Original Research Article

EFFECT OF FINANCIAL LEVERAGE ON MARKET VALUE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

ABSTRACT

Purpose: *The main objective of this study was to examine the effect of financial leverage on market value of listed Deposit Money Banks (DMBs)in Nigeria. Specifically, the study examined the effect of short term debt ratio, long term debt ratio, and debt to assets ratio on market value of listed DMBs in Nigeria.*

Methodology: *The study adopted the ex-post facto research design. A sample of 12 DMBs was drawn from a population of 14 DMBs listed on the Nigerian Exchange Group using the filtering method. Data were sourced from annual reports and accounts of the sampled DMBs in Nigeria. The study period covered ten (10) years from 2011-2020. The random effect regression model was used for data analysis, based on the recommendations of the Hausman Specification Tests results.*

Findings: *The results of the study suggested that while short term debt ratio has an insignificant positive effect on market value of DMBs in Nigeria, long term debt ratio has a perverse and insignificant effect on market value of DMBs in Nigeria. The result of the study further ascertained that debt to assets ratio has a significant positive effect on market value of DMBs in Nigeria.*

Recommendations: *The study, therefore, recommended that DMBs in Nigeria should employ a higher proportion of debt financing especially when the funds will be used to increase assets utilization. The study also recommended that listed DMBsin Nigeria should prioritize short term component of financial leverage in their financing mix.*

Keywords: Financial leverage, Market value, listed Deposit Money Banks, Nigeria

1.0 INTRODUCTION

Financing decision is one of the fundamental decisions faced of corporate finance managers, ranking *paripassu* with investments, and dividenddecisions.Nazir and Saita (2013),have attested to the crucial nature of the financing decisionin a firm. According to Adenugba, Ige and Kesinro (2016), firms normally fund investments through internal sources (reserves and retained earnings) or external sources (a combination of equity and debt). However, the commonlyused source of finance is a combination of equity capital and debt capital.Firms are thus, charged to apply the best financing sources to arrive at the optimal financing mix so that they can make suitable financing decision that would enable them achieve positive

returns. One of the fundamental issues with respect to corporate finance is, therefore, the issue of capital combination which has led to the question of to what degree should firms be financed with debt compared to equity?

Researchers for quite a long time have continued to analyze financial leverage of firms in a bid to determine an optimal capital combination. An optimal financial leverage ratio is usually defined as one that will minimize a firm's cost of capital, while maximizing shareholder's wealth (Gweyi&Karanja, 2014).Financial leverage irrespective, of its benefit to a firm, also creates financial risk to the company; if a highly geared firm is unable to make sufficient earnings before interest and taxes (EBIT), such a firm might go into liquidation as it may not be able to meet its interest obligations and also finance other expenses.

The effect of financial leverage on firm performance has been a controversial issue in corporate finance literature since the seminal work of Modigliani and Miller in 1958 asserted the irrelevance of debt-to- equity ratio to firm value(Abubakar, 2017).. That paper has given rise to a serious academic discussion on financial leverage (Iavorskyi, 2013).

The use of high leverage proportion to finance firm's investments is supported by various theoretical foundations. The pecking order theory by MyersandMajuf (1984) suggests that when employing the external source of financing, debt should be considered first and equity should be the last resort. The trade-off theory also explains that optimal debt financing level of the firms is established by a balance i.ebetween the advantages of borrowing and costs, holding assets of the firm and plans for investments (Nazir&Saita, 2013). Debt financing, which is more appealing as elucidated by Jensen and Meckling(1976) in the agency theory, has a notable implication for firms as far as its operations are concerned. Jensen and Meckling (1976) have held, particularly held that, high indebtedness instills disciple to managers, which is connected with better financial performance (Ogiriki, Andabai&Bina, 2018).

One of the fundamental issues faced by corporate managers is the issue of optimal capital combination to maximize shareholders return and avoid the possibility of insolvency and bankruptcy which has led to the question of to what degree should firms be financed with debt compared to equity?

