the level of disagreement among investor's increases. This suggests a positive causal relationship from trading volume to absolute returns.

Sequential Information Arrival Hypothesis

This model was developed by Copeland (1976) and later advanced by Jennings et al., (1981), and the model relates to the observed relationship of volume and volatility to private information. From the model, an individual trader receives a signal ahead of the market and trades on it, thereby creating volume and price volatility. As a result, volatility and volume move in the same direction. Traders, thus, change their trading positions as new information arrives to the market. Since not all traders receive the new information at exactly the same time, the response of each individual trader to this information represents an incomplete equilibrium. Thus, the final market equilibrium is established when all the traders have received the information and have made a trading decision based on the information. SIAH, thus, suggests that a lead-lag relationship between volume and volatility exists only in the presence of information. SIAH differs slightly with MDH as it proposes a positive causal relationship between volumes and returns in both directions, that is, each determines the other. SIAH is experienced in NSE, in cases where some investors access information before others. In such instances, investors normally change their trading positions as new information arrives to the market leading to changes in stock volatility and stock volumes traded.

Efficient Market Hypothesis

Fama (1965) championed the efficient market hypothesis which suggested that at any point of time, prices will fully reflect all available information about individual stocks and the stock market as a whole. This is because when new

information arrives, the news spread very quickly and is incorporated into the prices of securities immediately. Thus, according to the EMH, no market player has the advantage in forecasting stock price movements since no one has access to information that is not available to the entire market. Some investors tend to believe that they can select those stocks that will outperform the market through fundamental analysis; that is, analysis of financial information such as company earnings, dividend payout, asset values and so forth, or through technical analysis; a study of past stock prices in an attempt to predict future prices.

According to Malkiel (2003), these analyses enable the investors to achieve returns greater than those that could be obtained by holding a randomly selected portfolio of individual stocks with comparable risk. However, under the EMH, investors engage themselves in a game of chance and not skill any time they are buying or selling securities. Therefore, it is, however, impossible to out-perform the market as prices normally incorporate and reflect all relevant information in the market. The EMH is not only concerned with the type and source of information, but also the quality and speed at which it is disseminated among investors.

Weak Form of the EMH

The weak form reflects the situation where a movement in stock prices follows a random path. Current stock price movements are independent of past price movements. This means that, all information contained in past trading volume, prices of stock, and the rates of return are already reflected in the current stock prices. Thus, the past data on stock and market are of no use in predicting future price changes. The random nature of stock price movements, on the other hand, means that any attempt to study past prices moving in order to detect mispriced stock and to gain above-average profits will fail. Thus one cannot gain from using information that everybody else in the market has known. Investors and analysts cannot practice technical analysis by drawing up charts of past stock prices and trading

volume in order to predict future price movement since it cannot be used to predict and beat a market.

Semi-strong Form of the EMH

The semi-strong form of the EMH states that the current stock prices not only reflect all past price movement but also all publicly available information (Fama, 1970). Examples of public information are data reported in a company's financial statements, earnings and dividend announcements, announced merger plans, the financial situation of company's competitors, expectations regarding macroeconomic factors and so forth. This information will then be available at random intervals, and are quickly absorbed by the market. Therefore, investors who practice fundamental analysis by studying relevant reports and announcements with the attempt to make above-average returns on a consistent basis would be disappointed as the stock prices have already reflected such new public information.

Strong-form of the EMH

The strong-form of the EMH is the strongest version of EMH, which states that current stock prices reflect all pertinent information, both public and private or insider information (Fama, 1970). The current stock price reflects all true or intrinsic value of the share and thus, the stock would be fairly priced in the stock market. Thus, there is no opportunity for investors to have exclusive access to information relevant to stock prices. The stronger-form of EMH states that even corporate insiders within a corporation would find it impossible to systematically gain abnormal returns from insider information. Such information includes detailed information about the financial state and major strategies of the firm, alongside the tactical decisions the company makes that may not be available to shareholders. Under the EMH, investors engage in a game of chance and not skill, at any time of them buying and selling securities. Therefore, the stock volumes and prices will change from time to time, as investors respond to different information levels in the market. Thus, if the investors in Nigerian Stock

Exchange obtain information that seems to reflect expected market performance, they will transact in response to such news, leading to new market equilibrium. This will give either a positive or a negative relationship between stock volatility and volumes of stock traded in the market.

Empirical Review

Akani and Lucky (2014) examined the relationship between money supply and aggregate stock prices in Nigeria using time series data from 1980 – 2012, Dickey Fuller Unit Root Test, Engle-Granger and Johansen-Joselinus method of co-integration in a Vector Error Correction Model setting. Empirical results demonstrated that there exists a long-run relationship between Currency in Circulation (CR) and Demand Deposit (DD) and Aggregate Stock Price, Time Deposit (TD), Savings Deposit (SD) and Net Foreign Assets (NFA) have negative relationship with aggregate stock prices.

Akani, Okonkwo and Ibenta (2016) examined the effects of monetary policy on capital market activities using evidence from Nigeria Economy, 1980 – 2013. The empirical result demonstrate that there exists a long-run equilibrium relationship between monetary policy tools such as Broad Money Supply (M2), Liquidity Ratio (LIR), Interest Rate (INTR), which has a positive significant effect on Market Capitalization (MC) while Monetary Policy Rate (MPR) and Treasury Bill Rates (TBR) have negative and insignificant relationship on Market Capitalization (MC). In model II, the results show that the independent variables have positive and significant relationship with the dependent variables of All Share Price Index (ASPI) except Monetary Policy Rate (MPR). The model summary revealed an R^2 of 75% in model I and R^2 of 94% in model II meaning that there is a strong and positive relationship between the dependent and independent variables during the period. The study also shows that there is no bi and unidirectional causality running from the dependent and independent variables in the models except a unidirectional causality running

from Money Supply (M2) to Market Capitalization (MC) in model I.

Lucky, Akani and Anyamaobi (2015) examined the prudential determinants of stock prices of commercial banks in the Nigeria: application of the fundamentalists and macroeconomic view from 1980 – 2014. Secondary data were sourced from the annual financial reports of the banks, Stock Exchange factbook, and Central Bank of Nigeria (CBN) statistical Bulletin. The study used Aggregate Value of end of the year stock prices of the commercial banks as dependent variable. The micro prudential variables are Ratio of Retained Earnings, Ratio of Dividend Payout, Profitability and Commercial Banks Capital to Total Assets, Lending Rate and Bank Size while the macro prudential variables are monetary policy Rate, Inflation Rate, All Share Price Index to Gross Domestic Product, Real Gross Domestic Product, Exchange Rate and Broad Money Supply. The Ordinary Least Square Method of Co-integration test, Augmented Dickey Fuller Unit Root Test, Granger Causality test and Vector Error Correction Model was used to examine the nature of relationship that exist between the dependent and the independent variables in the regression models. The study found that all the micro prudential variables have positive effects on the stock prices of the commercial banks except lending rate. The model summary shows a strong relationship between the dependent and the independent variables with an R-square 69.4% explained variation, 12.43051 overall significant and the probability of 0.000004, from the micro prudential variables while the macro prudential variables revealed an R^2 of 52.0% explained variation, 8.788310 over significant and probability of 0.000004, which proved that the micro prudential variables have positive and significant relationship while macro prudential variables exhibits positive average and significant relationship with stock prices in Nigeria.

