

Retained earnings and Firms' Market Value: Nigeria Experience

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Keywords

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Abstract

The study examined the effects of retained earnings on market value of listed firms after controlling for earnings per share, dividend pay-out and financial leverage in the context of the Nigerian stock market. The sample data was extracted from 75 non-financial firms listed on the Nigeria stock Market during the period 2003 to 2014. The unbalanced panel data (cross-sectional and time series) used to examine the relationship was obtained from the annual financial statements of the various firms. Two basic approaches descriptive and multiple regression models were used to determine the relationship between the underlying variables. The results indicated a positive and significant relationship between retained earnings, earnings per share, dividend pay-out and value of firms while market value is positively but non-significant associated with financial leverage. The study reduces the dearth of previous research on dividend policy in emerging markets regarding the empirical relationship between retained earnings and market value of firms.

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1. Introduction

The declining rate of common stock prices in Nigeria capital market has been a major concern to policy makers, investor and other relevant stakeholders. Most firms' stock prices in the capital market do not reflect the intrinsic value and investors are more concerned with the returns on their investment. Considerable attention is given the financing decision policy of the management of firms while taking investment decision and all over the world today, investors are not only expressing concern on the dividend payment by companies but on the amount of undistributed profit that business retained for further investment. There is an increasing growth in awareness of the importance of financial management with emphasis on investment and retention policies as a veritable tool for efficient business management.

Investors take up investment in stock and they do expect return on their investment that either comes in form of cash dividend or capital gain arising from the sales of their stock. Investment in stock is with a great expectation of stock return on the part of the investor and meeting this expectation always requires on the part of the management of corporations efficient and effective managerial skills, appropriate investment decision and financial plan, deployment and control of resources to generate future cash flow. When a company makes a profit, the management is usually faced with the choice of either distributing the profit as cash dividend or ploughing back for reinvestment and future growth. The motive for retention most often varies among firms ranging from maintenance, investment opportunities, and growth expansion to asset investment to enhance smooth operation.

In taking investment, investors allocate their capital to different investments including equity and debt securities and for each allocation; investors have one specific objective of maximising their returns and this objective remains corporate target. Achieving this target has always been hinged on the responsibility of the management to establish corporate policies for effective and efficient internal control, performance evaluation and reserve management. The intention of most firms to fulfil the expectations of the investors and financial markets increasingly dominate reserve accumulation motives and this is common among firms in both developed and developing economies.

In sizing up a company's fundamentals, investors mostly look at how much profit is paid to shareholders in terms of dividend and how much capital is kept from shareholders. This is because retained earnings are a financial value that is very important to investors of a company and basically, investors tend to pay most attention to reported profits as well, attaching importance to what the company does with that money. The concern of the equity investors has always been on the ability of the firms to generate future cash flows and improve on the wealth of the shareholders. In practice firms distribute portions of the profits to shareholders in the form of dividends and what is left (retained earnings or retained capital) is reinvested in the business and the concerns of savvy investors have been to look closely at how a company puts retained capital to use and generates a return on it.

In finance literature, earnings and dividends occupied an important role in financial accounting research and finance with more emphasis on one than the other. Several studies (Harkavy 1953, Dinayak, 2014 Wright 2014, Kanwal 2012, Hackbarth, and Johnson 2011, Chughtai, A. R., Azeem, A., & Ali, S. 2014) have been conducted by financial scholars with emphasis on the dividend pay-out and its possible effect on common stock price. However, the area of significant effects of retained earnings on different factors i.e. cash dividend per share, capital gain/loss yield and particularly, stock returns are still untapped and need further research. Today, particular attention is placed on the distinctive role that retained earnings can play in predicting future cash flows by the investing community and the biggest reason for the attention to earnings lies with the notion that retained earnings serves as a predictor of future cash flows. Though, there is still continuing controversy in the investment community that concerns the relevance of earnings as the underlying source of value of a share of common stock but more often, earnings are described important to shareholders because earnings provide the cash flow necessary for paying dividends. Therefore, a firm's ability to generate cash flow affects the value of its securities and the ability to assess future cash flow is equally important for the investment community, both shareholders and creditors

In addition, the amount of retained earnings has now become an important issue to investors and other stakeholders because it is another way to evaluate the effectiveness of management to bring improvement in market value of their firms. That is, shareholders now consider as part of their investment criteria the extent to which firms use retained capital and they also consider this in measuring how much value in terms of capital gain, business growth and asset net worth have been added by the company's retention of capital overtime. Before buying, investors normally ask themselves not only whether a company can make profits, but whether management can be trusted to generate growth with those profits.