Due to the tax deductibility of the interest paid on the debt, one could easily argue that increasing debt will increase firm value due to the benefits obtained from the tax shield. When taken too far, however, firms might become threatened with bankruptcy due to increased financial distress costs. Taken both the tax shield and the financial distress costs into account, an inverted Ushape relationship can be expected between the amount of leverage and firm performance (Pandey, 2010).Similarly, Abubakar (2017) posited that since the value of the firm is proportionally related to its financial performance, financial experts study the effect of financial leverage on financial performance in order to validate theoretical predictions and to recommend the appropriate capital mix that firm's should adopt in order to improve financial performance.

Extant literature has attempted to establish a relationship between financial leverage and financial performance. However, there is dearth of empirical studies on the relationship between financial leverage and external market performance, thus, this study seeks to examine the effect of financial leverage on market value of DMBs listed on the Nigerian Exchange Group. The choice of DMBs is premised on the ground that most of the banks are financed with a high proportion of debt following the compulsory capital base instituted by the Central Bank of Nigeria to be maintained by each bank for operations.

The main objective of this study is to examine theeffect of financial leverage onthe market value of listedDMBs on the Nigerian Exchange Group. The specific objectives include:

i. To examine the effect of short-term debt ratio on market value of DMBs quoted on the Nigerian Exchange Group.
ii. To examine the effect of long-term debt ratio on market value of DMBs quoted on the Nigerian Exchange Group.
iii. To examine the effect of debt to assets ratio on market value of DMBs quoted on the Nigerian Exchange Group.

Research questions were posed inline with the study objectives to provide answers to the extent which short term debt, long term debt and debt to assets ratio affect market value of listed DMBs in Nigeria.

Thisstudy is organized into five sections, including this introduction as Section One. Section Two reviews the conceptual, theoretical, and empirical literature related to the phenomenon of interest. Section Three presents the research methods while Section Four presents and discusses the empirical results. Section Five summarizes and concludes the paper.

2.0 LITERATURE REVIEW

This section reviews relevant concepts and theories underpinning the study. This is followed by a review of empirical studies.The section concludes with as statement of the hypotheses.

2.1 Conceptual Framework

The key conceptsthat are examined in this study are financial leverage and market value.

2.1.1 Financial leverage

Financial leverage related to the presence of debt in the capital structure of a firm. In other words, it is the existence of fixed-charge bearing capital which may include preference shares along with debentures, and short and long term loans. The objective of introducing leverage to the financial mix of a company is to achieve maximization of wealth of the shareholder. Abbadiand Abu-Rub (2012) have conjectured that leverage shows the ability of company's managers to finance business activities of the firm with consideration to minimum cost of capital.

Financial leverage measures the ability of managers to fulfill their commitments to policy holders and other creditors without having to increase profits on underwriting and investment activities or financial assets (Dilpreet& Harish, 2018).It is usually measured by debt to equity ratio (Ibrahim &Isiaka, 2020). A high debt/equity ratio generally indicates that a company has been aggressive in financing its growth with debt. This can result in volatile earnings as a result of the additional interest expense. If the company's interest expense grows too high, it may increase the company's chances of a default or bankruptcy. Typically, a debt to equity ratio greater than 2.0 indicates a risky scenario for an investor; however, this yardstick can vary by industry. Businesses that require large capital expenditures (CapEx), such as utility and manufacturing companies, may need to secure more loans than other companies. It should be noted that too much focus on leverage will be at the expense of solvency or risk of liquidation. Higher leverage would allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings (Nwude, Idam, Agbadua&Udeh, 2016). Jensen and Meckling (1976) asserted a positive effect of leverage on performance.

It is thus, pertinent to stress that financial leverage is made up of two components namely; debt and equity. Debt is the sum of money borrowed by an organization from external sources, thatare required to be repaid after certain years, along with interest. Money raised by the company in the form of borrowed capital is known as debt. Funds raised through debt financing are to be repaid after the expiry of the specific term.Debt can be in the form of term loans, debentures or bonds.