Anyamaobi and Lucky (2017) examined corporate characteristics and value creation of quoted manufacturing firms in Nigeria. The objective was to examine if factors within the control of

management affects corporate value. Cross sectional data was sourced from financial statement of twenty quoted manufacturing firms. Market value was proxy for dependent variable while asset tangibility, return on investment, risk, liquidity, firm size, debt equity ratio, dividend payout ratio, retention ratio, corporate governance, management efficiency and cost of capital was proxy for independent variables. After cross examination of the validity of the pooled effect, fixed effect and the random effect, the study accepts the fixed effect model. Findings reveals that assets tangibility, return on investment, debt equity ratio, retention ratio, management efficiency and cost of capital have positive effect on the market value of the quoted manufacturing firms while risk, liquidity, firm size and corporate governance have negative effect on the market value.

Anike (2014) examined effect of dividend policy and earnings on share prices of Nigeria banks. The study adopted the ex-post-facto research design and panel data covering 5-year period 2006-2010 was collected from banks annual reports. The study findings established that dividend yield had negative but significant effect on banks' share prices. Again, earnings yield had negative but significant effect on banks' share prices and dividend payout ratio had negative and non-significant effect on banks' share prices. Further, the study revealed that dividend yield, earnings yield and payout ratio are not 19 factors that influences share prices rather the bank size was established to have positive and significant effect on share prices.

Irfan and Nishat (2002), investigated the fundamental factors affecting long-run price movement of quoted firms in Pakistan. Using financial statement data of listed firms in Karachi stock exchange from 1981 to 2000, Irfan and Nishat (2002), found that dividend payout ratio, size and dividend yield explains about half of the variations in share price movements.

Aurangzeb (2012) examined the factors that affect the share prices using a panel data from 1997 to

2010 from Pakistan, India and Sri Lanka. The regression results indicated that, exchange rate and foreign direct investment impact positively on share prices whereas interest rate has a significant negative relationship to share prices. The study concluded that appropriate macro-economic policies should be in place to take full advantage of stock market and which will maximize share prices.

Malhotra and Tandon (2013) investigated the factors influencing share prices using a panel data of 95 firms for the period of 2007-2012 listed in National stock exchange. Using linear multiple regression model, their findings revealed that the book value, earnings per share and price-earnings ratio accounts for 51.6% of share price movements. Therefore, a firm's manager can maximize their share prices by watching their book value, earnings per share and price-earnings ratio.

Gatua (2013) used a panel of data made up of a sample of firms from seven sectors listed on Nairobi securities exchange from 2008-2012. Also using a regression analysis, the findings revealed that there is no model to determine share prices. The study concluded firms selected variables are independent correlated to share prices, implying selected variables cannot be used to predict share prices movements.

Almumani (2014) investigated the determinants of share prices using listed banks from Amman stock exchange from 2005 to 2011. The study revealed that dividend per share, earnings per share, book value, price earnings are major determinants of share prices. The researcher concluded that, dividend per share, earnings per share, book value, price earnings can be used to forecast share prices. From the findings, it becomes evident that share price determinants have been well researched in developed nations.

Somoye, Akintoye, and Oseni (2009) conducted a survey on 130 companies traded in the Nigerian stock exchange between 2001 and 2007 in order to analyze the impact of various macro-economic factors on the market price of shares. The study employed OLS regression and regressed stock

prices on earnings per share, dividend per share, oil price, gross domestic product, lending interest rate and foreign exchange rate on stock price. All the variables revealed a positive correlation to stock prices with the exception of lending interest rate and foreign exchange rate.

Khan et al. (2011) analyzed the impact of dividend policy on Stock prices in Malaysia after controlling for factors such as earnings per share, profit after tax and return on equity. The research applied fixed and random effect models on a panel data for 55 companies listed at KSE-100 index for the period of 2001-2010. Results revealed that dividend yield, earnings per share, return on equity and profit after tax are positively related to stock prices while retention ratio have negative relation with stock prices and significantly explains the variations in the stock market prices.

Das and Pattanayak (2009) examined 30 shares constituting the Bombay Stock Exchange – Sensitivity Index in order to study the factors affecting stock price movements. The analysis revealed that higher earnings, return on investment, growth possibility and favorable valuation have positive impacts on the market price of shares while higher risk and volatility have inverse impacts.

Nirmala, Sanju and Ramachandran (2011) used panel data and examined three sectors namely auto, healthcare and public sector undertakings over the period 2000-2009 in order to infer the main factors affecting share prices in India. The study employed the fully modified ordinary least squares method and results revealed that dividend, price-earnings ratio and leverage are major determinants of share prices for all the sectors under consideration.

Arango (2002) found that some evidence of the nonlinear and inverse relationship between the share prices on the Bogota stock market and the interest rate as measured by the inter bank loan interest rate, which is to some extent affected by monetary policy. The model captures the stylized fact on this market of high dependence of returns in short periods. These findings do not support

any efficiency on the main stock market in Colombia.

Schroders Economics team (2010) found that over the past sixty years there has tended to be a positive relationship between GDP growth and stock market returns during the recovery, expansion, and slowdown phases of the traditional business cycle. In the recovery and expansion phases of the business cycle, the stock market tends to perform well as rising GDP and earnings growth drives positive excess returns on equity. In the slowdown phase, inflation is still high and monetary policy remains tight, resulting in a difficult environment for corporations. Reduced earnings and stock valuations tend to result in negative excess returns for equities: declining GDP growth is therefore usually matched with poor equity performance. During the recession phase, there is often a de-coupling of GDP growth and stock market returns.

Hsing (2004) adopts a structural VAR model that allows for the simultaneous determination of several endogenous variables such as, output, real interest rate, exchange rate, the stock market index and found that there is an inverse relationship between stock prices and interest rate.

Zordan (2005) said that historical evidence illustrates that stock prices and interest rates are inversely correlated, with cycle's observable well back into the 1880's; more relevant to the period subsequent to World War II.

Uddin and Alam (2007) examined the linear relationship between share price and interest rate, share price and changes of interest rate, changes of share price and interest rate, and changes of share price and changes of interest rate on Dhaka Stock Exchange (DSE). For all of the cases, included and excluded outlier, it was found that Interest Rate has significant negative relationship with Share Price and Changes of Interest Rate has significant negative relationship with Changes of Share Price. As different study shows mixed results, this study tested the random walk model and checked the effects of Share Price on Interest

Rate and Changes of Share Prices on Changes of Interest Rate, both in time series and panel approach, for fifteen developed and developing countries.

Vaz (2008) examined the changes in interest rates on stocks returns of major Australian banks during the period from January 1990 to June 2005. Results show no negative impact on Australian banks stock returns after announced increase in interest rates, in comparison to banks in US, where a negative impact is observed with an increase interest rate. Also there is a net positive abnormal return in the event of cash rate increase. It is concluded that Australian banks working in less competitive and concentrated environment are able to advantageously manage earnings impacts when cash rate changes are announced.

Waweru (2010) sought to establish if there exists a relationship between stock prices and news of an IPO at NSE. Secondary data (2004 to 2009) was obtained and analyzed using the Comparison Period Return Approach (CPRA). The mean portfolio daily return was calculated for the IPO within the window period. The study found that issuing of IPOs at NSE had both positive and negative effects on daily mean returns. Negative effects (declining mean daily returns) were on the days nearing the IPOs events which were the result of buyer and seller expectation in the market so as to capitalize on the new issue while positive effects (normalcy is restored) were in the days after the IPOs events which were the result of buyer-seller initiated trading. Further research could be carried out on whether other factors combined with the announcement of an IPO could affect share prices and also the effect of stock splits on share prices.