Listed companies in Nigeria like other companies in both developed and developing economies report profit and retain part of their annual earnings after dividend payment to ordinary shareholders for reinvestment. However, while there are empirical evidences in the literature on the significance of retained earnings in promoting value in developed economies the effect and extent of value enhancement has not been adequately explored in Nigeria. Also, despite the attention given to retained earning notably there exists scanty information on the effect of retentions especially on stock returns. This study is therefore motivated by the need to determine the direction and significance of the interactions between retained earnings and value of the Nigerian firms in terms of market value from 2003 to 2014. A study of

this nature with a quantitative process we believe will be of tremendous importance in determining the nature and magnitude of corporate retentions and its influence on market value of firms in Nigeria.

2. Literature Review

In literature, finance is a very broad subject in which so many areas are still untapped and still need further research. One of them is the significant effect of retained earnings on market value and stock returns. Retained earnings are always considered a very important area because it has a significant effect on companies' stock prices (Thuranira, 2014, Hirshleifer, D and Siew, H 2007). Many studies have been conducted on retained earnings in the developed economies (Beisland, L. A. 2014, Khan, A. B., & Zulfiqar, A. S. 2012) but it remains a dearth or untapped area in Nigeria. The theoretical literature on corporate dividend policy (retention and dividend pay-out policy) may be classified into three points of view among researchers; (i) it increases firm value, (ii) it decreases firm value, and (iii) it has no effect on firm value. Apparently, different authors have researched on the relationship between stock returns and dividend policy of the firm.

The first group of researchers has argued that corporate dividend policy, through dividend payments, lead to increase the wealth of stockholders through their influence on the firm's common stock prices and hence increase the value of the firm, while the second group has stated that dividend payments, which is one of the means of corporate dividend policy, lead to decrease the wealth of shareholders by reducing the common stock prices of the firm, and hence decrease the value of the firm. The last group has adopted the notion of irrelevance dividend policy, i.e., the prices of stock, and hence the value of the firm, are not affected by the corporate dividend policy (Manos, 2001).

The focus of studies on dividend policy varies in the literature. Some have studied the effect of pay-out ratio, while others have studied the effect retained earnings on stock value. For instance, Harkavy (1953) investigates the relationship between retained earnings and stock prices and finds that as of a given of time, there is a propensity for stock prices to differ in a straight line with the ratio of distributed earnings. The results also show that the price of firm's stock that retained large ratio of its earnings is higher than the price of stock of firm that retained small proportion of its earnings. In line with this position, Wright (2014) points out that retained earnings of companies become equity and consequently appear on the balance sheet as a component of owners' equity which also includes initial investment capital and additional paid-in capital. In order words, a company should make use of available opportunities to create reserves through retained earnings to boost investments and grow corporate earnings. Also, Horkan (2014) in his study explained that retained earnings are retained capital, which is the portion of net income that management keeps funding future growth and to pay down company debt. In the same vein, Merritt (2014) submits that retained earnings represent value "locked up" in the company, which do not represent cash on hand but could be theoretically released to the owners if the company were liquidated.

Efforts were also made to compare and bring out the significant effects of the component of dividend policy. Friend and Puckett (1964) distinguish between the effect of dividends and retained earnings on stock prices. The results show that the effect of dividends on stock prices is greater than the effect of retained earnings in several times for three industries, which is in contrast with Harkavy (1953). Earnings retention is more important than dividends for growth industries. Therefore, firm's managers should increase dividend payments to increase firms' stock prices and encourage current investors to keep their investments or attracting more investors. Litzenberger and Ramaswamy (1979) and Blume (1980) results contradict with Ben-Zion and Shalit (1975). Naamon (1989) investigates the effect of cash dividends and retained earnings on common stock prices in Jordan. The results show a high significant and positive relationship between both cash dividends policy and earnings retention, and stock prices, which is in line with Power and MacDonald (1995). Particularly, the effect of cash dividend on stock prices is higher than

the effect of retained earnings, which is consistent with Gordon (1959), Friend and Puckett (1964) while in contrast with Harkavy (1953).

In addition, according to the views of both firms' managers and investors, the amount of realized earnings, liquidity and the preferences of investors concerning cash dividends or retained earnings are the most important determinants of dividend policy. Nishat (1992) also makes a comparison between the effect of cash dividends and the retained earnings on stock price. The results show that common stock price affected by cash dividends and retained earnings, which is like Naamon (1989) and Power and MacDonald (1995). However, the impact of cash dividends on share price is higher than the effect of earnings retention, which is in line with Gordon (1959), Friend and Puckett (1964) and Naamon (1989) while contradicts with Harkavy (1953). Dhillon and Johnson (1994) investigate the effect of dividend changes on the markets of stocks and bonds. The results show that the reaction of stock prices to large increase in dividend is positive. Therefore, the variance of stock price is largely based on the future changes in dividends, which is consistent with Kothari and Shanken (1992). Power and MacDonald (1995) investigate the effect of dividends and retained earnings on the prices of shares. They find there is a relationship amongst the prices of shares; dividend and retained earnings, which is similar to Harkavy (1953); Gordon (1959); Friend and Puckett (1964) and Al Troudi, W. (2013).

