

# CAPITAL STRUCTURE AND FIRM'S VALUE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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## Abstract

*This study evaluate the effect of capital structure on firm's value of listed Deposit Money Banks in Nigeria over the period of 2011 to 2015. The study employs secondary data as evaluated using; descriptive statistics, correlation matrix and the panel regression as captured by the Hausman test of Random Effect coupled with various diagnostic tests such as the Variance Inflation Factor test, Heteroskedasticity test, Breusch and Pagan Lagrangian multiplier test for random effects. The study finds that capital structure variable proxy by ratio of total debt to equity has negative and significant impact of the value of listed deposit money banks in Nigeria given the p-value less than 5% level of significance. The findings of this study is in conformity with some previous findings by difference scholars. The findings also this study also confirm capital structure relevant theories (traditional approach). The study confirms that the traditional capital structure theory is valid. It reaffirms that leverage in both the highly and lowly geared firms is statistically significant and is an important determinants of the value of the listed deposit money banks in Nigeria. In line with our finding, we strongly recommend that firms (both highly and lowly geared) should take into cognizance the amount of leverage incurred because it is a major determinant of firm's value, this is obvious in both the highly geared and lowly geared firms. Also, firms should use more of equity than long-term debt in financing their business activities, in as much as the value of a business can be enhanced using debt capital, it gets to a point that it becomes detrimental to the value of the business, hence firms should establish the point at which the weighted average cost of capital is minimal and maintain that gearing ratio so that the company's value will not be eroded, as the firm's capital structure is optimal at this point ceteris paribus. This is because the highly geared firms are more prone to lower firm performance as a result of an additional leverage incurred.*

*Keywords: Capital Structure, Firm's Value, Deposit Money Banks.*

## Introduction

A fundamental objective of every corporate institution is the maximization of its shareholders' value. Shareholders' value is defined as the current price of the firm's outstanding shares (Oke & Afolabi, 2008). In order to achieve this objective firm's management should take rational financing decisions regarding optimal capital structure which in turn would minimize its cost of capital (Goyal, 2013). Firm value can represent the potential

growth of a firm as well as the efficiency of daily business operation. Many investors always referred to firm value in making the decision of investment due to its ability to provide the intrinsic value of the firm. However, in the modern corporation, firms operate in a larger society where there is possibility of conflict of interest among the stakeholder such as shareholders, managers, employees, customers among others

due to their different objectives. In spite of this, the objective in corporate finance can be stated broadly as maximizing the value of the entire business, more narrowly as maximizing the value of the equity stake in the business or even more narrowly as maximizing the stock price for a publicly traded firm. As such the study on the determinants of the firm value is attracting to the investor, shareholders, economic policy maker, and corporate finance theorists among others.

In view of this, Miller and Modigliani (1958) posit that in a perfect market, the capital structure of the company is irrelevant and therefore, has no influence on the value of the company. However, their theory was based on numerous and quite restrictive assumptions which make their conclusions work on paper more than off it. In the real world, markets are far from perfect, transaction costs exist, and there are agency costs of debt and equity. Those and other facts have somewhat cast a shadow on the capital structure irrelevance principle. Contrary to this opinion, the pecking order theory of Myers and Majluf (1984), states that there is a correlation between capital structure and firm's value. This is because a firm's value can increase if the right form of capital is used. This theory advocates that firm's value can be affected positively if a capital structure hierarchy is followed that is, financing with internal fund when available instead of financing with external fund and when internal fund is completely depleted, debt should be preferred to equity because of the low transaction cost, tax benefits and other advantages attached to it. The trade-off theory also states that there is a relationship between capital structure and firm's value. This is because a firm's value can increase if the proper debt equity mix is used in the firm. Also, Pandey (2004), states that the capital structure decision of a firm influences its shareholders return and risk. Consequently, the earning per share of a bank may be affected by the capital structure decision. The objective of a firm should therefore be directed towards the maximization of its value by examining its capital structure or financial leverage decision from the

point of view of its impact on the firm value. However, in other to maximize the firm's value the first option is to combine both certain percentage of debt and equity in the capital structure and thus, the advantages of leverage (if any) is exploited. This mix of debt and equity has long been a subject of debate in finance literature concerning its determination, evaluation and accounting. Various measurements of firm's value have been documented in the finance literature such as return on investment (ROI), residual income (RI), earning per share (EPS), dividend yield, return on assets (ROA), growth in sales, return on equity (ROE), among others (Ferrary, & Granovetter, 2009). In this study firm's value would be measured using earning per share ratio (EPS). Earning per share is proportion of net income attributed to a unit of share. It is calculated as the net income of the bank divided by the number of outstanding ordinary share.

Previous studies on the subject matter have used different proxies to measure capital structure. The measures commonly used in the literature in form of ratios include total debt to total assets, total debt to total equity and long term debt to total assets. Total debt to total assets is the amount of debt used to finance firm's assets and other capital expenditure that can improve firm's performance. Thus, it is expected that increasing leverage components of a firm's capital structure may increase the level of efficiency and thereby increase the firm's value. Company's managers who are able to identify the level of leverage as components of firm's capital structure are rewarded by reducing firm's cost of finance thereby maximizing the firm's revenue (Zeitun & Tian, 2007). Total debt to total assets measures the amount of the total funds provided by outsiders in relation to the total assets of the firm. It shows the extent of cover for debts of a company by total assets. It describes the extent to which a business or investor is using the borrowed money. Generally, investors would prefer low ratio for all debts, because the lower the ratio the better the cushion against the creditors losses in the event of liquidation. Most firms use debt to finance

their operation with the hope of improving their performance. By doing so, a company increases its leverage because it can invest in business operations without increasing its equity.