Malakar and Gupta (2002) revealed that Earnings per share is found to be significant determinant of share price by considering share price of eight major cement companies in India for the period 1968 to 1988 and five variables, namely, the share price, dividend per share, earnings per share, retained earnings, and sales proceeds.

Tuli, Nishi and Mittal (2001) conducted a cross sectional analysis by taking in to account earnings ratio of 105 companies for the period 1989-93 and found earnings per share were significant in determining the share Price. The current EPS figures and the individual shareholders expectations of future growth relative to that of other companies also have an impact on the share price.

Adeoti (2004) studied the factors affecting the dividend policy of Nigerian firms. Results of their study show that Nigerian firms prefer regular dividend payouts that can be in accordance with the expectations of their shareholders. The results also conclude that there is no relation between Dividend Payments, Net Earnings and Stock Prices. Nigerian firms pay dividends to their shareholders regardless of their level of profits for satisfaction of their shareholders.

Ho (2002) study is relevant to the dividend policy in which he used the panel data approach and fixed effect regression model. Results of his study show the positive relation between dividend policy and size of Australian firm and liquidity of Japanese firms. He found the negative relation between dividend policy and risk in case of only Japanese firms. The overall industrial effect of Australia and Japan is found to be significant.

Baker, Powell and Veit (2002) provided new evidence of managers' decision about dividend policy. They conducted a survey of managers of NASDAQ firms that are consistently paying cash dividends. Their survey result shows that managers are mostly aware of historical pattern of dividends and earnings and design their dividend policies after considering it.

Akbar and Baig (2010) took the sample of 79 companies listed at Karachi Stock Exchange for the period of 2004 - 2007 to study the effect of dividend announcement on stock prices. Results of their study show that announcement of dividends either Cash Dividend or Stock Dividend or both have positive effect on Stock Prices.

Nazir, Nawaz, Anwar, and Ahmed (2010) also studied the effect of dividend policy on stock prices. Results of their study show that dividend payout and dividend yield have significant effect on stock prices while size and leverage have negative insignificant affect and earning and growth have positive significant effect on stock prices.

Aamir, Qayyum, Nasir, and Khan (2011) studied the effect of dividend payment on stock prices by taking the sample of fifty five companies listed at Karachi Stock Exchange. Results their study show that dividend yield, earnings per share, return on equity and profit after tax are positively related to stock prices while Retention Ratio has negative relation with Stock Prices.

Hussainey, Mgbame, and Mgbame (2011) studied the impact of Dividend Policy on Stock Prices. Results of their study show the positive relation between Dividend Yield and Stock Price Changes and negative relation between Dividend Payout Ratio and Stock Price Changes. Their results further indicate that the Firms' Earnings, Growth Rate, Level of Debt and Size also cause the change in Stock Price of UK.

Baker and Powell (2012) used survey technique to take the opinion of Indonesian managers about the factors influencing dividend policy, dividend issues, and explanations for paying dividends. Results of their survey show that Indonesian managers consider stability of earnings and level of current and expected future earnings are the most important determinants of dividend policy. Their results further indicate that dividend policy affects firm value and Indonesian managers consider different dividend theories like signaling, catering, and life cycle theories in designing their dividend policies.

Literature Gap

This section presents the theoretical foundation, conceptual and empirical review factors that

$$Y_{it} = \beta X'_{it} + \alpha Z'_i + \varepsilon_{it}$$

In the equation above, the heterogeneity or individual effect is Z^i which may represent a

determine market value of quoted firms. There are many variables that are exogenous that affect market value of firms. In this study, the researcher focused on micro and macro prudential factors which are lacking in literature. Besides, most of the related literature reviewed covered different studies made both in developing and developed countries on factors that determine market value of quoted firms majorly done in developed financial market. To the knowledge of the researcher, there is no known *study to the researcher that examines internal and external factors that determine market value* of quoted firms in Nigeria. This study therefore seeks to fill this gap by examining internal and external factors that determine market value of commercial banks in Nigeria.

Methodology

Descriptive and longitudinal design was employed with a view to making statistical inferences on factors that determine market value of quoted 15 commercial banks. The required cross-sectional data were sourced from annual reports of the firms and stock exchange factbook from 2011-2016.

Analytical Framework and Empirical Model Specification

This analysis is carried out within a panel data estimation framework. The preference of this estimation method is not only because it enables a cross-sectional time series analysis which usually makes provision for broader set of data points, but also because of its ability to control for heterogeneity and endogeneity issues. Hence panel data estimation allows for the control of individual-specific effects usually unobservable which may be correlated with other explanatory variables included in the specification of the relationship between dependent and explanatory variables (Hausman and Taylor, 1981). The basic framework for panel data regression takes the form:

1

constant term and a set of observable and unobservable variables. When the individual effect

Z_i contains only a constant term, OLS estimation provides a consistent and efficient estimates of the underlying parameters (Kyereboah-Coleman, 2007); but if Z_i is un-observable and correlated with X_{it} , then emerges the need to use other estimation method because OLS will give rise to biased and inconsistent estimates.

Similarly for endogeneity issues, it is generally assumed that the explanatory variables located on the right hand side of the regression equation are statistically independent of the disturbance ε_{it} such that the disturbance term ε_{it} is assumed to be uncorrelated with columns of the parameters X_{it} and Z_{it} as stated in equation (1), and has zero mean and constant variance $\sigma^2\eta$ (Hausman

$$Y_{it} = \beta X'_{it} + \alpha Z'_i + \varepsilon_{it}$$

2

Where:

- Y = dependent variable
- D = independent variable
- β_o = intercept
- β_i = coefficient of the explanatory variable
- e = error term
- I = cross-sectional variable
- T = time series variable

Model Specification: Internal Factor

Pooled regression specification

$$MV_i = \alpha o + \alpha_1 PL_{1i} + \alpha_2 RE_{2i} + \alpha_3 TAX_{3it} + \alpha_4 RISK_{4it} + \alpha_5 CG\varepsilon_{5i} + \alpha_6 DPR_{6i} + \alpha_7 DER_{7i} + \alpha_8 CS_{8i} + \alpha_9 CC_{9i} + \varepsilon_{it}$$

3

Fixed Effect Model Specification

$$MV_i = \alpha o + \alpha_1 PL_{1i} + \alpha_2 RE_{2i} + \alpha_3 TAX_{3it} + \alpha_4 RISK_{4it} + \alpha_5 CG\varepsilon_{5i} + \alpha_6 DPR_{6i} + \alpha_7 DER_{7i} + \alpha_8 CS_{8i} + \alpha_9 CC_{9i} + \mu_i + \varepsilon_{it}$$

4

Random effect model specification

$$MV_{it} = \alpha o + \alpha_1 PL_{1it} + \alpha_2 RE_{2it} + \alpha_3 TAX_{3it} + \alpha_4 RISK_{4it} + \alpha_5 CG\varepsilon_{5it} + \alpha_6 DPR_{6it} + \alpha_7 DER_{7it} + \alpha_8 CS_{8it} + \alpha_9 CC_{9it} + \mu_i + \varepsilon_{it}$$

Model Specification: External factors

Pooled regression specification

$$MV_i = \alpha o + \alpha_1 INFR_{1i} + \alpha_2 EXR_{2i} + \alpha_3 OPN_{3it} + \alpha_4 REG_{4it} + \alpha_5 RGDP\varepsilon_{5i} + \alpha_6 RINTR_{6i} + \varepsilon_{it}$$

and Taylor, 198). If this assumption is violated, then OLS estimation will yield biased estimates of the underlying parameters of β (Mayston, 2002; Lucky et al, 2017). Hence, endogeneity problems arise when the explanatory variables are correlated with the disturbance term ε_{it} (Mayston, 2002; Hausman and Taylor, 1981). In order to circumvent these problems, panel estimation techniques of fixed and random effects will be adopted in this study, in addition to the traditional pooled regression estimation. Decisions will be made between the fixed and random effect models using the Hausman specification test. The panel model for the study is specified based on the modified model of Akeem, Edwin, Kiyanjui and Kayode (2014).