In literature, most studies focused on dividend payout but scarcely on earnings retentions. Despite the argument and the general belief argued that although retained earnings are a key item in shareholders' equity, existing finance literature has paid little attention to the variable. The study by DeAngelo, DeAngelo and Stulz (2006) only examined the extent to which dividend is determined by retained earnings. The limitation in the literature on the effects of retained earnings on firm's value is clear and not limited to developed economy in that: the empirical evidence of the relationship between retained earnings and firm's value in the developing countries is scattered and far without conclusive results. The relationship is not clearly defined for firms in a developing market. This study reviews studies both in the developed and developing economies and many studies carried out in the developed economy found a link between retained earnings and market valuation. But this remains inconclusive in developing economies particularly in the transitional economies like Nigeria.

3. Methodology

3.1. Data and Sources of Data

To carry out the empirical analysis, a data set that includes data on economic value of firms and covers the period of 2003-2014 was assembled. The primarily required data sets are the stock prices, periodic dividends, and retained earnings for each of the Nigeria Stock Exchange (NSE) listed firms for the period between 2003 and 2014. The annual data of these firms were taken from the various issues of annual financial statement published by the firms. The independent variable –periodic retained earnings divided by the annual income for the period, was also obtained from company annual reports. Also, the study included more variables Net Asset Value per share, price to book value, dividend yield, earning components such as undistributed profit, earning ratio, earning per share, and dividend per share, dividend ratio and other variable found in the literature influencing value of firms such as size and age of the firms as control variables. The aim is to construct a comprehensive data set.

3.2 The population and sample selection

The population of the study consists of all firms listed on the Nigerian stock exchange from 2003 to 2014 excluding all finance-related firms. A purposive sampling technique was used to select firms ranging from old to newly established ones. These firms were first screened for financial data availability over the sample period. Listed firms that did not have up-to-date published financial data were excluded from the

where

y is the value of the dependent scale variable market value

b is the value of the coefficient,

x is the value of the predictor Retained Earnings

a Constant

A multivariate regression analysis was employed to examine the panel data analysis of the regression models. The panel ordinary least square estimate equation for analyzing panel data is given by the following equation:

$$Y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 x_{it} + \dots + \beta_n x_{it} + \varepsilon_{it} \quad \text{-----} \quad (ii)$$

Where i denotes the firm (cross section dimension) and t denotes time (time series dimension). Therefore, Y_{it} is the dependent variable of pooling N cross sectional observation and time T time series observation, and x_{it} are the independent variable pooling N cross sectional observations and T time series observation, and ε_{it} is the error term. The expectation was that the retained earnings would be positively related to market value. That is, an increase in retained earnings of the firms will be associated with an increase in the firms' value. The regression model regressed Tobin's q and market-to-book against the retention policy) as prior research (Parveen P, Gupta et al 2009) has shown that the relationship can vary across the measures of value.

The model takes the following form:

Model 1

$$\text{Tobin's } Q_{it} = a_0 + \beta_1 RPS_{it} + \beta_2 DPS_{it} + \beta_3 EPS_{it} + \beta_4 Lev_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + \beta_7 ROA_{it} + \beta_8 liquid_{it} \mu_{it} + \beta_9 tang_{it} + E_{it} \dots \dots \dots (iii)$$

For sensitivity check and robustness test the study also use market-to-book ratio as an alternative measure of firm value. Both Tobin's q and the market-to-book metrics measure firm value based on book vis-à-vis market-based measure.

$$MB_{it} = a_0 + \beta_1 RPS_{it} + \beta_2 DPS_{it} + \beta_3 EPS_{it} + \beta_4 Lev_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + \beta_7 ROA_{it} + \beta_8 liquid_{it} \mu_{it} + \beta_9 tang_{it} + E_{it} \dots \dots \dots (iv)$$

Where, *Tobin's Q_{it} and MB_{it}* denote the firms' value, ROA_{it} denotes return on asset, DPS_{it} denotes cash dividends per share, RPS_{it} denotes retained earnings per share, EPS_{it} denotes the earnings per share, Lev_{it} denotes the financial leverage, $Size_{it}$ denotes firm size proxied as the natural log of total asset and Age_{it} is measured as number of years since listing rather than years of incorporation while ε_{it} is a random variable referred to as the error term. In these models, DPS_{it} , RPS_{it} and the EPS_{it} are the key explanatory variables and the other variables are the additional explanatory variables. The size of the firm leverage, and age will be added as control variables in all the models. Prior researches have consistently shown that firm size can affect firm value (Adetunji et al (2009) Parveen P, Gupta et al 2009).