Total debt to total equity is also expected to have an influence on a firm's value. Total debt to total equity assesses the extent to which a firm is using borrowed funds. It shows the extent to which a firm is using borrowed funds in relation to its equity. It indicates the solvency of the business and the extent of cover for external liabilities. It also a measure of company's financial leverage calculated by dividing its total liability, by stockholders equity, it indicates what proportion of equity and debt a company is using to finance its assets (Ojo, 2012). Total debt to total equity is a measure of how much firm uses equity and debt. Investors prefer the ratio to be lower; because the lower ratio the higher the level of firms financing that is being provided by shareholders and the larger the cushion (margin of protection) in the event of shrinking asset values or outright losses. From the creditor's point of view, it is possible that debt to equity helps in understanding business risk management strategies and how firms determine the likelihood of default associated with firm's financial performance (Kurfi, 2003). Marcus, M. (2010). See equity capital as including share-capital, share premium, reserves and surpluses (retained earnings). However, there exist conflicting theories on the relationship between capital structure and firm's value. Thus, consensus has not been reached as such the study remains afresh earnestly awaiting further investigation. On this note the current study investigated impact of capital structure on the firm's value of listed deposit money banks in Nigeria.

### **Statement of the Problem**

In reality, optimal capital structure of a firm is difficult to determine. A firm has to issue various securities in a countless mixture to come across particular combinations that can maximize its overall value which means optimal capital structure. What determines firms' choices of capital structure has been a major question in the

field of corporate finance (Imtiaz Mahmud & Mallik, 2016). Although capital structure and the impact on the value and performance had been studied for many years, researchers still cannot agree on the extent of the impact. A good number of studies have been conducted in both developed and developing countries in order to identify those factors that have an effect on firms' choice of capital structure, till 2016 over 10,200 studies, including 7,020 published during 2005-2016 but no optimal level of capital structure has been reached (Qamar, Farooq, Afzal, & Akhtar, 2016).

Capital structure literature has shown conflicting results among researchers. Some studies have shown that capital structure has significant impact on firms value Saeedi and Mahmoodi, (2011); Abor, (2005); Oke and Afolabi, (2008). While some studies have concluded that the relationship between capital structure and firm performance is both positive and negative (Tian, et. al. 2007; Tsangyaae, et. al. 2009; others concluded that the relationship is negative (Narendar, et. al. 2007; Pratheepkanth, 2011; Onaolapo and Kajola, 2010; Shoaib, 2007). Ahmed, Sheikh and Wang (2011) found positive relation between size and debt that shows in practice larger firms are deploying more debt. Yet, other studies have documented a positive relationship Toraman, Kihc, & Reis, 2013; Aman, 2011; Chowdhury and Chowdhury, 2010; Omorogie and Erah, 2010; Akintoye, 2008). With these mixed and conflicting results, the quest for examining the impact of capital structure on the firm's value has remained a puzzle and empirical study continues. Modern financial theory and strategic management which provide basis of associating capital structure and value of firms are based on very different paradigms, resulting in opposing conclusions. Therefore, there is need for more integrative research to resolve the controversies.

The choice of an appropriate financing mix constitutes a critical decision for the survival and continuous growth of any business organization not only because of the need to maximize returns to the various interest holders, but also because of

the impact such informed decision has on the performance of an organization in a competitive environment. It therefore, imperative to conduct as a fresh research on the subject matter by looking impact of capital structure on the firms value of deposit money bank in Nigeria.

The broad objective of this study is to examine the impact of capital structure on the firm's value of listed deposit money banks in Nigeria, In order to investigate this impact, the study will be carried out from the period 2011 to 2015. The study period emanates from the fact that there were reforms aimed at enhancing profitability in the banking industry. The period is also considered appropriate due to the fact that it signifies the emergence of global financial crisis, which adversely affected the banking firms in Nigeria and after which a bail out reform by the CBN was brought to ensure stability and survival of banks. The study majorly concentrates on capital structure variables due to the fact that they can be easily measured through the use of secondary data. The study would make used of three independent variables (ratio of long-term debt to total asset, ratio of equity to total asset and ratio of total debt to total asset) and one dependent variable (earning per share). Data for this study would be extracted from the annual report of the selected banks as well Nigeria Stock Exchange fact-book..

Specifically, the study seeks to;

- i. Examine impact of long-term debt to total asset ratio on the firm's value of listed deposit money banks in Nigeria.
- ii. Examine impact of debt to equity ratio on the firm's value of listed deposit money banks in Nigeria.
- iii. Investigate impact of total debt to total asset ratio on the firm's value of listed deposit money banks in Nigeria.

### Research Hypotheses

The study would be guided with the following research hypotheses formulated in a null form.

**H01:** long-term debt to total asset ratio has no significant impact on the firm's value of listed deposit money banks in Nigeria.

**H02:** total debt to equity ratio has no significant impact on the firm's value of listed deposit money banks in Nigeria

**H03:** total debt to equity ratio has no significant impact on the firm value of listed deposit money banks in Nigeria.

Analyzing and understanding the impact of capital structure on the value of listed deposit money banks in Nigeria is a major stepping stone to enlighten what should be done if firm's value is to be achieved. However, the outcome of this study would be benefits to shareholders, managers and others stakeholder interested in knowing the influence of mix of capital on the firms value. This will in turn helps them in knowing the impact of the choice of capital on firm's value and thereby taken appropriate decisions that will improve value of the firms. The study will also initiate other sector to give due attention on the management of identified capital structure variables and its impact on the firm value. Additionally, bank owners, also known as ordinary shareholders who are interested in the maximization of their wealth, could also find this study helpful. The reason is that bank success is usually measured by its profitability. Findings of this study will also provide useful recommendations to the banks under study and which, in turn will be essential to their shareholders and creditors in knowing the real determinants that should be carefully managed. It hope the outcome of this study would also provide an insight to other researchers that intend to engage in further study on the same field.