Khan (2012) argue that the different types of debt ratios instruments (such as short term debts, long term debt, or total debt to asset ratio) have different rate of returns investors will ask for, different risk element and by implication exert different impact on corporate performance.

Equity refers to ownership interest in the company.It comprises of ordinary shares, preference shares, and reserve and surplus. The dividend is to be paid to the equity holders as a return on their investment. The dividend on ordinary shares (equity shares) is neither fixed nor periodic whereas preference shares enjoy fixed returns on their investment, but they are also irregular in nature,although the dividend is not tax deductible in nature.

2.1.2 Firm value

According to Bhullar and Bhatnagar (2013), firm value represents the past, present and future performance of a firm, as well as the long-term interest of shareholders and stakeholders.Firm value (FV), which is a market base performance measure is also referred to as enterprise value (EV) or a company's total value. It looks at the entire market value rather than just the equity value, and as such ownership interests and asset claims from both debt and equity are included. Firm value can be thought of as the effective cost of buying a company or the theoretical price of a target company before a takeover premium is considered (Duong &Quy, 2013).

The most common way of measuring firm value in research is the use of Tobin's Q. Tobin's Q ratio is measured as the sum of market capitalization of equity, book value of preferred

shares, book value of long term debt divided by book value of total assets. If this ratio is low, then it means manager performance is poor and agency costs exist in the firm because resources are wasted, or non-optimal decisions are made.In Economics theory of investment behavior, Tobin's Q represents the ratio of the market value of a firm's outstanding shares (share capital) to the replacement cost of the firm's physical assets (replacement cost of the share capital).

The ideal state is where 'Tobin's Q is approximately equal to one denoting that the firm is in equilibrium, which is also known as general equilibrium theory or Q theory. It states that if 'Tobin's Q' is greater than one means that the firm is worth more than the cost of its assets. In this case, additional investment in the firm would make sense because the profits generated would exceed the cost of a firm's assets. If 'Tobin's Q' is less than one means it costs more to replace a firm's assets than the firm's worth, the firm would be better off selling its assets instead of trying to put them to use. Thus, it is a performance variable in terms of company valuation (Garg, 2007).

2.2 Theoretical Framework

This sub-section presents the Trade-off theory, Pecking Order theory, and Agency theory.

2.2.1 Trade-off theory

The tradeoff theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the cost and benefits. The classical version of the hypothesis goes back to Kraus and Litzenbreger (1973) who consider a balance between debt weight costs of bankruptcy and the tax saving benefits of financing leverage. According to the theory, there is an advantage to financing with debts and there are costs for financing with debts. The cost of financing with debts results mostly from financial distress i.e. bankruptcy cost of debts and non-bankruptcy cost of debts. Examples of non-bankruptcy cost include: staff leaving, suppliers demanding disadvantageous payment terms, bond/stock holders in fighting etc.

In summary, the trade-off theory states that capital structure is based on a trade-off between tax savings and distress costs of debt. Firms with safe, tangible assets and plenty of taxable income to shield should have high target debt ratios. The theory is capable of explaining why capital structures differ between industries, whereas it cannot explain why profitable companies within the industry have lower debt ratios (trade-off theory predicts the opposite as profitable firms have a larger scope for tax shields and therefore subsequently should have higher debt levels).

2.2.2 Pecking Order theory

The pecking order theory was first suggested by Donaldson in 1961 and modified by Myer and Majuf (1984). The theory states that companies prioritize their equity as a financing means of last resort. Hence, internal funds are used first, and when that is depleted, debt is issued and when is not sensible to issue any more debt, equity is issued. This theory maintains that businesses adhere to a hierarchy of financing when available, and debt is preferred over equity if external financing is required. Debt is preferred over equity because

issuing shares will mean bringing external ownership in to the company. The form of debt a firm chooses can act as a signal for its needs for external finance.