The firm effect α is taken to be constant overtime t and specific to the firm across sectional unit i . If α is taken to be the same across all firms (common effects), the OLS provides consistent and efficient estimates of α and β . There are two basic frameworks used to generalize this model. The fixed effect approach takes α to be a firm specific constant term in the regression model. The random effects approach specifies that α is a firm specific disturbance. The three approaches were considered in this study. The test on the above economic value models intends to show whether the retained earnings affect firms' value and if it does, the test intends to also show the process by which the value of firm is affected by the undistributed earnings in Nigerian capital markets

3.5 Data Analysis Techniques

The study used a descriptive analysis to analyse the retained earnings and the behavior of the market value of the firms traded in the capital market. Different statistical and econometric tests were used to test the relationship between the value of a firm, internal financing, and control variable. Since the data for this study were time-series cross sectional in nature, the study employed panel data analysis which allows flexibility in modeling differences in behaviour across firms and time. The data was analyzed using the Ordinary Least Square (OLS) estimation techniques. Furthermore, tests of data about multicollinearity and correlation were carried out to make the result of the study more robust. These tests became imperative as the success of the models were dependent on the accuracy of the expected result. In addition, a descriptive statistic was used to analyse the basic features of the data in this study and the income retention behaviour of listed firms in Nigeria for the sample period. A statistical package, E-view 9, was used for the estimations of the models and the descriptive statistics.

4. Analysis, Findings and Discussion

4.1 Descriptive Analysis

The frequency distribution consists of 75 non-financial listed firms on the Nigeria stock market whose stocks were traded on Nigerian Stock Exchange from 2013 to 2014. This represents all firms that had available data to construct the variables used in this study during the sample period. The frequency distribution year by year for the sample, demonstrated in table 4.1 indicates no clustering in any specific year. The sample is a balanced panel with annual data. The study includes observation in the sample if in a year a firm has its stocks traded at least once in a year and have financial data in the year. Table 4.1 shows the distribution of firm's year by year.

Table 4.1 Distribution of Firms by Year

Year	No of firms	% of sample
2003	75	100
2004	75	100
2005	75	100
2006	75	100
2007	75	100
2008	75	100
2009	75	100
2010	75	100
2011	75	100
2012	75	100
2013	75	100
2014	75	100

Source: NSE Fact book publication 2017

Descriptive statistics for all the variables are reported in table 4.2. Descriptive statistics show the mean, standard deviation, minimum, median and maximum of the variables in the sample. Dependent variables are Tobin's Q and market-to-book value whereas the primary independent variables are retained

earnings per share and cash dividends per share. Also included are numbers of control variables found in finance literature with direct effect on value. In Table 4.2, cash dividends per share are the first independent variable. Its values range from a minimum of 0.0000 to a maximum of 476.75; i.e. some firms did not pay cash dividends at all, while some firms pay a huge amount of cash dividends. It has mean value equal to 9.888, and standard deviation equal to 41.107, implying that high variations in terms of cash dividends per share on the market across the period of the study. Retained earnings per share are the second explanatory variable. It varies from 0.000 to 6.053; i.e. some firms suffer from losses and did not retain earnings at all, while some firms retain a large amount of earnings, whereas its mean is 0.450, indicating that each share has, (on average) a small amount of retained earnings, and standard deviation is 1.450, suggesting high variations among firms listed on the Nigeria Stock Exchange over the period of study (2003-2014). Earnings per share are the third independent variable. It ranges from -1.828, telling that some firms have losses, to 476.96, which means that some firms have a huge amount of profits, with mean of 10.336, indicating that firms listed on the Nigeria Stock Exchange, on average, have little profits, and standard deviation of 41.164, which means high variations amongst firms in terms of earnings per share. The last independent variable is financial leverage. Its values range from a minimum of 0.000109 to a maximum of 6.7257. That means, the ratio of total liabilities to total assets is very small for some firms, indicating that some firms depend heavily on issuing equity to finance their assets, while total liabilities are close to total assets for some firms, implying that some firms rely largely on debt to finance their assets. Its mean value equal to 0.2344, which shows that the firms listed on the Nigeria Stock Exchange, in general, do not depend highly on debts to finance their assets, and standard deviation equal to 0.4482, implying that high variations among firms regarding the financial leverage variable. Tobin's Q is the dependent variable. Its values range from the minimum of 0.012 which means that some firms have value less than its par value, to the maximum of 270.51, with mean that the firms listed on the Nigeria Stock Exchange have stock price greater than their face values and standard deviation measuring 18.917, indicating high very variations amongst the firms listed on the Nigeria Stock Exchange in terms of market value.

The descriptive analysis of firm economic value shows that the mean value of market to book is 6.07 percent while average mean value of Tobin's Q is 7.525 percent. This result showed that market performance measures (market to book and Tobin's Q) displayed high percentage of performance as compared to accounting performance measures. The main dependent variable is; Tobin's q defined as market value of assets/ book value of assets but in alternative specification, the study also used market-to-book ratio as a sensitivity check. The table provides descriptive statistics for Tobin's Q and market-to-book ratio as well as the following firm characteristics; leverage, size (proxied by log of asset) and age (the number of years a firm is listed). The mean (median) Tobin's Q of the sample is 7.52 (3.04) that is, market value of the average (median) firm is slightly greater than the book value of its assets. The mean of firm profitability is 0.32 which means that the level of profitability of Nigerian firms is moderate as the minimum value is -1.35 and the maximum is 6.05. However, the very high standard deviation of profitability (0.61) demonstrates that the differences in levels of profitability among firms are large. The mean of firm size (the natural logarithm of the book value of the total firm assets) is 9.56. This reveals that most of Nigerian firms are small as the minimum value is 7.29 and the maximum value is 11.52.