Having presented an overview as above, the rest of the study is divided into four distinct sections. The second section presents the theoretical framework and literature review. Section three discusses the methodology, while the results and analysis will be presented in section four. The fifth section presents the study's discussions, conclusions and policy recommendations.

### Literature Review and Conceptual Framework

This section covers the; theoretical, conceptual, frameworks and empirical studies conducted on the effect of capital structure on the firm's value of

listed Deposit Money Banks in Nigeria, which will be broadly reviewed.

### **Theoretical Framework**

There is no universal theory on the banks specific characteristics and financial performance that could be used to underpin this study but there are several useful conditional theories that attempt to approach the determination of financial performance.

#### **Modigliani and Miller (MM) Irrelevance Theory**

The irrelevance theory of Miller and Modigliani (1958) proposition one suggests that changes in the proportion of capital structure do not change a company's value; the value is determined by a company's real assets. MM prove their proposition theoretically under three conditions: outside parties have the same information that managers have, i.e. information symmetry; raising funds from debt is to pay equity, e.g. dividend or share repurchase, or raising funds from equity is to pay debt. The company is not using the proceeds for any other purposes or the investment opportunity is fixed; investors can borrow at the same interest rate as companies. A company's value consists of the total sum of debt and equity and the present value of this is the sum of the present value of debt and the present value of equity. However, a company's value is not affected as long as investors undertake cost and receive payoff from either choice equally. The expected return in the levered company should be higher than that of the unlevered company because the former has higher risk levels as rational investors would tend to borrow and invest in the unlevered company because the unlevered company's share price is cheaper by the same payoff. Thus, the value of the levered company would fall while the value of the unlevered company would rise until the value of these companies becomes equal (Ross, Westerfield, & Jaffee, 2005).

#### **Pecking Order Theory**

This theory is explained by asymmetric information between management and outsider investors because it encourages firms to prefer internal finance when funding their investments. This is line with the opinion of Myers (1984) and Myers and Majluf (1984) who suggest that capital structure choice is driven by the magnitude of information asymmetry present between the firm insiders and the outside investors. The more severe the information asymmetry, the more risk the outside investors are facing and hence the more discount they demand on the price of issued securities. Consequently, firms will prefer

financing through internal funds and if they do need to raise outside capital, they will firstly issue risk-free debt then followed by low-risk debt. Equity is only issued as a last resort or option because of the cost involved. There are many reasons to prefer internal finance which include; it does not cause any separate costs and do not lower the controlling power of present stockholders either, in comparison to share issue; Internal finance also attract because firm is not obligated to predicate their use on financial market; Other aspect is based on thought that internal finance is concerned as "free capital", which may lead into inefficient investments from point of view of firm owners among others.

#### **Trade-off Theory**

As the name on theory also indicates, the idea of Trade-Off theory is to see an optimal compromise between equity and debt. Firms that follow this theory tries to equilibrate between the advantages of debt, like the tax - deductibility of interests and disadvantage like direct and collateral costs of failure. Firms are striving for their goal of balance between debt and equity (Chirinko & Singha, 2000). According to the theory, those firms with high amount of tangible assets and stable revenues, are tended to be financed with debt while firms with mostly intangible assets that could not be used as collateral are tended not be financed with debt. The trade-off theory has become the most acceptable theory to explain optimal capital structure in the real world. It was developed as a response to the original theory of Modigliani and Miller, who maintained an initial stance that the financing decisions of firms do not affect their value, suggesting that firms with higher profits should use more debt, thus substituting debt for equity to take advantage of interest induced tax shields. As such the current study is anchored on Modigliani and Miller opinion in order to validate the assumption of the theory or not.

#### **Concept of Firm Value**

Firm value is one of the fundamental metrics used in business valuation, financial modelling, accounting, portfolio analysis, etc. Firm value is calculated by adding a corporation's market

capitalization, preferred stock, and outstanding debt together and then subtracting out the cash and cash equivalents found on the balance sheet (Ehrhard & Bringham, 2003). The relationship between capital structure and firm's value can best be explained by a brief review of the different theories on capital structure. The traditionalist theories believe that capital structure is relevant in determining a firm's value. But the irrelevance theory of Modigliani and Miller (1958), posit that there is no relationship between capital structure and firm's value. However, their position changed when they considered the effect of tax shield and other imperfection in the capital market. They revise their earlier statement and opine that capital structure is very much related to firm's value. In addition, the pecking order theory of Myers and Majluf (1984), state that there is a correlation between capital structure and firm's value. This is because a firm's value can increase if the right form of capital is used. This theory advocates that firm's value can be affected positively if a capital structure hierarchy is followed. That is, financing with internal fund when available instead of financing with external fund. And when internal fund is completely depleted, debt should be preferred to equity because of the low transaction cost, tax benefits and other advantages attached to it.