Fixed Effect Model Specification

$$MV_{it} = \alpha o + \alpha_1 INFR_{1it} + \alpha_2 EXR_{2it} + \alpha_3 OPN_{3it} + \alpha_4 REG_{3it} + \alpha_5 RGDP_{4it} + \alpha_6 RINTR_{6it} + \mu_i + \varepsilon_{it}$$

Random effect model specification

$$MV_{it} = \alpha o + \alpha_1 INFR_{1it} + \alpha_2 EXR_{2it} + \alpha_3 OPN_{3it} + \alpha_4 REG_{4it} + \alpha_5 REG_{5it} + \alpha_6 RINTR_{6it} + \mu_i + \varepsilon_{it}$$

Where

- MV = Market Value of the Quoted commercial banks
- PL = Profitability
- RE = Retained earnings
- TAX = Tax proxy by dummy variable 1 for tax and 0 for no tax
- RISK = Risk measures as Sensitivity of Earnings to Macro Economic Factor
- CG = Corporate governance
- DPR = Dividend Payout Ratio
- DER = Debt equity ratio
- CS = Firm Size measures as the Log of Total Assets
- CC = Cost of Capital measures as Weighted Average Cost of Capital
- INFR = Inflation rate
- EXR = Exchange Rate

5

6

OPN = Openness of the economy
 REG = Banking sector regulation
 RGDP = Real gross domestic product
 RINTR = Real interest rate

ε_1 = Stochastic or disturbance/error term.
 t = Time dimension of the variables
 α_0 = Constant or intercept.

Dependent variable

Market Value: Market value is based on supply and demand. It is used to refer to a company's market capitalization value. It is calculated by multiplying the number of shares issued by the price of the company's share.

Independent Variables

Profitability: Profits have long been regarded as the primary indicator for a company's capacity to grow. A firm's current and previous year's profit are an important factor in influencing the market value. Market value is function of current and past profit levels and the future earnings and expected future earnings. We hypothesize positive relationship between profitability and market value.

Retained Earnings: Retained earnings refer to the proportion of a company profit that is retained for further investment. It is the percentage of corporate profit that is reinvested and we hypothesize positive relationship between retained earnings and market value.

Tax: Tax-adjusted models presume that investors require and secure higher expected returns on shares of stocks. The consequence of tax-adjusted theory is the division of investors into tax clientele. Some scholars argue that the clientele effect is responsible for the alterations in portfolio composition. We hypothesize negative relationship between tax and market value.

Firm Risk: In some works, firm risk is regarded as volatility. This variable measures risks as the variability in earnings and cash flows. Bradley *et al* (1984) measured variability as the standard deviation of the first difference in annual earnings, scaled by the averaged value of the firm's total assets over time. Higher volatility of earnings increases the probability of financial distress since firms may not have enough revenue to fulfill their debt obligations. This suggests a negative relation

Analysis of Variables

between volatility and leverage as indicated in Alker and Oliver (2009), Banchuenijit (2010) found a positive relation between leverage and volatility. We hypothesize positive relationship between risk and market value.

Corporate Governance: Corporate governance is a uniquely complex and multi-faceted subject. Devoid of a unified or systematic theory, its paradigm, diagnosis and solutions lie in multidisciplinary fields of economics, accountancy, finance among others (Cadbury, 2002). As such it is essential that a comprehensive framework be codified in the accounting framework of any organization. We hypothesize positive relationship between corporate governance and market value.

Dividend Payout Ratio: This is described as the proportion of company profits that is distributed to shareholders as return on equity investment. It is determined by profitability, capital structure and investment policy of a firm. It is expected that a matured firm pay more dividend than a growing firm. We hypothesize negative relationship between profitability and market value.

Debt to Equity Ratio: The debt-to-equity ratio is a financial ratio that indicates the relative proportion of equity and debt used to finance a company's assets. This ratio is also known as risk, gearing or leverage. Some scholars have opined that risk affects firms' dividend policy. Firms with high growth rates and high dividend payout ratios utilize debt financing and firms with high leverage compared to their respective industry. However, conflicting evidence on the relationship between dividend payout ratios and leverage abound. In some industries payout and leverage ratios are positively related while in other industries the relationship is negative.

Company Size: Firm size is one of the major determinants of investment and market value. Larger sized firms have easier access to capital

market. This reduces their rate of dependency on internally generated revenue and hence, attracts investors. We hypothesize positive relationship between company size and market value.

Interest rate: Governments and or monetary authorities have several tools designed to regulate the flow of money in any economy. The interest rate is one of them and is used in order to influence the economy. A high interest rate is an indication of a tight monetary policy. In times with high interest rates, it is more costly for firms to borrow and this all things being equal will result in low investment. This is because the cost of capital will be high which makes it more unattractive to invest. This is not applicable to firms alone, but individuals also are affected by high interest rates, as the repayments of these loans and mortgages will be more expensive. Interest rate fluctuations are widely acknowledged as an important source of uncertainty for firms. Graham and Harvey (2001) provide evidence that fluctuations in the interest rate are the second most significant risk factor for companies. We hypothesize positive relationship between interest rate and market value.

Exchange rate: Shapiro (2013) opines that the important determinants of the exchange rate are the demand and supply for the currency, inflation, interest rate, the economic and political risk. Due to the wide worldwide usage of the United States

Dollar (USD) and the Euro as the most important exchanges currencies, many academics examine the relationship between exchange rate and stock performance for both theoretical and empirical reasons using these currencies. We hypothesize positive relationship between exchange rate and market value.

Inflation: During inflationary periods, companies usually retain huge part of their earnings so as to avoid a reduction in their scale of operation and to compensate for the fall in purchasing power hence, would not be able to pay much dividend but retain significant proportion of profit. If this occurs, the relationship between inflation rate and dividend pay market value would be positive.

Openness of the economy: This measures the ratio of a country's import and export to gross domestic product. An open economy attract both foreign portfolio and foreign direct investment, therefore we propose positive relationship between openness of the economy and market value of commercial banks.