Table 4.2.

Descriptive analysis Variable	Mini	max	mean	Median	Std dev	skewness	Kurtosis
RPS	0.00	17.67	0.45	0.15	1.45	8.58	93.37
DPS	0.00	476.75	9.88	0.77	41.11	7.816	72.099
EPS	-1.83	1.00	10.34	1.00	041.16	7.77	71.57
Tobins'q	0.01	270.5	7.52	3.04	18.91	10.26	131.31
Mrkto book	0.00	270.3	6.07	1.94	18.59	10.92	143.4
Inas	7.29	11.52	9.56	9.67	0.86	-0.31	2.37
lage _i	0.000	1.72	1.31	1.43	0.29	-1.73	6.47
ROA	-1.35	6.05	0.32	0.12	0.61	4.06	24.60
TANG _i	0.03	14.15	0.81	0.52	1.27	5.09	40.29
liquid	-131.7	315.67	12.51	0.97	36.35	2.893	16.54
lev	0.000	6.725	0.23	0.12	0.44	8.193	104.3

Source: Author's computation 2017 Base on data from the NSE publications and firms annual financial report (2003-2014)

4.2. Correlation Analysis

A test of correlation coefficients between the independent variables was conducted to show the strength and the direction of the relationship between any pair of independent variables, as well as the dependent variable. Table 4.3 shows pair-wise correlation between the retained earnings and firms' characteristics for the cross-section of 75 firms in the sample for 12 years. It can be seen that the correlation coefficient between the market value measures, tobins'q, market-to-book value, and retained earnings are - 0.047, - 0.046 which are weak, negative and highly insignificant. That is, there is an inverse relationship between values of firms and retained earnings. The higher the retained earnings per share, the lower the market value of the firm stock. The highest correlation is .99** between retained earnings per share and dividend per share, which is strongly positive and highly significant, that leads to the existence of multicollinearity (one of the violation in the model assumptions). Therefore, these two variables were not included together in the same regression model.

The correlation results show further individual relationship among different variables. All variables are negatively correlated with market value except the tangibility ratio which shows that if there would be one unit change in the ratio then the market value would be positively affected by 7%. The rest of the variables are negatively related with firms' value. It means that if the variable increases/decreases then value and performance would also decreases/increase in the opposite direction. Expected relationships between retained earnings and some of control variables are also shown in the correlation table. The previous literature suggests that the cash dividend has an effect on the market value (e.g. Harkavy, 1953; Friend and Puckett, 1964; Naamon, 1989; Nishat, 1992; Power and MacDonald, 1995; Pradhan, 2003; and Khan, 2009). Generally, the lower the cash dividends per share, the lower the market value and the higher the cash dividends per share, the higher the market value of firms. However, the relationship as shown on the correlation results is negative and very insignificant. The correlation among other control variables are mostly weak, positive but insignificant which suggests no problem of multicollinearity and that all the variable can be put in the same regression model.

Table 4.3 Correlation Matrix of the Main Variable

Correlation										
t-Statistic										
Probability	TOBQ1	TANG	RPS	ROA	MKTBK	LASSET	LAGE	LIQ	LEV	EPS
	TOBQ1									
	1.000									

	TANG									
	0.0073	1.0000								
	0.2204	-----								
	0.8256	-----								
	RPS									
	-0.047340	0.0092	1.0000							
	-1.4134	0.2756	-----							
	0.1578	0.7829	-----							
	ROA									
	0.141116	0.027747	0.0857	1.0000						
	4.2524	0.8280	2.5685	-----						
	0.0000	0.4078	0.0104	-----						
	MKTBK									
	0.9925	-0.01305	-0.0469	0.1282	1.0000					
	235.697	-0.38955	-1.4079	3.8677						
	0.0000	0.6970	0.1608	0.0001						
	LASSET									
	-0.0440	-0.2271	-0.0259	-0.1779	-0.01977	1.0000				
	-1.3155	-6.979	-0.7518	-5.3684	-0.5886	-----				
	0.1885	0.0000	0.4524	0.0000	0.5567	-----				
	LAGE									
	-0.0286	-0.0994	-0.1470	0.10184	-0.01414	0.0376	1.0000			
	-0.8615	-2.9938	-4.4411	3.0537	-0.43903	1.1230	-----			
	0.3892	0.0028	0.0000	0.0023	0.6608	0.2616	-----			
	LIQ									
	-0.02889	-0.3578	0.06657	-0.14793	-0.0088	0.3491	-0.0615	1.0000		
	-0.8411	-11.4337	1.9888	-4.4646	-0.2535	11.1329	-1.8416	-----		
	0.4004	0.0000	0.0471	0.0000	0.8020	0.0000	0.0659	-----		
	LEV									
	-0.00435	0.22027	0.015612	0.07492	-0.0139	-0.1854	-0.0518	-0.0045	1.0000	
	-0.13028	6.73685	0.465801	2.2415	-0.4152	-5.6306	-1.5386	-0.13028	-----	
	0.8964	0.0000	0.6415	0.0252	0.6779	0.0000	0.1244	0.8964	-----	
	EPS									
	-0.01382	-0.0452	0.05621	0.2209	-0.0123	0.142330	0.08193	-0.0246	0.0035	-0.01332
	-0.41264	-1.3516	1.67966	6.75725	-0.3858	4.28979	2.45270	-0.71845	0.09526	-0.4129
	0.6799	0.1768	0.0934	0.0000	0.6998	0.0000	0.0144	0.4727	0.9243	0.6799