### **Concept of Capital Structure**

Capital structure is the combination of the debt and equity structure of a company. It can also be referred to as the way a corporation finances its assets through some combination of equity, debt or hybrid securities; that is the combination of both equity and debt. Semiu and Collins (2011) also referred to it as the proportions of capital at work in a business by type, namely, equity capital and debt capital, each of which having its own benefits and drawbacks. From the foregoing, capital structure is simply a firm's financial framework, which comprises of a firms retain earnings, debt financing and equity financing in order to maintain the business entity in financing its operations. Capital structure is essential to how a firm finances its overall operations and growth by using

different sources of funds. Modigliani & Miller (M&M) theorem is the broadly accepted capital structure theory because it is the foundation of capital structure theory which has been used by many researchers. It is recognized as a sort of structure with which firms receive direction and orientation concerning their business activities. It is also the heart of both a market economy and a democratic society. It is said to be the financing performance of a firm (Simon & Afolabi, 2011). In addition, capital structure represents a means for decision making of business firms and facilitates maximization of return on investment, as well as boosting the efficiency of financing and dividend decisions (Chandrasekharan, 2012).

### **Determinant of Capital Structure**

There are various factors that can influence the capital structure of a firm's and some of this factors that are used in this study are explained below;

#### **Total Debt to Total Equity**

Total debt to total equity ratios measure the proportion of creditors fund in relation to shareholders fund. Creditors would like this ratio to be lower; because the lower the ratio the higher the level of a firm's financing that is being provided by shareholders and the larger the cushion (margin of protection) in the event of shrinking asset values or outright losses. This a measure of how much suppliers, lenders, creditors and obligors have committed to the company versus what shareholders have committed (Kurfi, 2003). Total debt to total equity refers to the ratio of debt to equity capital of a company. As a result of the payment of interest and repayment of principal amount of the debt, a large part of the firm's cash flow would decrease (Magpayo, 2011).

Companies with a higher debt to equity ratio are considered more risky to creditors and investors than companies with a lower ratio. Unlike equity financing, debt must be repaid to the lenders. Since debt financing also requires debt servicing or regular interest payments, debt can be a far cheaper form of financing than equity financing. Creditors view a higher debt to equity ratio as risky

because it shows that investors have not funded the operations as much as creditors have. In other words, investors do not have as much skin in the game as the creditors do. This could mean that investors do not want to fund the business operations because the company is not performing well. Lack of performance might also be the reason why the company is seeking for extra debt financing (Stanford, 2009).

### **Long-term debt to total asset Ratio**

Long-term debt to total assets measures the relative weight of long-term debt to the capital structure (long-term financing) of a firm's long-term debt to total assets. Long term debt to total assets ratio is the ratio that represents the financial position of the company's ability to meet its financial requirements. As this ratio is calculated yearly, decrease in the ratio would denote that the company is faring well, and is less dependent on debts for their business needs (Kurfi, 2003). The higher the level of long term debt, the more important it is for a company to have positive revenue and steady cash flow. It is very helpful for management to check its debt structure and determine its debt capacity (Ogbada, & Okwo, 2014). The long term debt to total assets ratio is a measure of the financial leverage of a company. Long term debt is debt due for repayment in over 12 months and is not included in the current liabilities figure on the balance sheet. It includes mortgages and long term leases, but not general trading liabilities (Akinyomi, 2013). A high ratio usually indicates a higher degree of business risk because the company must meet principal and interest obligations. Potential creditors are reluctant to give financing to a company with a high debt position. However, the magnitude of debt depends on the type of business. For example, Bank may have a high debt ratio but its assets are generally liquid. A utility can afford a higher ratio than a manufacturer because its earnings are more stable (Khalaf, 2013).

### **Short Term Debt to Total Assets**

This measures how relative short-term debts to total asset of a firm are to be repaid within an

accounting period. Some scholars argued that the shorter the debt the better the firm is in improving its performance. The short term debt to total assets ratio is a measure of the financial leverage of the company. It tells what percentage of the assets is financed by short term debt. Short term debt is debt due for repayment within or less than 12 months and is not included in the long term liabilities figure on the statement of financial position. It includes creditors and accruals (Akinyomi, 2013). Short term debt to total assets ratio is the ratio that represents the financial position of the company's ability to meet its current financial requirements. It shows the percentage of company assets that are financed with loans and other financial obligations that last over a year. The short term debt ratio is calculated by dividing current liabilities by total assets. Both of these numbers can easily be found in the balance sheet. A lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has short term debt.

### **Total Debt to Total Assets**

The total debts to total assets measure the amount of the total funds provided by creditors in relation to the total assets of a firm. Generally, creditors would prefer low ratio for all debts because the lower the ratio the greater is the cushion against creditors losses in the event of liquidation. Total debt to total assets is a debt ratio that defines the total amount of debt relative to assets. This enables comparison of debt to be made across different companies. The higher the ratio the better degree of debt and consequently financial risk. This is a broad ratio that includes long term debt and short term debt (borrowings maturity within one year) as well as all tangible and intangible assets (Goyal, 2013). Debt ratio is a solvency ratio that measures firm's total liabilities as a percentage of its total assets. In a sense, the debt ratio shows a company's ability to pay off its liabilities with its assets. In other words, this shows how many assets the company must sell in order to pay off all of its liabilities. This ratio also measures the financial debt of a company. Companies with higher levels of liabilities

compared with assets are considered highly indebted and more risky for lenders. It helps investors and creditors analyse the overall debt burden on the company as well as a firm's ability to pay off its debt in the future especially during uncertain economic times. The debt ratio is calculated by dividing total liabilities by total assets. Both of these numbers can easily be found in the balance sheet. A lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has an overall debt posture. Each industry has its own benchmarks for debt, but 0.5 is reasonable ratio (Ojo, 2012).