According to Myers (2001),the intuition behind the pecking order theory is derived from considering the following string of arguments: (i) if the firm announces a stock issue it will drive down the stock price because investors believe managers are more likely to issue when shares are overpriced. (ii) Therefore firms prefer to issue debt as this will allow the firm to raise funds without sending adverse signals to the stock market. Moreover, even debt issues might create information problems if the probability of default is significant, since a pessimistic manager will issue debt just before bad news get out.

2.2.3 Agency theory

The agency theory revolves round the relationship between the principal (shareholders) and the agent (company manager). The theory was propounded by Jensen and Meckling (1976) and it also explains the financial mix decision. They argued that due to a continuous devaluation of equity ownership of large corporations, ownership and control became more separated. This situation gives managers the opportunity to pursue their interest at the expense of that of the shareholders. Jensen and Meckling (1976) argued that managers may adopt non-profitable projects for their personal interest instead of investing in projects with positive net present value(s).

In an effort to mitigate this agency conflict,Haim and Marshall (1988) argued that capital structure can be used through increasing debt level and without causing any radical increase in agency cost. This will force the managers to invest in profitable ventures that will be of benefit to the shareholders. If they decide to invest in non-profitable projects and they are unable to pay the interest due to debt holders, the debt holders can force the firm to liquidation and managers will lose their decision right or possibly their employment. The agency theorists opined that leverage firms are better for shareholders, as debt level can be used as a mechanism in monitoring the managers (Gweyi&Karanja, 2014).Onaolapo (2010) posited that higher financial leverage is expected to lower agency costs, reduce inefficiency and therefore, lead to an improvement in a firm's performance.

2.3 Empirical Review

Since the issue of modern leverage was raised by Modigliani and Miller in 1958, several studies have been conducted on the topic. Some of these studies are reviewed below:

Ibrahim and Isiaka (2020) examined the effect of financial leverage on firm value with evidence from companies quoted on the Nigerian Stock Exchange. The study adopted a panel data analysis using secondary data obtained from the financial statements of the selected companies overa period of 5 years from 2014 to 2018. A sample of 18 firms was selected through the convenient sampling technique. The level of financial leverage was denominated by long term debt to equity ratio. Data obtained were analyzed using multiple regression analysis with the aid ofEviews to determine the extent of the causal and correlational relationships between the independent and dependent variable. The regression results showed that financial leverage has a significant negative effect on firm value.

Dilpreet and Harish (2018) examined the impact of financial leverage on the financial performance of DLF Ltd (a construction and contracting real estate Company in India). They used operating profit margin, net profit margin, return on capital employed, current ratio, quick ratio, and working capital turnover ratio as proxies for performance and liquidity, while, debt/Equity Ratio was used as proxy for Financial Leverage. The study period covered 5 years from 2013 to 2017. Using multiple regression analysis, the study found a strong and linear relationship between debt-equity ratio and proxies for financial performance. The study concluded that leverage has a significant effect on the financial performance of firms.

Ogiriki et al. (2018) examined financial leverage and its effect on corporate performance of firms in Nigeria for a period of 17 years from 1999-2016.The study used long-term-debt, return on asset and return on equity as explanatory and dependent variables respectively and employing the Ordinary Least Square (OLS) analytical technique. The results revealed that long-term debt of firms has a significant positive effect on both ROA and ROE. Their study concluded that financial leverage has a significant influence on the corporate performance of firms in Nigeria and recommended the effective management of the long-term debts.

Orajaka (2017) explored financial leverage to ascertain its impact on financial performance. The data for the research was accessed through secondary source. The study population comprised of twenty four (24) manufacturing companies listed on Nigeria Stock Exchange, while, the study sample comprised of four (4) companies. Five (5) dependable variables were used to determine the impact of leverage financing on financial performance. The study period covered 5 years from 2010 to 2014. The descriptive and general regression methods were used to analyze the data generated to determine the relationship between the dependent and independent variables. From the findings, the study disclosed that total debt to total assets and long term-term debt to total asset have a significant positive effect on return on equity, return on assets, net profit margin and assets turnover.