Source: Author's computation 2017 Base on data from the NSE publications and firms annual financial report (2003-2014)

4.3 Panel Unit Root Test Result

The panel unit root test is carried out using ADF- Fisher Chi-Square Panel unit root test. Table 4.4, at the constant/individual effects, the results indicate that the unit root hypothesis is rejected for all the variables. This implies that each of the panel data series does not contain a unit root. They are stationary at level. The stationarity of the variables may have resulted from the cross-sectional nature of the data and that the data are not subject to time variation.

Table 4.4: Unit root Test using constant/individual effect
Ho = Unit root at level

Variables	Im, Pesaran and Shin W-stat		Levin, Lin and Chu	
	Statistics	Probabilities	Statistic	Probability
Tobin's Q.	104.553	0.0000	-4.50206	0.0000
Market-to-book	-0.40261	0.0000	-5.01933	0.0000
rsp	-316.023	0.0000	-2162.48	0.0000
eps	-19.6324	0.0000	-167.770	0.0000
dps	-15.1856	0.0000	-140.473	0.0000
roa	312.789	0.0001	-4.95119	0.0000
lnas	2.23408	0.0000	-5.49812	0.0000
Lev	-26.6891	0.0000	-162.199	0.0000
lage	-295.691	0.0000	-67.2363	0.0000
TANG	-3.97381	0.0001	-17.9709	0.0000
LIQ	-29.1286	0.0000	-270.396	0.0000

Source: Author's computation 2017 Base on data from the NSE publications and firms annual financial report (2003-2014)

4.4. Regression Results

To find the effect of retained earnings on firm value both pooled ordinary least square and fixed effect model and random effect model for panel data regression were estimated. The study conducted Hausman test to check fixed-effect model and random-effect model and the fixed effect was found to be appropriate. Tobin's Q was estimated based on a simplified measure using the market equity-to-book that is, equity ratio calculated for each firm and was done by dividing the market value of equity by the net tangible assets attributable to shareholders. The market value used is the share price multiplied by the number of ordinary share on issue at year-end. The market values are always used because investors' valuation of firm goes beyond book values of assets and liabilities and they give a much better estimate of a company's equity (John Garger, 2010).

The control variables used are typical variables used in corporate valuation studies and by controlling these variables; the study isolates the impact of retained earnings variable on market value. The table below represents the result of the effect of the primary independent variables retained earnings per share and dividend per share on Tobin's Q as a measure of market value firms. The result indicates highly significant positive effects of retention policy measures (RPS and DPS) on firms' value. This result supports the findings by Zeitun and Tian (2007), Umar (2012) and Essays, UK. (2013). The model was run with some control variables indicating negative and positive significant coefficients in relation to firms' value. Fixed effects model and random effect model produced consistent results but the Hausman specification test shows that a fixed effect is more appropriate for the effect of retained earnings on value.

The result shows that approximately 46% of the variability in the market value of firms can be explained by the linear relationship between (cash dividends per share, earnings per share, the financial leverage and other control variable as independent variables) and the market value of firms, while 54% of the variability in the market value of firms are caused by external factors. The Significant Value (7.159, $P < 0.005$) associated with the F test is also used to check for the overall significance. Generally, the F test (overall significance) is used to determine whether a significant relationship exists between the dependent variable and the set of independent variables. Therefore, the result shows that the Sig. value is less than .05 and .01 (levels of significance), which means that the relationship between both the set of independent variables and the dependent variable is highly significant. The empirical and significant relationship between retained earnings per share and market value of firms is shown to be positive and highly significant as identified from the Sig. value associated with retained earnings per share, implying that the firms with higher retained earnings per share are more likely to display high market value of firms than firms with lower retained earnings per share. That is, the higher the retained earnings per share, the higher the market value of firms and the lower the retained earnings per share, the lower the market value of firms.