### **Overview of Nigerian Banking System**

The Nigerian banking sector mainly comprises fifteen (15) listed Deposit Money Banks as at December, 2015. In 2011, many of these quoted Deposit Money Banks started embracing International Financing Reporting Standards (IFRS) while gradually doing away with local GAAP (Generally Accepted Accounting Principles) in the preparation of their financial statements. The IFRS is expected to among others improve market discipline, enhance transparency and facilitate the management of systemic risks as well as promote safe and sound banking practices, which in turn will improve bank profitability and financial stability in the country. In addition, the banks' funding profile has been largely dominated by short-term deposits (Mensah, 2013) obtained from private individuals, corporate and public sector organizations. According to Central Bank of Nigeria (CBN), Financial Stability Report of 2009-2010, apart from 2008 global financial crisis, year 2009 was depicted by poor governance, inadequate regulation and supervision, data integrity challenges, ineffective consumer protection measures and a poor legal framework. Besides, the universal banking (UB) model launched in 1999 enabled banks to venture into non-bank financial businesses. This UB Model was reported to have been grossly abused by banking firms, which set up subsidiaries without enough capacity to manage the associated risks. However, the Nigeria Deposit Insurance

Corporation (NDIC) was established on 15 June, 1988, to serve as a safety net for depositors. The aim of establishing the Corporation is to also protect the banking system from instability caused by loss of depositors' confidence. In this wise, a depositor is entitled to the insured limit of up to N500, 000 with respect to deposits held in each insured commercial bank and N200, 000 for each depositor in Microfinance bank and Primary Mortgage Institutions in same right and capacity.

### **Empirical Review**

Collins, Filibus, and Clement, (2012) examined the effect of a firm's capital structure on its market value. Results from the regression analysis showed a significant positive relationship between non-financial firms' market values and their debt-equity ratios. Also, a negative relationship exists between a firm's total-debt/total-capital ratio and its market value, its size positively affects its market value. Hence, the study concluded that firms' leverage positively influence their market values. However the period covered in the study is five years which may be inadequate to make generalization.

Ogbulu, and Emeni, (2012) examined the impact of capital structure on a firm's value. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study revealed that equity capital as a component of capital structure is irrelevant to the value of a firm, while Long-term-debt was found to be the major determinant of a firm's value. The study recommended that corporate financial decision makers are advised to employ more of long-term-debt than equity capital in financing their operations since it results in a positive firm value. However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.

Wei, Yee, Lee, and Xin (2012) examined effect of capital structure on the firm value of technology sector in Malaysia. The study found that firm value on technology sector in Malaysia is significantly affected by firm size, liquidity and profitability. Profitability variable showed positive significance



on firm value. However the period covered in the study is five years which may be inadequate to make generalization.

Kausar, Nazir, and Butt (2014) examined the impact which capital structure choice has had on firm value of the Pakistan firms listed in Karachi Stock Exchange (KSE). The result of the study showed that capital structure has a significantly negative impact on firms' performance measured P/E. The study more disclosed a noticeable fact that Pakistan firms are either mostly financed by equity capital or a mixture of equity capital and short term financing. However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.

Cuong, (2014), examined threshold effect of capital structure on firm value: Evidence from Seafood Processing Enterprises in the South Central Region of Vietnam. The study employed an advanced panel threshold regression estimation developed in 1999 by Hansen. The results indicated that triple threshold effect exists between debt ratio and firm value. However, when ROE is selected to proxy firm value, the result shows that there exists double thresholds effect between debt ratio and firm value. The study concluded that the relationship between capital structure and firm value has a nonlinear relationship represents a convex Parapol shape. The finding from the study was detailed and was in line with the objectives of the study.

Kulati (2014) examined the relationship between capital structure and firm value for companies listed at Nairobi Securities Exchange. Descriptive analysis was used to analyze the data. The study used a regression model to predict the extent to which the identified independent variables affect the dependent variable. The study found out that there capital structure and size were positively influencing the firm value of companies listed at the Nairobi Securities Exchange. The study recommends that in order for a firm to increase its value it must increase its growth and its size. However the period covered in the study is five

years which may be inadequate to make generalization.

Mokoaleli-Mokoteli, Babalola (2012) who also studied the effect of optimal capital structure on firm's performance in Nigeria between 2000 to 2009 using samples of 10 firms, concentrated on total debt to total assets. His study excluded the aspect of total debt to equity, short term debt to total assets and long term debt to total assets financing despite the fact that both types of debt financing are used by the sampled firms. More so, in the study of Olokoyo (2012) used Chi-square technique to analyze their data. Chi-square is considered deficient in terms of reflecting time variant and specific characteristic issues. Studies on capital structure and performance of firms are supposed to use parametric techniques that measure both time variant and specific characteristic issues.

Furthermore, the study of Babalola, Yinusa, and Ugwuegbulem, (2012) examined the impact of corporate governance on capital structure decision of ten (10) firms in the food and beverage sector during the period from 2000 to 2009. They used total debt to total assets ratio as proxy of capital structure. The study did not cover other components or types of debt financing such as total debt. In addition, Saeed et al (2013) studied the impact of capital structure on performance of listed banks in Pakistan for the period of 2007-2011. The finding showed that total debt to total assets has a strong positive relationship with financial performance. Akinyomi et al, (2013) studied the effect of capital structure in Nigeria. Data was obtained from annual reports of the companies from 2007 to 2011. Correlation analysis was employed in analysis the data. The finding revealed that total debt to total assets has significant positive effect on financial performance. Jude (2013) studied the impact of capital structure on financial performance of 30 listed manufacturing firms in Sri Lanka from 2008 to 2012. The findings revealed that there was no significant relationship between total debt to total assets and financial performance. Abdullah (2014) investigated the impact of capital structure of 74

firms on financial performance in Saudi Arabia for the period 2004 to 2012. The result of the regression showed that total debt to total assets has significant relationship with financial performance. Similarly, Chadha & Sharma (2015) studied the impact of capital structure on firm profitability using 422 Indian manufacturing firms listed on the Bombay Stock Exchange. Using a

corporate performance in Nigeria. Panel data covering a period from 1990 to 2006 for 70 firms were analyzed. The result indicated a strong positive relationship between total debt to total assets and financial performance. Similarly, the study of Idode *et al* (2014) examined the influence of capital structure on profitability of listed banks in Nigeria. The study found a significant positive relationship between total debt to total assets and financial performance.