Abubakar (2016) investigated the effects of financial leverage on firms' performance using 66 nonfinancial firms of the Nigerian Stock Exchange for a period 10 years from 2005 to 2014. The study employed panel data techniques in the form of Pooled Ordinary Least Squares, Fixed Effects and Random Effects estimators. Findings of the study revealed that an increase in the equity portion of total debt-equity ratio (TDER) has a significant positive effect on firms' financial performance measured by return on equity (ROE). The study concluded among others that financial leverage surrogated by total-debt equity ratio (TDER) is an important indicator of firms' financial performance and vice versa. The study recommended that non-financial firms' quoted on the NSE should increase the equity portion of the debt-equity mix in their capital structure to improve firms' financial performance.

Adenugba, Ige and Kesinro (2016) studied the relationship between financial leverage and firms' value using a sample of five firms listed on Nigerian Stock Exchange (NSE) for 6 years between 2007-2012. The Ordinary Least Square (OLS) statistical technique was employed as analytical tool and the result showed a significant positive relationship and effect between financial leverage and firms' value. The study concluded that financial

leverage proxy by long-term debt is a better source of finance to firms than equity when there is a need to finance long-term projects.

Syed, Paeman, Tanveer and Sajid (2015) investigated the impact of financial leverage on corporate financial performance using panel data in a textile sector of Pakistan for a period of 13 years beginning from year 1999 to 2012. The study sought to examine the impact of financial leverage on performance before and after the financial crises era. The study employed accounting ratios ROA and Tobins Q to measures of corporate financial performance and total debt to total assets ratio, long-term debt to total assets ratio, short-term debt to total assets and debt to equity ratios to measure financial leverage. The study used multiple regression for analysis. The result of the study showed that short term and long term debt have a negative and significant effect on ROA while debt to equity ratio has a negative but insignificant effect on ROA. Result of the study further showed that short term debt has a significant positive effect on Tobins Q, while long term debt and debt to equity ratio have a significant negative effect on Tobins Q.

Mule and Mukras (2015) investigated the relationship between financial leverage and financial performance of listed Kenyan firms. The study used annual data for 5 years period starting from the year 2007 to 2011. The study population was 58 firms listed on the Nairobi stock exchange and a sample of 47 listed firms was adopted for the study. The study using unit root test and multiple regression analysis found strong evidence that financial leverage measured by long-term debt significantly and negatively affects performance measured by ROA and Tobins Q. The study also found that financial leverage has a negative and insignificant effect on performance measured using ROE. The study further revealed that asset tangibility and ownership concentration are important determinants of performance.

Enekwe, Agu and Eziedo (2014) explored the effect of financial leverage on financial performance of Nigerian pharmaceutical companies. The study used secondary data between year 2001 to 2012 and a sample of three companies. The study employed Pearson correlation and multiple regression models to analyze the data collected. It was established that both debt ratio and debt-equity ratio had a negative relation with profitability measured by ROA. The study also found that the ratio of interest coverage had a positive relation with profitability of pharmaceutical companies in Nigeria. However, the study revealed that debt to equity ratio, debt ratio and interest coverage ratio had insignificant positive impact on profitability of the pharmaceutical industry in Nigeria.

2.4 Research Hypotheses

Three hypotheses are tested in this study, related to each of the three objectives set out in section one of this study. The hypotheses are stated as follows;

Ho_1: Short-term debt ratiohas no significant effect onmarket value of listed DMBs on the Nigerian Exchange Group.

Ho_2: long-term debt ratiohas no significant effect on market value of listed DMBs on the Nigerian Exchange Group.

Ho_3: Debt to assets ratio has no significant effect onmarket value of listed DMBs on the Nigerian Exchange Group.