Regulation: Banking is the most regulated business organization; the objective of regulation is to achieve financial system soundness. Regulation limits the ability of banks to invest in some profitable but risky ventures. We propose negative relationship between regulation and market value of commercial banks

Table I: Proxy Variable Definition and Expected Sign

Proxy Variable	Definition	Expected Sign
Market value	NOS*price	Dependent Variable
Retained Earnings	1-DPR	+
Corporate Governance	Dummy	+
Profitability	ROI	+
Debt Equity Ratio	TD/TE	-
Company Size	LTA/TA	+
Tax	Dummy	-
Risk	Changes	+
Company size	Log TA	+
Inflation rate	N/dollar	+
Exchange rate	RISK	-
Openness	Export-import/ GDP	+
Interest Rate		-
Regulation		+
Inflation Rate		+

Estimation Techniques

Panel unit root test result

The data were checked for the presence of unit root using the ADF Fisher Chi-Square and Philiperon Fisher Chi-Square, which is based on the well-known Dickey-Fuller procedure. The null hypothesis for these tests is that there is a presence of non-stationary series against the alternative hypothesis of stationary series. The unit root test is important because non-stationary series regression estimation leads to spurious regression estimations with the

wrong magnitude and sign of the parameter of the regressors, with wrongly inferred implications. The study assumes an absence of a time trend; hence it is tested for stationarity allowing for constant only. Stationarity denotes the non-existence of unit root. We shall therefore subject all the variables to unit root test using the augmented Dickey Fuller (ADF) test specified in Gujarati (2004) as follows

$$\Delta y_t = \beta_1 + \beta_2 + \delta y_{t-1} + \alpha \sum_{i=1}^m \Delta y_{t-i} + Et \quad 9$$

Where:

Δy_t = change time t

Δy_{t-1} = the lagged value of the dependent variables

Σ_t = White noise error term

If in the above $\delta = 0$, then we conclude that there is a unit root. Otherwise there is no unit root, meaning that it is stationary. The choice of lag will be determined by Akaike information criteria.

Decision Rule

t-ADF (absolute value) > t-ADF (critical value) : Reject H_0 (otherwise accept H_1)

Note that each variable will have its own ADF test value. If the variables are stationary at level, then they are integrated of order zero i.e 1(0). The unit root problem earlier mentioned can be explained using the model:

$$Y_t = Y_{t-1} + \mu_t \quad 10$$

Where Y_t is the variable in question; μ_t is stochastic error term. Equation (a) is termed first order regression because we regress the value Y at time "t" on its value at time (t- 1). If the coefficient of Y_{t-1} is equal to 1, then we have a unit root problem (non stationary situation). This means that if the regression.

$$Y_t = Y_{t-1} + \mu_t \quad 11$$

Is run and L is found to be equal to 1 then the variable Y_t has a unit root (random walk in time series econometrics).

If a time series has a unit root, the first difference of such time series are usually stationary. Therefore to solve the problem, take the first difference of the time series. The first difference operation is shown in the following model:

$$\Delta Y_t = (L-1) Y_{t-1} + \mu_t \quad 12$$

$$\delta Y_{t-1} + \mu_t \quad 13$$

(Note: $\delta = 1-1=0$; where $L = 1$; $\Delta Y_t = Y_t - Y_{t-1}$) 14

Integrated Of Order 1 Or I(1)

Given that the original (random walk) series is differenced once and the differenced series becomes stationary, then the original series is said to be integrated of order 1 or I(1).

Integrated of Order 2 Or I(2)

Given that the original series is differenced twice before it becomes stationary (the first difference of the first difference), then the original series is integrated of order 2 or I(2).

Therefore, given a time series has to be differenced Q times before becoming stationary it is said to be integrated of order Q or I(Q). Hence, non-stationary time series are those that are integrated of order 1 or greater.

The null hypothesis for the unit root is: $H_0: a = 1$;

The alternative hypothesis is $H_1: a < 1$.

We shall test the stationarity of our data using the ADF test.

Granger Causality Test

Thus, Granger causality test helps in adequate specification of model. In Granger causality test, the null hypothesis is that there is no causality between two variables. The null hypothesis is rejected if the probability of F* statistics given in the Granger causality result is less than 0.05.

The pair-wise granger causality test is mathematically expressed as:

$$Y_t \pi_o + \sum_{i=1}^n x_1^y Y_{t-1} \sum_{i=1}^n \pi_1^x x_{t-1} + u_1 \quad 15$$

and

$$x_t dp_o + \sum_{i=1}^n dp_1^y Y_{t-1} \sum_{i=1}^n dp_1^x x_{y-1} + V_1 \quad 16$$

Where x_t and y_t are the variables to be tested while u_t and v_t are the white noise disturbance terms. The null hypothesis $\pi_1^y = dp_1^y = 0$, for all l 's is tested against the alternative hypothesis $\pi_1^x \neq 0$ and $dp_1^y \neq 0$. If the coefficient of π_1^x are statistically significant but that of dp_1^y are not, then x causes y. If the reverse is true then y causes x. However, where both co-efficient of π_1^x and dp_1^y are significant then causality is bi-directional.

Presentation and Discussion of Results**Table I: Determinants of Market value of Commercial Banks: The Pooled Effect Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PL	-3.599244	5.778073	-0.622914	0.5352
RE	340.3146	1131.378	0.300796	0.7644
TAX	-0.539409	0.617110	-0.874089	0.3849
RISK	-1.568692	5.497964	-0.285322	0.7762
CG	10.00577	9.205552	1.086927	0.2805
DPR	217.3049	1142.973	0.190123	0.8497
DER	-2.904032	1.422994	-2.040790	0.0448
CS	-18.44065	11.27729	-1.635202	0.1062
CC	5.972469	2.659576	2.245647	0.0277
C	66.37783	1142.483	0.058100	0.9538
R-squared	0.146636	Mean dependent var		23.43824
Adjusted R-squared	0.044232	S.D. dependent var		107.6512
S.E. of regression	105.2435	Akaike info criterion		12.26056
Sum squared resid	830713.9	Schwarz criterion		12.54793
Log likelihood	-511.0738	Hannan-Quinn criter.		12.37615
F-statistic	1.431937	Durbin-Watson stat		1.304670
Prob(F-statistic)	0.189942			

MODEL II

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR	35.00435	43.15976	0.811041	0.4199
EXR	-4.133270	4.563930	-0.905638	0.3681
OPN	-1.518054	6.477736	-0.234350	0.8154

REG	7.329869	31.57885	0.232113	0.8171
RGDP	-26.61459	38.63858	-0.688809	0.4931
RINTR	0.062316	19.57621	0.003183	0.9975
C	629.2334	1252.666	0.502315	0.6169
R-squared	0.083401	Mean dependent var		24.07481
Adjusted R-squared	0.009082	S.D. dependent var		110.2733
S.E. of regression	109.7714	Akaike info criterion		12.31713
Sum squared resid	891682.2	Schwarz criterion		12.52406
Log likelihood	-491.8439	Hannan-Quinn criter.		12.40015
F-statistic	1.122206	Durbin-Watson stat		0.693661
Prob(F-statistic)	0.357854			

Source: Extract from E-View 9.0 (2018)

Results from the internal variables found the independent variables can predict 14.6 percent changes in the market value of the quoted commercial banks. The value of the F-statistics and probability found that the model is statistically not significant. The Durbin Watson statistics is greater than 1.00 but less than 1.50, this implies the presence of serial autocorrelation among the variables within the time covered in the study. The estimated regression model found that profitability, tax, risk, debt equity ratio and company size have negative impacts on market value of commercial banks while retained earnings, corporate governance, dividend payout ratio and cost of capital have positive impact on the market value of commercial banks.