Mwangi, Makau and Kosimbei (2014) investigated the relationship between capital structure and performance of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya. The study used panel data extracted from the annual reports and financial statements of the sampled listed firms, and employed random effects model and feasible generalized least square (FGLS). The results showed that total debt to total assets has significant negative relationship with to financial performance. Innocent, Ikechukwu and Nnagbogu (2014) conducted a study on the effect of financial leverage on financial performance of quoted pharmaceutical companies in Nigeria for the period 2001- 2012. The study utilized secondary data sourced from financial statements of three pharmaceutical companies. Descriptive statistics, Pearson correlation and multiple regressions were employed in order to determine the relationship between financial leverage variables and performance. The results showed that total debt to total assets has negative relationship with financial performance. Maina, (2014) investigated the relationship between leverage and the financial performance of listed firm in Kenya. The study found reasonably strong evidence that leverage significantly and negatively affects the profitability

ten-year data period ending 2002/2013, they found no relationship between capital structure and ROA and Tobins Q, whereas an adverse relationship was observed between capital structure and ROE.

Salawu, Asaolu, and Yinusa, (2012) investigated the effect of financial policy on

of listed firms in Kenya. However, leverage has no effect on Tobin's Q. The study concluded that sales growth and firm size are important factors driving firm value. The finding from the study was detailed and was in line with the objectives of the study.

Sutrisno, (2016) conducted research on capital structure determinants and their impact on firm value evidence from Indonesia. The results showed that factors which significantly determined capital structure were fixed asset structure, leverage, profitability, and size, while company growth did not influence capital structure. Meanwhile, with capital structure as a moderating variable, asset structure, leverage, and profitability significantly influence the firm value, while company growth and company size did not influence the firm value. However the period covered in the study is four years which may be inadequate to make generalization.

Adenugba, Ige, and Kesinro, (2016), examined the relationship between financial leverage and firms' value, as well as evaluate the effect of financial leverage on firms' value. The study revealed that there is significant relationship between financial leverage and firms' value and that financial leverage has significant effect on firms' value. The study concluded that financial leverage is a better source of finance than equity to firms when there is need to finance long-term projects. The study therefore recommends that financial leverage be optimized by firms to aid maximization of firms' value. However, the result of the regression is not subjected to diagnostic test to validate the assumptions of the ordinary least square.

Maroko, (2014) investigated the determinants of capital structure in Pakistan with focus on the cement industry. The study was based on 5 years financial data of the selected firms obtained from the State Bank of Pakistan publications. The sample comprise of 16 selected firms resulting into 80 firm-years which were subjected to panel data analysis. The independent variables of the study included tangibility of assets, firm size, growth of firm, and profitability; meanwhile leverage represented the dependent variable. The result of the regression analysis revealed a negative relationship with size and profitability on one hand, and positive relationship with tangibility and growth.

In Malaysia, Ahmed and Zabri, (2016), surveyed the determinants of capital structure among small and medium scale enterprises in Malaysia with data obtained from 50 award-winning enterprises from 1998 to 2010. The data analysis was carried out using regression analysis. Seven factors of: profitability, size, tangibility of assets, growth of firm, age of firm, non-debt tax shield and liquidity were considered in the analysis. The results of the study revealed in overall that three out of seven selected firm's characteristics (liquidity, tangibility of assets and non-debts tax shield) were found to have statistically significant relationship with firm's capital structure. Furthermore, all the three variables of liquidity, tangibility of assets and non-debts tax shield were also found to have ability in explaining variations in the firm's capital structure.

Oppong-Boakye, Appiah and Afolabi, (2013) investigated the determinants of capital structure in Nigeria using panel data. Secondary data were obtained from 66 firms listed on the Nigerian stock Exchange during the period 1999-2007. The study analyzed six potential determinants of capital structure namely size, profitability, growth, tangibility, business environment and liquidity. Using regression analysis, the study reported a negative relationship between leverage (dependent variable) and each of growth, profitability, and tangibility of assets. However, a positive relationship was reported between

leverage (dependent variable) and each of firm size and liquidity.

Chen, (2004), explored the determinants of capital structure of 88 public-listed companies in China. Six main factors of profitability, growth opportunities, size, asset structure, cost of financial distress, and tax shield were investigated. The data were subjected to correlation and regression analysis. The results of the study revealed a negative relationship with profitability, growth opportunity, and firm's size; meanwhile a positive relationship was found with tangibility. The study further disclosed that firm-specific factors when correlated with leverage has shown that neither the tradeoff model nor the Pecking order hypothesis derived from the developed economies has strong explanatory power in elucidating the capital structure preference of firms in China.

Saeed, (2012) examined the determinants of capital structure of 72 randomly selected Thai companies. Secondary data were obtained from the audited annual accounts of the selected firms from 6 industries during 20001-2011 periods. The analysis was carried out using correlation and regression analysis. The results revealed a significant relationship with the level of profitability, size, and tangibility. Negative relationship was observed with profitability and debt ratio; showing that companies with high profitability issue less debt. Positive relationship was observed with size and debt ratio; exhibiting that large companies issue high level of debt.