3.0 METHODOLOGY

The research design adopted for this study is the ex post factoresearch design. The population of the study comprises of the 14 listed Deposit Money Banks (DMBs)on the floor of the Nigerian Exchange Group as at 31st December 2020.The filtering sampling technique was adopted for the study based on the criteria that the DMBs have available data for all the study variables for 10 years from 2011 to 2020 and have filed their annual reports reported in Nigerian currency with Nigerian Exchange Group yearly. Consequently, Jaiz Bank and Eco Bank were not included in the sample as the former does not have complete data up to ten years (2011-2020), while the later presents their annual reports in Dollars which makes it difficult for comparison with other DMBs in Nigeria. Following the above, 12DMBswere selected from the population based on the predetermined criteria stated above.

The study consists of dependent, independent and control variables. The dependent variable is market value which isproxied by TobinsQ (TOBQ), the independent variable is financial leverage which is proxied by Short Term Debt Ratio (STDE), Long Term Debt Ratio (LTDE) and Debt to Assets Ratio (DETA). The panel regression model for the study assumes a linear relationship as depicted below.

$$TOBQ_{it} = \beta_0 + \beta_1 STDE_{it} + \beta_2 LTDE_{it} + \beta_3 DETA_{it} + U_{it..}$$

Where;

TOBQ = Tobins Q

STDE = Short Term Debt Ratio

LTDE = Long Term Debt Ratio

DETA = Debt to Assets Ratio

$_{it}$ = Firm and time identifiers

β_0, β_1 to $\beta_3$are parameters to be estimated

U = Error term

Panel regression technique is used for data analysis because of the panel nature of the data. Consequently, the Hausman Specification test result is used to select between the fixed and random effect models. The descriptive statistics are used to examine the salient features of the data, while other tests such as normality, multicollinearity and heteroskedasticity are used to ensure that the data used conform with the assumptions of regression technique and these tests were performed with the aid of Stata (13.0).

4.0 RESULTS AND FINDINGS

The starting point for data analysis is an examination of the salient features of the data through descriptive statistics.

4.1 Descriptive statistics

The results of the descriptive statistics are presented in Table 1.

Table 1: Results of Descriptive Statistics (N=120)

Variables	Mean	Minimum	Standard Deviation	Maximum	Observations
TOBQ	.86027	.6322	.2634566	2.5508	120
STDE	41.51131	0	35.40367	107.3841	120
LTDE	383.8451	-205.0909	572.6888	5385.647	120
DETA	90.60381	76.2465	23.57213	254.7496	120

From table 1, the mean value shows the average value of the data set, the median shows the middle value for the variables while the maximum and the minimum tells us the highest and lowest value in the data set respectively. The standard deviation shows evidence of deviation from the sample mean.

Also from Table 1, TOBQ has a mean value of .86, indicating the average value of market performance of the sampled DMBs during the study period. TOBQ also has a minimum value of .63, standard deviation value of .26and a maximum value of .26.

STDE has a mean value of 41.5, indicating the average value of short term debt ratio of the sampled DMBs during the study period. STDE also has a minimum value of 0, standard deviation value of 35.4and maximum value of 107.4 during the study period.

LTDE has a mean value of 383.8, indicating the average value of long term debt ratio by the sampled DMBs during the study period. LTDE also has a minimum value of -205.1, standard deviation value of 572.7and maximum value of 5385.6.

Finally, DETA has a mean value of 90.6, indicating the average value of debt to assets ratio of the sampled DMBs during the study period. DETA also has a minimum value of 76.2, standard deviation value of 23.6and maximum value of 254.7.

4.2 Normality test

Skewness and kurtosis are employed to test for data normality in this study and the result of all the study variables are between -1 and +1, indicating that the study variables are normally distributed.

Table 2: Result of Skewness and Kurtosis for Normality Test

Obs	Skewness	Kurtosis		
TOBQ		120	0.0000	0.0000
STDE		120	0.4036	.
LTDE		120	0.0000	0.0000
DETA		120	0.0000	0.0000

4.3 Multicollinearity test

Multicollinearity test was performed in this study based on correlation matrix (Pearson Correlation) and Variance Inflation Factor (VIF) and Tolerance level as provided below.