The external factors, the result found that the independent variables can explain 8.3 percent variation on the dependent variable. The model when evaluated with the F-Statistic and probability coefficient found that it is not significant. The Durbin Watson coefficient is less than 1.00; this proves the presence of negative serial autocorrelation in the time series. The beta coefficient of the variables found that inflation rate, regulation and real interest rate have positive effect on the market value of Nigerian commercial banks while exchange rate, openness of the economy and the growth of Nigerian economy have negative impact on market value of Nigerian quoted commercial banks. The result in the table above enables us to examine the fixed effect model.

Table II: Determinants of Market Value of Commercial Banks: The Fixed Effect Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
----------	-------------	------------	-------------	-------

PL	-0.990638	6.276128	-0.157842	0.8751
RE	146.9860	1235.090	0.119008	0.9057
TAX	2.312580	4.149976	0.557251	0.5794
RISK	-6.565029	6.386287	-1.027988	0.3080
CG	9.578831	10.95354	0.874496	0.3853
DPR	92.07347	1233.932	0.074618	0.9408
DER	-2.855757	1.723045	-1.657389	0.1026
CS	-15.25729	15.25747	-0.999988	0.3213
CC	-0.525981	3.611185	-0.145653	0.8847
C	209.9953	1228.110	0.170991	0.8648

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.374393	Mean dependent var	23.43824
Adjusted R-squared	0.138509	S.D. dependent var	107.6512
S.E. of regression	99.91811	Akaike info criterion	12.27951
Sum squared resid	609001.4	Schwarz criterion	12.96920
Log likelihood	-497.8791	Hannan-Quinn criter.	12.55692
F-statistic	1.587190	Durbin-Watson stat	1.326264
Prob(F-statistic)	0.077652		

MODEL II

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR	47.04185	38.53073	1.220892	0.2269
EXR	-5.207755	4.041905	-1.288441	0.2025
OPN	-5.188393	5.668093	-0.915368	0.3637
REG	-16.43143	27.76686	-0.591764	0.5562

RGDP	-38.61233	33.75853	-1.143780	0.2573
RINTR	-18.87017	17.73816	-1.063818	0.2917
C	1393.374	1111.043	1.254113	0.2147

Cross-section fixed (dummy variables)

R-squared	0.465758	Mean dependent var	24.07481
Adjusted R-squared	0.287677	S.D. dependent var	110.2733
S.E. of regression	93.06979	Akaike info criterion	12.12299
Sum squared resid	519719.1	Schwarz criterion	12.74377
Log likelihood	-469.9811	Hannan-Quinn criter.	12.37206
F-statistic	2.615433	Durbin-Watson stat	0.729843
Prob(F-statistic)	0.002164		

Source: Extract from E-View 9.0 (2018)

An Examination of the result in the above table found that from the fixed effect model, the independent variables can explain 37.4 percent variation on the dependent variable, the F-statistics and the F-probability found that the model is statistically significant. The Durbin Watson coefficient is greater than 1.00 but less than 1.50, this implies the absence of serial autocorrelation. The beta coefficient of the variable proved that profitability, risk, debt equity ratio, company size and cost of capital have negative relationship with market value while retained earnings, tax, corporate governance and

dividend payout ratio have positive relationship with market value of commercial banks.

From the external factors, the independent variables can explain 46.5% variation on the dependent variable; the model is statistically significant as the F-probability is less than 0.05 at 5 percent level of significance. The Durbin Watson proved the presence of serial autocorrelation within the time series, the beta coefficient of the variable found that all the independent variables except inflation rate have negative but insignificant impact on the market value of the quoted commercial banks.

Table III: Determinant of Market Value of Commercial Banks: The Random Effect Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PL	-2.061170	5.877278	-0.350701	0.7268
RE	380.6759	1111.801	0.342396	0.7330

TAX	-0.306165	0.825962	-0.370677	0.7119
RISK	-2.901995	5.643578	-0.514212	0.6086
CG	8.883628	9.720130	0.913941	0.3637
DPR	290.6829	1122.739	0.258905	0.7964
DER	-2.728335	1.462506	-1.865521	0.0660
CS	-18.66359	12.49722	-1.493419	0.1395
CC	3.548380	2.940383	1.206775	0.2313
C	12.87434	1118.864	0.011507	0.9908
Cross-section random			47.41277	0.1838
Idiosyncratic random			99.91811	0.8162
R-squared	0.096783	Mean dependent var		15.34243
Adjusted R-squared	-0.011603	S.D. dependent var		97.40118
S.E. of regression	97.99256	Sum squared resid		720190.6
F-statistic	0.892948	Durbin-Watson stat		1.320565
Prob(F-statistic)	0.535806			

MODEL II

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR	41.93282	37.73248	1.111319	0.2700
EXR	-4.747556	3.970751	-1.195632	0.2357
OPN	-3.742528	5.596522	-0.668724	0.5058
REG	-7.207843	27.38205	-0.263232	0.7931
RGDP	-33.72915	33.34677	-1.011467	0.3151
RINTR	-11.48522	17.28935	-0.664294	0.5086
C	1091.164	1091.186	0.999980	0.3206

 Redundant Fixed Effects Tests

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.586258	(14,61)	0.0000

Effects Specification

Cross-section random	58.02679	0.2799
Idiosyncratic random	93.06979	0.7201

Weighted Statistics

R-squared	0.105673	Mean dependent var	13.93676
Adjusted R-squared	0.033159	S.D. dependent var	95.37819
S.E. of regression	93.74177	Sum squared resid	650276.5
F-statistic	1.457290	Durbin-Watson stat	0.737625
Prob(F-statistic)	0.204751		

Source: Extract from E-View 9.0 (2018)

Analysis from the random effect model found that the independent variable can explain 9.6 percent variation on market value of the commercial banks. It is evidenced from the F-probability that the model is statistically not significant and the Durbin Watson found that there is presence of serial autocorrelation among the variables. The beta coefficient of the variables found that profitability, tax, risk. Debt equity ratio and company size have negative relationship with the dependent variable while retained earnings, corporate governance, debt equity ratio and cost of

capital have positive relationship with the dependent variable.

From the external variables, evidence from the result found that the independent variables can explain 10.5 percent variation on the dependent variable. The F-statistics and the F-probability justifies that the model is not significant while the Durbin Watson statistics found the presence of serial autocorrelation. The beta coefficient found that all the independent variables have negative relationship with the dependent variable except inflation rate.

Cross-section Chi-square	26.389522	14	0.0001
--------------------------	-----------	----	--------

Table IV: Test of Appropriate Model

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	26.128565	9	0.0000

Model II:

Redundant Fixed Effects Tests

Effects Test	Statistic	d.f.	Prob.
Cross-section F	23.067286	(14,60)	0.0013
Cross-section Chi-square	43.725517	14	0.0001

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	6	0.0000

Source: Extract from E-View 9.0 (2018)

In testing the validity of the models, the fixed effects on the cross section Redundant Fixed Effect- Likelihood Ratio, the P- value is 0.000 indicating that the effects are significant. Select the random effect and perform the Correlated Random Effects- Hausman test, testing the random effects model against the fixed effects

model. The null hypothesis in that case is that both tests are consistent estimators and the random effects model is efficient. Under the alternative hypothesis, only the fixed effect is consistent. Since the p- value is 0.000, the null hypothesis is rejected and, therefore, the fixed effects model is to be preferred.