Sheikh, and Wang, (2011) "explored the factors that affect capital structure of manufacturing firms in Pakistani firms. The study set out to examine whether the capital structure models derived from developed economies provide persuasive explanations for capital structure decisions in the selected Pakistani firms. The investigation was conducted using panel data procedures for a sample of 160 firms listed on the Karachi Stock Exchange during 2003-2007. The results revealed that there is a negative relationship between debt ratio (as the dependent variable) and profitability,

liquidity, earnings volatility, and tangibility (as independent variables); while firm size has a positive relationship with debt ratio. There was no significant relationship identified between the dependent variable of debt ratio and the independent variables of non-debt tax shields and growth opportunities. The study concluded that capital structure models derived from advanced economies does provide some help in understanding the financing behaviour of firms in Pakistan.

Abor, (2005) explored the determinants of capital structure among 33 listed and non-listed companies during the period 2003-2007 in Ghana. Six factors of profitability, assets' tangibility, size of firm, business risk, growth and tax were examined. Multiple regression analysis of pooled-cross sectional and time-series observations was employed in the analysis. The results revealed that leverage has a positive relationship with profitability, assets tangibility, size, business risk on one hand; but a negative relationship was observed with growth and tax on the other hand.

Furthermore, Harwood (2015) examined the effect of debt on the performance of commercial banks listed on Nairobi Securities Exchange. The study used longitudinal research design on 11 commercial banks and analyzed the data using SPSS version 16.0. The regression result revealed that total debt to total assets has negative relationship with firm performance. Aransiola and Oluwadetan (2015) examined the relationship between capital structure and profitability of quoted manufacturing companies in Nigeria. Using data extracted from the Nigerian Stock Exchange fact book and annual reports of the selected companies.

Khraiwesh, (2010) "studied the determinants of capital structure in Jordan. Secondary data were obtained from the annual reports of 30 companies that were listed in the Amman Stock Exchange between the period of 2001 and 2005. Five factors comprising of company size, tangibility of fixed assets, profitability, long-term debt to total assets, and short-term debt to total assets were

examined. Using correlation and regression analysis, the results of the study revealed a positive relationship with company size, tangibility, long-term debt, and short-term debt, while a negative relationship was reported with profitability.

Atambo, Muturi and Onchong (2016) investigated the impact of debt financing on financial performance of the firm over the short-term and long-term. The study make used sample size of 60 firms with debt in their capital structure in Nairobi Security exchange. Three independent variables were examined; they include Short term debt ratio (STDR) and long debt term ratio (LTDR) in determining financial performance of the firms in form of return of assets (ROA), liquidity ratio and profit margin ratio as dependent. This study utilized secondary data from audited financial report of these firms between periods of 2009-2012. The study revealed that short-term debt has negative and significant impact on the firm's performance. It also documented in the study that long-term debt ratio has positive and insignificant impact on the firms performance.

Rajin (2012) studies the influence of financial leverage on shareholders return and market capitalization based on evidence from telecommunication sector companies in India. His findings show the existence of a positive relationship between financial leverage and shareholders return.

Ebaid (2009) carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. Performance was measured using ROE, ROA, and gross profit margin. Capital structure was measured by short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression analysis was applied to estimate the relationship between the leverage level and performance. The study indicated that capital structure has little to no impact on a firm's performance.

Amidu (2007) conducted a study to investigate the dynamics involved the impact of short and long

term financing on the performance of the Ghana banks. The dependent variables used in the worked are the leverage (LEV) is total debts divided by total capital; short-term debt ratio (SHORT) is total short-term debt to capital while long-term debt ratio (LONG) is the total long-term debt divided by total capital. The study make used return on asset as dependent variable. The study found a negative relationship between profitability and leverage (short and long-term debt). The study therefore recommends that firms should use less debt financing in their capital structure.

Embiale Bitew (2015), investigated the long-run and short-run impact of credit financing on manufacturing sector performance using Johansson method of co-integration approach and Vector Autoregressive Model (VARM) based on annual data for the period 1974-2014. The study found existence of significant positive impact and insignificant negative impact of trade credit

based on the advantages and reliability of results associated with it. Kerlinger (1986) justifies that an expo facto design is of empirical nature because of the nature of data collected. An empirical

### **Population and Sample Size of the Study**

The population of this study consists of all listed deposit money banks in Nigeria that enjoyed first-tier listing on the Nigerian Stock Exchange (NSE) market as at 31<sup>st</sup> December, 2015. However, as 31<sup>st</sup> December 2015, a total number of 14 banks are listed on the Nigeria stock exchange market and this would form population for this study. The use of listed banks is due to the availability of the financial statement and reliability of data. The non-listed banking firms are excluded because of poor regulatory oversight as well as data reliability, availability and measurement issues. Thus, the sample of the study comprises of all 11 deposit money banks which were granted international license by Central Bank of Nigeria in 2011. These banks include; Access Bank, Diamond Bank, Fidelity Bank, First Bank, First City Monument Bank, Guaranty Trust Bank, Skye Bank, Zenith

financing on manufacturing sector growth in the long and short-run respectively.

From the literature reviewed it was found that there are limited studies on the effect of capital structure on firm value and most of these studies used static model in their studies. Against this backdrop the current extend the frontiers of knowledge the use of static model and introduce dynamic model to examine the effect of capital structure on firm value so as to contribute immensely to the existing literature.