In addition, the impact of cash dividends per share as a measure of retention policy of firms is also observed from the result. The previous literature suggests that the cash dividend has effects on the market value of firms (e.g. Harkavy, 1953; Friend and Puckett, 1964; Naamon, 1989; Nishat, 1992; Power and MacDonald, 1995; Pradhan, 2003; and Khan, 2009 Masum, A. A. 2014). Generally, the lower the cash dividends per share, the lower the market value of the firm and the higher the cash dividends per share, the higher the market value of the firm. Therefore, based on the results regarding the relationship between the cash dividends per share and the market value of the firm, the study found that there is a positive but weak and insignificant relationship between cash dividends per share and the market value of the firm in Nigeria. The effect of retained earnings on the market value of firms is greater than the effect of dividend per share as identified from the value of beta shown in result table where the beta coefficient, for cash dividends in fixed effect model is 0.024 while the Beta coefficient for retained earnings is 1.009. This result is in line with Friend and Puckett (1964); Naamon (1989); Nishat (1992); Pradhan (2003); and Khan (2009) while contradicts Harkavy (1953). The positive impact of retained earnings on value indicates that by increasing one unit of retained earnings, value increases by 0.882, 0.985 and 1.009 in the three estimations respectively and the results support the findings by Friend and Puckett (1964); Naamon (1989); Nishat (1992); Pradhan (2003); and Khan (2009) while contradicts Harkavy (1953). The retained earnings results are statistically significant at the 1% in every regression. The co-efficient in each regression are positive and significant at 1% level.

Furthermore, the coefficients of some independent variables such as leverage, size measured as log of asset remain significant but negatively related. Negative relationships are consistent with conventional theory, which supports the concern that investors have concerning high levels of debt carried by listed firms. That is the higher the proportion of debt of a firm in Nigeria during this period, the lower its market value. Size is used as a control variable to surge the impact of independent variable on dependent variable and significant negative effects are detected, this is significant at 1 percent level. The three different estimators (i.e. pooled OLS, fixed effects model and random effect model) produces consistent results that firm size negatively impact the value of the firm. The negative relationship with the firm size suggests that larger firms have lower valuation relative to their assets. The results offer strong support that larger listed firms are not well regarded in the market. The negative relationship between size and value is understandable in the context of the Nigerian economy. The consistent results contrast with the mixed results of earlier studies, suggesting that changes may have occurred in the market and data that is more recent is a better reflection of current behaviour. Contrary to expectation, tangibility is found to be nega-

tively associated with firm value. This finding indicates underutilization of current and non-current assets by Nigerian firms. Result indicates that liquidity has insignificant negative effect on the market value. The result also indicates that profitability measured as return on asset has significant positive effect on the firm's value.

For the overall, the study estimates that with OLS, fixed effect and random effect, two-standard deviation change in total retained earnings predicts 0.882, 0.985 and 1.009 in Tobin's Q. The overall result as measured by adjusted R² which indicates the impact of the independent variable on the dependent variable by which the independent variable explains over 46% of the variance in the value of firms in all the regressions show the fitness of the model. Significance of regression equations are also indicated by Durbin-Watson (DW) and F-statistics. F-statistics in all estimation are 37.17, 4.69, and 7.159 percent respectively and all are significant at 1 percent level. The statistics of Durbin-Watson of 1.371, 1.406 and 1.854 in the three estimation shows that the regression equations are free from autocorrelation problem.

Table 4.5: Firm value (Tobin's q) regression on Retained earnings, Dividend per share, with Size, Leverage, Age, liquidity, tangibility and being as controlled

	OLS	F-stat	37.17	Random effects	F-stat	4.69	Fixed effects	F-stat	7.159
<i>Dependent variab</i>	TOBIN Q	<i>Prob</i>	0.001	TOBINQ1	<i>Prob</i>	0.000	TOBINQ	<i>Prob</i>	0.000
<i>Const</i>	13.996 (1.687)	<i>Durbin-Watson stat</i>	1.371	35.203 (3.475)	<i>Durbin-Watson stat</i>	1.406	47.096 (4.120)*	<i>Durbin-Watson stat</i>	1.854
<i>RPS</i>	0.882 (2.001)*			0.985 (2.234)*			1.009 (2.173)*		
<i>DPS</i>	-0.018 (-1.131)			0.008 (0.480)			0.024 (1.251)		
<i>EPS</i>	0.024 (1.826)			0.040 (2.135)			0.214 (2.632)		
<i>lage_i</i>	-3.414 (-1.544)			0.109 (0.032)			5.051 (1.825)*		
<i>ROA</i>	4.959 (4.526)*			2.845 (2.682)*			1.994 (1.793)***		
<i>TANG</i>	-0.050 (-0.092)			-0.542 (-0.983)			-0.809 (-1.380)		
<i>LIQ</i>	-0.001 (-0.101)			0.006 (0.337)			0.019 (0.923)		
<i>inas</i>	-0.285 (-0.352)			-2.797 (-2.731)**			-4.665 (-3.845)*		
<i>Lev</i>	-0.847 (-0.583)			-5.546 (-4.165)*			-6.830 (-4.982)*		
<i>Obs no</i>	892			892			892		
<i>Adj R²</i>	0.19			0.23			0.46		