4.3.1 Correlation matrix

The result of the Pearson correlation analysis for the study indicates that the highest correlation coefficient between the independent variables is -0.3912 forSTDE and LTDE. Judging from the result of the correlation matrix, there is no indication of multicollinearity between the independent variables of the study.

Table 3: Results of Pearson Correlation

	STDE	LTDE	DETA
STDE	1.0000		
LTDE	-0.3912	1.0000	
DETA	-0.2295	-0.0978	1.0000

4.3.2 Variance Inflation Factor (VIF) and Tolerance level

The result of multicollinearity test based on VIF and Tolerance level showed that VIF ranges between values of 1.10 to 1.29 with a mean of 1.21 which is below the threshold of 10 indicating the absence of multicolinearity among the variables of the study. On the other hand, the tolerance level ranges from values of 0.774559 to 0.905782 which is above the threshold of 0.1 also indicating the absence of multicolinearity among the variables of the study.

Table 4: Result of Variance Inflation Factor and Tolerance

Variable	VIF	1/VIF
STDE	1.29	0.774559
LTDE	1.23	0.809790
DETA	1.10	0.905782
Mean VIF	1.21	

4.4 Heteroskedasticity test

Table 5 shows the result obtained from the test for heteroskedasticity. The result obtained from the heteroskedasticity test for this study showed a P-value of 0.2704 implying that there is absence of heteroskedasticity and the modelis free from the presence of unequal variance.

Table 5: Result forHeteroskedasticity Test

Variable	Chi-Sq. Value	Probability Value
Model (TOBQ)	1.21	0.2704

Note: H_o (null): Homoskedastic

4.5 Hausman Specification test result

This study employed the panel regression technique for data analysis for testing hypotheses one to three. Accordingly, the Hausman specification test was used to choose between the fixed and random effect models. A look at the p-value of the Hausman specification test was 0.9443as presented in Table 6, implying that random effect model is preferable to fixed effect model.

The choice of the random effect model by the Hausman specification test further necessitates the Breusch and Pagan Lagrangian multiplier test for random effects to be conducted in order to choose between the result of the pooled OLS and the random effect model as presented in Table 7. The Breusch-Pagan LM test result as presented in Table 7 shows an F-statistic p-value of 0.0000, which is statistically significant at 5% level of significance, implying that random effect model is more preferable than pooled OLS model in inferencing the study result. Hence, the random effect model should be used for statistical inferences and drawing conclusion and making recommendations for the study objectives as presented in Table 8.

Table 6: Result of Hausman Specification Test

Test Summary	Chi-Sq. Value	Probability Value
Cross-section random (TOBQ)	0.38	0.9443

Note: H_o: Random effect model is preferable to fixed effect model

Table 7: Result of Breusch and Pagan Lagrangian multiplier test for random effect

Test Statistic	F-statistic Value	Probability Value
LM test (TOBQ)	148.11	0.0000

Note: H_o: Pooled OLS regression model is more appropriate than random effect model

Table 8: Random Effect Regression Result (TOBQ)

TOBQ	Coefficient	Z statistics	Probability
STDE	.0003932	1.63	0.104
LTDE	-7.68e-06	-0.50	0.620
DETA	.0101077	25.49	0.000*
C	-.0689065	-1.36	0.174

R-squared	0.8117
F-statistic	709.57
Prob(F-statistic)	0.0000
Observations	120

Note: *= 1% level of significance

Table 8 shows the random effect estimation result for the effect of financial leverage on market value (proxied by Tobins Q) of DMBs in Nigeria. The regression result showed an R-square value of 0.8117, indicating that 81% of the changes in the dependent variable (Tobins Q) of the sampled DMBs over the period of interest is explained by the independent variables. Table 8 also shows an F-statistic value of 709.57 with its associated P-value of **0.0000**, indicating that the regression model is statistically significant at 5% level, this means that the specified regression model is sufficient andprovides a better fit than the intercept only model and can be used for statistical inferencing.