Table V: Presentation of Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
PL does not Granger Cause MV	55	0.01656	0.9836
MV does not Granger Cause PL		0.32314	0.7254
RE does not Granger Cause MV	60	3.12033	0.0520
MV does not Granger Cause RE		0.38630	0.6814

TAX does not Granger Cause MV	60	0.21137	0.8101
MV does not Granger Cause TAX		0.01088	0.9892
RISK does not Granger Cause MV	60	2.50879	0.0906
MV does not Granger Cause RISK		0.18015	0.8356
CG does not Granger Cause MV	60	0.47300	0.6256
MV does not Granger Cause CG		1.09870	0.3405
DPR does not Granger Cause MV	60	3.18826	0.0490
MV does not Granger Cause DPR		0.39836	0.6733
DER does not Granger Cause MV	60	0.78375	0.4617
MV does not Granger Cause DER		0.46329	0.6316
CS does not Granger Cause MV	60	0.04756	0.9536
MV does not Granger Cause CS		0.15893	0.8534
CC does not Granger Cause MV	57	1.67689	0.1969
MV does not Granger Cause CC		0.12015	0.8870

MODEL II

Null Hypothesis:	Obs	F-Statistic	Prob.
INFR does not Granger Cause MV	42	1.20842	0.3102
MV does not Granger Cause INFR		1.21712	0.3077
EXR does not Granger Cause MV	60	2.72034	0.0747
MV does not Granger Cause EXR		0.49210	0.6140
OPN does not Granger Cause MV	60	0.07258	0.9301
MV does not Granger Cause OPN		0.17650	0.8387
REG does not Granger Cause MV	60	NA	NA

MV does not Granger Cause REG		NA	NA
RGDP does not Granger Cause MV	60	3.04763	0.0556
MV does not Granger Cause RGDP		0.50819	0.6044
RINTR does not Granger Cause MV	60	0.84985	0.4330
MV does not Granger Cause RINTR		0.31280	0.7327

Source: Extract from E-view 9.0

The objective of causality test is to examine if past variation in the variables can affect significantly the present condition. From table IV above, the probability coefficient of the variables are greater than 0.05 at 5% level of significance, we therefore conclude there is no causal relationship between the independent to the dependent and the dependent to the independent. This

means that past variation have no significant effect on the present changes on the variables, except a unidirectional relationship from market value to asset tangibility and a bi-directional relationships from liquidity to market value and from market value to liquidity

Table VI: Test for Stationarity

Variables	ADF - Fisher Chi-square/ PP - Fisher Chi-square	Statistics	Probability	REMARK	DECISION
MV	PP - Fisher Chi-square	91.2622	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-5.84712	0.0000	Stationary	Reject H0
PL	PP - Fisher Chi-square	68.6863	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-4.28910	0.0000	Stationary	Reject H0
RE	PP - Fisher Chi-square	61.9673	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-3.75735	0.0000	Stationary	Reject H0
TAX	PP - Fisher Chi-square	14.3735	0.0257	Stationary	Reject H0
	PP - Choi Z-stat	-2.18276	0.0145	Stationary	Reject H0
RISK	PP - Fisher Chi-square	65.9363	0.0002	Stationary	Reject H0
	PP - Choi Z-stat	-3.85545	0.0001	Stationary	Reject H0
CG	PP - Fisher Chi-square	60.9135	0.0007	Stationary	Reject H0
	PP - Choi Z-stat	-2.72195	0.0032	Stationary	Reject H0
DPR	PP - Fisher Chi-square	74.9173	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-4.11845	0.0000	Stationary	Reject H0
DER	PP - Fisher Chi-square	82.3932	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-4.49414	0.0000	Stationary	Reject H0
CS	PP - Fisher Chi-square	74.9974	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-4.35902	0.0000	Stationary	Reject H0

MODEL II

Variables	ADF - Fisher Chi-square/ PP - Fisher Chi-square	Statistics	Probability	REMARK	DECISION
MV	PP - Fisher Chi-square	61.5784	0.0006	Stationary	Reject H0
	PP - Choi Z-stat	-3.01711	0.0013	Stationary	Reject H0
INFR	PP - Fisher Chi-square	18.2345	0.1088	Stationary	Reject H0
	PP - Choi Z-stat	-1.86108	0.0314	Stationary	Reject H0
EXR	PP - Fisher Chi-square	66.4087	0.0001	Stationary	Reject H0

	PP - Choi Z-stat	-3.22310	0.0006	Stationary	Reject H0
OPN	PP - Fisher Chi-square	56.6352	0.0023	Stationary	Reject H0
	PP - Choi Z-stat	-3.29388	0.0005	Stationary	Reject H0
REG	PP - Fisher Chi-square	48.6381	0.0171	Stationary	Reject H0
	PP - Choi Z-stat	-1.41723	0.0782	Stationary	Reject H0
RGDP	PP - Fisher Chi-square	22.1073	0.8501	Stationary	Reject H0
	PP - Choi Z-stat	-0.02816	0.4888	Stationary	Reject H0
INTR	PP - Fisher Chi-square	93.6497	0.0000	Stationary	Reject H0
	PP - Choi Z-stat	-3.27847	0.0005	Stationary	Reject H0

Source: Extract from E-view 9.0

The table above presents the summary results of the ADF and PP panel unit root tests. The results show that the null hypotheses of a unit root test for first difference series for all the variables can be rejected at all the critical values indicating that the level series which is largely time-dependent and non-stationary can be made stationary at the first difference and maximum lag of one. Thus, the reduced form model follows an integrating order of 1(1) process and is therefore a stationary process. It also reveals that the test of stationarity in the residuals from the level series regression is significant at all lags. Furthermore, this indicates that the regression is no more spurious but real. That is to say, all the variables are individually stationary and stable. At this level, all the t-statistic became significant at 5 percent.

Discussion of Findings

Discussion of findings in this study is based on the findings of fixed effect model. The result revealed that profitability, risk, debt equity ratio, company size and cost of capital have negative relationship with market value while retained earnings, tax, corporate governance and dividend payout ratio have positive relationship with market value of commercial banks. The negative effect of profitability, company size is contrary to the a-priori expectation of the result while the negative effect of cost of capital and debt equity ratio confirms the a-priori expectation of the result. The positive effect of retained earnings and corporate governance confirm the a-priori expectation of the result while the positive effect of tax and dividend payout ratio is contrary to our expectation. From the external factors all the independent variables have negative relationship with the market value

of commercial banks except inflation rate. The findings of the study confirm the findings of Akani and Lucky (2014) that there exists a long-run relationship between Currency in Circulation (CR) and Demand Deposit (DD) and Aggregate Stock Price, Time Deposit (TD), Savings Deposit (SD) and Net Foreign Assets (NFA) have negative relationship with aggregate stock prices, the findings of Akani, Okonkwo and Ibenta (2016) that there exists a long-run equilibrium relationship between monetary policy tools such as Broad Money Supply (M2), Liquidity Ratio (LIR), Interest Rate (INTR), which have a positive significant effect on Market Capitalization (MC) while Monetary Policy Rate (MPR) and Treasury Bill Rates (TBR) have negative and insignificant relationship on Market Capitalization (MC); the findings of Lucky, Akani and Anyamaobi (2015) that all the micro prudential variables have positive effects on the stock prices of the commercial banks except lending rate; the findings of Anyamaobi and Lucky (2017) that assets tangibility, return on investment, debt equity ratio, retention ratio, management efficiency and cost of capital have positive effect on the market value of the quoted manufacturing firms while risk, liquidity, firm size and corporate governance have negative effect on the market value; the findings of Anike (2014) that dividend yield, earnings yield and payout ratio are not factors that influences share prices rather the bank size was established to have positive and significant effect on share prices; the findings of Gatua (2013) that there is no model to determine share prices. The study concludes that firms' selected variables are independents correlated to share prices, implying

selected variables cannot be used to predict share prices movements and the findings of Almunani (2014) that dividend per share, earnings per share, book value, price earnings are major determinants of share prices.