*Note: *, **, and *** indicate significance at 1%, 5%, and 10% levels*

For a sensitivity check, and a robust test, the study further tested the robustness of the result to different specifications of dependent and independent variables. Table 4.6 reports the summary result for this dependent variable, for OLS, random and fixed effects estimation. Each cell reports results from a

separate regression and all models include the same set of control variables. The study used market-to-book ratio as an alternative measure of firm value and the results are presented on table 4.5 below

Table 4.6: Market-to-book ratio regression on regression on Retained earnings, Dividend per share, with Size, Leverage, Age, liquidity, tangibility and ROA are controlled

Dependent variable	OLS	F-stat	3.937	Fixed effects	F-stat	10.51	Random effects	F-stat	9.18
Const	TOBINQ	Prob	0.000	TOBINQ1	Prob	0.000	TOBINQ	Prob	0.000
RPS	0.316 (-1.177)	Durbin-Watson stat	1.242	14.902 (3.448)	Durbin-Watson stat	1.53	11.138 (6.597)*	Durbin-Watson stat	1.46
DPS	0.334 (2.745)**			-9.20 (-1.82)**			-5.21 (-1.79)**		
Eps	0.043 (2.074)			4.88 (5.42)***			2.52 (3.33)*		
lage _i	6.900 (-2.837)*			-9.66 (-2.34)*			-1.10 (-2.39)*		
ROA				-11.23 (-6.68)*			-8.58 (-5.32)		
TANG	0.001 (1.111)			17.97 (4.73)			6.69 (2.43)*		
LIQ	-0.046 (-2.601)**			3.48 (4.38)*			4.43 (5.90)**		
Inas	0.132 (2.347)*			(0.09) (3.27)*			0.93 (4.05)*		
Lev	0.043 (2.074)			0.00 (1.51)*			0.043 (2.074)		
Obs no	1292			1292			1292		
Adj R ²	0.42			0.44			0.10		

Note: *, **, and *** indicate significance at 1%, 5%, and 10% levels

The main result is found to be generally robust and significant for retained earnings measures and some control variables. The capital retained earnings and other firms' characteristics have varying significant levels. All except leverage and size measured by log of assets are insignificant in market-to-book regression and this is consistent with the Tobin's Q result. In general, the market-to-book results are less significant than Tobin's Q result. The study also introduced various specifications for control variables. This produced even less significant result for market-to-book regression. The Tobin's Q result were unaffected by these changes. However, the overall picture remains largely unchanged- retained earnings is significantly and positively associated with different measures of firm valuation.

5. Conclusion

This study examines the effects of retained earnings on market value of firms in Nigeria. The result indicates that Tobin's Q as a measure of value is related to the retained earnings as reported by previous studies. OLS, fixed effect, and random effect models indicate that retention policy measured by retained earnings per share has a statistically significant level at 1% and 5%, level positive effects on firm value. It is interesting to note that in general, the results are robust for all three evaluation methods and the co-efficient of Tobin's q is strong. Also, many of the control variables are significant in predicting Tobin's q (significant at $p = 0.01, 0.05$). This study also established that there is a strong and positive relation-

ship between earnings retentions and the market value. The findings concur with the views of Campbell (2012) who posits that retained earnings ultimately come back to the equity shares in the form of enhanced value or capital gains. The results further support the findings of Khan et al. (2013) who empirically proved that variation in retained earnings does affect the market value of Pakistani textile industry.

Based on the findings, the study has established that earnings retention has a positive and significant relationship with market value of firms. To this end, the study recommends that it is necessary to retain part of the earnings to finance new investment capable of generating more wealth and having positive contributions to the shareholders. Also, corporate managers should endeavour to make judicious and efficient use of earnings to increase investor returns and that firms should retain when there are investment opportunities with a positive net present value (NPV). This requires that the managers should carry a succinct analysis of the available projects to ensure maximum returns are attained by investing in the most appropriate projects. To the investors, the study recommends that they should monitor and ensure that undistributed profit/earnings are judiciously used to create value in return. Also, they should invest in organizations which use retained earnings to finance investment opportunity and create value.

While this study has been successful in providing insight into the behaviour of retained earnings among firms in Nigeria and its effect on firms' value, it is also subjected to several limitations. Firstly, it is acknowledged that the study suffers from a selection bias and that there may be many other explanatory variables that have not been incorporated into the models used. Another limitation of this study was in the research design that used only listed non-financial firms in Nigeria. The validation of the conclusion might not hold for financial firms outside those firms' list. Future research would be useful to overcome the limitation of this study by extending to cover unlisted companies and financial companies by using different methods. Also, future studies should be conducted to find out the relevant regulatory and policy issues that regulator and corporate organizations should adopt to ensure that the listed companies maximize the wealth of the shareholders in all their decisions.

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