Furthermore, Table 8 shows that STDE has a coefficient of .0003932 and associated P-value of 0.104, indicating that STDE has a positive but insignificant effect on market value (Tobins Q) at 5% level of significance. LTDE has a coefficient of -7.68e-06 and associated P-value of 0.620, indicating that LTDE has a negative but insignificant effect on market value at 5% level of significance. The regression result also showed that DETA has a coefficient of .0101077 and associated P-value of 0.000, indicating that DETA has a significant positive effect on market value proxied by Tobins Q at 5% level of significance.

4.4 Discussion of Findings

The findings of the study are discussed according to the study objectives as follows:

Objective 1: To examine the effect of short-term debt ratio on market value of DMBs quoted on the Nigerian Exchange Group.

The result of data analysis for hypothesis one revealed that short term debt ratio has an insignificant positive effect on market value (Tobins Q). This result is inconsistent with the results of Syed et al. (2015) which found that short term debt has a significant positive effect on market value (Tobins Q).The finding of this study is inconsistent with the result of Ibrahim and Isiaka (2020) which found that financial leverage has a significant negative effect on firm value.

The result of objective one of this study further supports the pecking order theory which postulates that debt financing exerts a positive effect on firm performance. The result also supports the agency theory and free cash flow theory which proposes a positive influence of financial leverage on firm performance.

Objective 2: To examine the effect of long-term debt ratio on market value of DMBs quoted on the Nigerian Exchange Group.

The result of data analysis for hypothesis two revealed that long term debt ratio has an insignificant negative effect on market value (Tobins Q). This result is inconsistent with the study ofAdenugba et al. (2016) which found that long term debt has a positive effect on firm value. The result of hypothesis two of this study is inconsistent with the results of Syed et al. (2015) and Mule and Mukras (2015) which found that long term debt has a significant negative effect on market value (TobinsQ). The finding of this study is inconsistent with the result of Ibrahim and Isiaka (2020) which found that financial leverage has a significant negative effect on firm value. The result of objective two of this study fails to support the pecking order theory which postulates that debt financing exerts a positive effect on firm performance. The result is also inconsistent with the agency theory which proposes a positive influence of financial leverage on firm performance.

Objective 3: To examine the effect of debt to assets ratio on market value of DMBs quoted on the Nigerian Exchange Group.

The result of data analysis for hypothesis three revealed that debt to assets ratio has a significant positive effect on market value (TobinsQ). The result of objective three of this study supports the pecking order theory which postulates that debt financing exerts a positive effect on firm performance. The result also supports the agency theory and free cash flow theory which proposes a positive influence of financial leverage on firm performance.

The paucity of supporting or contrarian studies to the result of objective three of this study indicates the dearth of prior empirical studies on debt to assets ratio and firm value (Tobins Q), hence, a contribution of this study to knowledge.

5.0 CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, the study concludes that short term debt ratio positively but insignificantly affects market value of DMBs listed in Nigeria. The study also concluded that long term debt ratio inversely but insignificantly affects market value of DMBs listed in Nigeria. Lastly, the study concluded that debt to assets ratio positively and significantly affects market value of DMBs listed in Nigeria. The study therefore, recommended that DMBs in Nigeria should employ a higher proportion of debt financing especially when the funds will be used to increase assets utilization. That is, firms should only borrow funds if the funds will be used to increase utilization of existing assets. The study further recommended that DMB should prioritize short term component of financial leverage in their financing mix. This study has addressed the concern of dearth of prior empirical studies on the effect of financial leverage on market value in the Nigerian context. This study has provided additional evidence by ascertaining the positive effect of short term debt ratio and debt to assets ratio on market value as well as the negative effect of long term debt ratio on market value of DMBs in Nigeria.

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