Conclusion and Recommendations

From the findings, the study concludes that profitability have negative and insignificant effect on market value of commercial banks. That risk has negative and insignificant effect on market value of commercial banks. That debt equity ratio has negative and insignificant effect on market value of commercial banks. That company size has negative and insignificant effect on market value of commercial banks and that cost of capital have negative and insignificant effect on market value of commercial banks. That exchange rate has negative and insignificant effect on market value of commercial banks. That openness of the economy has negative and insignificant effect on market value of commercial banks. That regulation has negative and insignificant effect on market value of commercial banks. That real gross domestic product have negative and insignificant effect on market value of commercial banks and that real interest rate have negative and insignificant effect on market value of commercial banks.

However, that retained earnings have positive and insignificant effect on market value of commercial banks. Tax has negative and insignificant effect on market value of commercial banks. That corporate governance have positive and insignificant effect on market value of commercial banks and that inflation have positive and insignificant effect on market value of commercial banks.

Recommendations

The management should formulate strategic and tactical measures to manage risks that affect the market value of the firms and optimal liquidity management policy that balance liquidity and corporate investment should be formulated. There is need for management to ensure optimal capital structure and the corporate governance code should be complied by the management.

Dividend policy should be harmonized with the objective of maximizing market value and retention funds should be well invested to maximize shareholders' wealth. The corporate operating environment such as the investment climate should be well examined and factors that affect negatively value creation of the firms should be properly managed. Investment in fixed assets should be incorporated with the objective of value creation for the commercial banks.

There is need for the management of the commercial banks to strengthen its effort for effective management of the micro and the macro prudential variables to avoid the negative effect on the share prices. The regulatory authorities should overhaul the capital market and the investment environment for better share prices of the banking sector of the Nigeria economy.

References

- Aamir, M., Nasir, A., Khan, K. & Qayyum, M. (2011). Can dividend decisions affect the stock prices: a case of dividend paying companies of kse, euro journals publishing, inc., *International Research Journal of Finance and Economics* 76(1).
- Akani, H. W., & Lucky, A. L., (2014). Money Supply and Aggregate Stock Prices in Nigeria: An Analysis of Co-Integration and Causality Test. *Research Journal's Journal of Finance*, 2 (10), 1 – 24.
- Akbar, M., & Baig, H. (2010). Reaction of stock prices to dividend announcements and market efficiency in Pakistan. *The Lahore Journal of Economics*, 15 (1), 103 - 125.
- Almunani, M.A. (2014). Determinants of equity share prices of the listed banks in amman stock exchange: quantitative approach. *International Journal of Business and social Science*. 5(1): 91-104
- Al-Qenae, R., Li, C., & Wearing, B. (2002). The information content of earnings on stock prices: the Kuwait stock exchange. *Multinational Finance Journal*, 6(3&4), 197-221.

- Anyamaobi, C., & Lucky, A. L., (2017). Corporate Characteristics and Value Creation: A Panel Data Evidence of Nigeria Quoted Manufacturing Firms. *World Journal of Finance and Investment Research*, 2(1), 31-49.
- Aurangzeb. (2012). Factors affecting performance of stock market: Evidence from South Asian countries. *International Journal of Academic Research in Business and social sciences*. 2(9), 1-12.
- Baker, H. K., and Powell, G. E. (2012). Dividend policy in indonesia: survey evidence from executives. *Journal of Asia Business Studies*, 6 (1), 79 - 92.
- Das, N., & Pattanayak, J. K. (2007). Factors affecting Market Price of SENSEX shares. *The Icfai Journal of Applied Finance*, 13(8), 33-51.
- Gatua, F.K. (2013). Analysis of share price determinants at Nairobi securities exchange. *dissertation submitted for master of business administration degree. University of Nairobi*.
- Ho, H. (2002). Dividend policies in Australia and Japan. *International Advances in Economics*, 2 (9), 91-100.
- Hsing, Y. (2004). Impacts of fiscal policy, monetary policy, and exchange rate policy on real GDP in Brazil: a var model. *Brazilian Electronic Journal of Economics*, 6 (1).
- Hussainey, K., Mgbame, C. O., & Chijoke-Mgbame, A. M. (2011). Dividend policy and share price volatility: UK evidence. *Journal of Risk Finance*, 12(1), 57-68.
- Irfan, C. M., & Nishat, M. (2002). Key fundamental factors and long-run price changes in an emerging market - a case study of Karachi stock exchange. *The Pakistan Development Review*, 41(4), 517-533.
- Lucky, A. L. et al, (2017). Prime equity, leveraged structure and corporate earnings: A Comparative analysis. A Multi-Dimensional Analysis of quoted firms in Nigeria. *Australian Journal of Finance and Banking Review*, 1(1), 26-40.
- Lucky, A. L., Akani, H. W., & Anyamaobi, C., (2015). Prudential Determinants of Stock Prices of Commercial Banks in Nigeria: An Application of Fundamentalists and Macroeconomic View. 1980 – 2014. *IIARD International Journal of Banking and Finance Research* 1 (7), 1 – 27.
- Malakar, B. and Gupta, R., (2002). Determinants of share price- a system approach: the modified model, *Finance India* 16, (4):1409-1418.
- Malhotra, N. and Tandon, K. (2013). Determinants of stock prices: empirical evidence from NSE 100 Companies. *International Journal of Research in Management & Technology*. 3(3),89-95.
- Nazir, M. S., Nawaz, M. M., Anwar, W., and Ahmed, F. (2010). Determinants of stock price volatility in karachi stock exchange: *The Mediating Role of Corporate Dividend Policy*.
- Nirmala, P. S., Sanju, P. S., & Ramachandran, M. (2011). Determinants of share price in India. *Journal of Emerging Trends in Economics and Management Sciences*, 2(2), 124-130.
- Somoye, R., Akintoye, I., & Oseni, J. (2009). Determinants of equity prices in the stock markets. *International Research Journal of Finance and Economics*, 30, 177-189.
- Tuli, N., & Mittal, R.K., (2001). Determinants of price-earnings ratio. *Finance India*, 15(4): 1235-1250.
- Uddin, M. G., & Alam, M. (2007). The impacts of interest rate on stock market: empirical evidence from dhaka stock exchange. *South Asian Journal of Management and Sciences*, 1(2), 123-132.
- Waweru, N. M. (2010). Do Dividends matter? Some evidence from an emerging market.

SA Journal of Accounting Research,
24(1), 1-11.

Zordan, D. J. (2005). Stock prices, interest rates,
investment survival. *Econometrica USA, Illinois*.

Available:

<http://www.econometrica.com/publications/StockPrices.pdf>