### **Methodology**

#### **Research Design**

The study employed ex-post facto research design. According to Akuezuilo (1993), Ex-post factor seeks to find out the factors that are associated with certain occurrence, outcomes, conditions or types of behavior by analyzing of past event or already existing condition in other to predict future outcome. The choice of this research approach is research method bridges the gap between the theoretical foundations of models and its practical application

Bank, ecobank, union bank and Union Bank for Africa (Gabriel, 2011). However, this sample size it deems to be appropriate for this study as it represent 79% of the total population.

#### **Source of Data and Method of Analysis**

The study adopts secondary sourced data which were extracted from the audited financial reports of the banks within the period of the study. The study used panel data, which are combination of time series and cross sectional data. Panel data provide opportunity to have access to larger number of observations or large data points. This of course increases the degree of freedom (d.f) and at the same time decreases the possibility of multicollinearity among the included variables than cross-sectional or time-series data (Wooldridge, 2010). Panel data regression analysis and panel vector autoregressive analysis were used in the study under the static and dynamic model via STATA statistical Package software version 13.

**Method of Data Analysis.**

For the purpose of this study, panel regression technique was used. This is for the reason that the study determines the effect of capital structure represented by (long-term debt to total asset ratio, total debt to equity ratio and total debt to total asset ratio) which is the independent variable on the firm’s value proxy by earning per share of the listed deposit money bank in Nigeria. The panel regression and all other descriptive analysis and diagnostic test would be conducted using STATA 14.0

**Model specification**

For analysis of sample data, regression model would be used as Mitani (2014) used for their studies. For all of four measurements of dependent variable, multiple regression models are as follows: Thus, the general model for this study as is mostly found in the extant literature is represented by

$$Y = \beta_0 + \beta_1 D1 + \dots + e_{it} \dots\dots\dots(1)$$

Where; Y is the dependent variable  
 D1 is the explanatory variable  
 $\beta_1$  is the coefficients of the explanatory variables.  
 e<sub>it</sub> is the error term.

The above model would be adopted for this study. However, in order to suit the best purpose of this study, the model was modified as follows; variables are presented in Table 3.1 below.

**Table 3.1: Measurement of Variables**

No.	Variables	Types of Variable	Measurement	Authors
1.	Earning per share	Dependent	Net earnings/of outstanding share	Collins, Filibus, and Clement, (2012)
2.	Long-term debt ratio	Independent	Short-term Debt Divided by Total Asset	Al-Taani (2013), Joliet and Muller (2013)
3.	Equity Financing	Independent	Equity divided by total asset	Abbadi and Abu-rub, 2012,
4.	Total debt ratio	Independent	Total debt divided by total asset	Nirajini and Priya (2013)

Source: Author compilation, (2017).

**Estimation Procedure**

To improve the reliability and validity of the statistical inferences of the result, the following robustness test would be carried out.

$$EPS_{it} = \beta_0 + \beta_1 LDTA_{it} + \beta_3 TDEQ_{it} + \beta_4 TDTA_{it} + e_{it} \dots\dots\dots (2)$$

Where;  
 EPS = Earning Per Share of the bank as dependent variable  
 LDTA = long-term debt to total asset ratio, independent variable, measurement of capital structure  
 TDTA = total debt over assets ratio, independent variable, measurement of capital structure  
 TDEQ = total debt to equity ratio, independent variable, measurement of capital structure  
 $\beta_0$  = constant coefficient (intercept)  
 $\beta_1$ - $\beta_3$  = slope coefficient of independent variables  
 i = number of firms (11 in our case)  
 t = time period (5 years in our case)  
 $\mathcal{E}$  = error term

The co-efficient of the explanatory and controllable variables ( $\beta_1$  .....,  $\beta_3$ ) can be estimated by the use of OLS technique. Panel data methodology is adopted in this study. This combines simultaneously cross – section and time series data.

**Measurement of Variables**

The measurement of both independent and dependent

Multicollinearity test would be carried out to check whether there is a high correlation among the independent variables which may mislead the result of the study. Variance Inflation Factors (VIF)

and Tolerance Values (TV) would be used to test . Heteroscedasticity test would be carried out to check if the variability of error terms is constant or not. The presence of heteroscedasticity signifies that the variation of the residuals or error term is not constant which could affect the inferences in respect of beta coefficient, coefficient of determination ( $R^2$ ) and F-statistic of the study. The study would make use of multiple regression techniques to examine the impact of independent variables on the dependent variable. The study would estimate the fixed effects and random effects via Generalized Least Square technique

whether multicollinearity exists in the variables (GLS). Hausman-Talory test would be used to determine the model that will be applicable for the study.

### Data Presentation and Analysis

#### Descriptive Statistic

Descriptive statistics in this study considers important elements such as the mean and standard deviation for the variables used in the study where the interaction of data are described as given thus

**Table 4.1 Summary of Descriptive Statistics**

Variable	Mean	Std. Dev.	Min	Max
eps	1.123167	1.886717	0	12.66
tdta	85.39302	4.379573	74.6005	93.0546
ldta	6.474968	3.70282	.621203	17.7772
tdtq	6.279267	2.762584	-5.2198	13.3978

Source: Researchers Computation, (2017).

The table 4.1 presents the summary of the descriptive statistics for the parameters used specifically earning per Share (dependent variable), while ratio of total debt to total asset, total debt to equity and long-term debt to total asset (independent variables). As can be inferred from the outcome of the result, EPS had an average of 1.123167 ranging between a minimum of 0 to a maximum of 12.66 with associated dispersion value of 1.886717 which implies that EPS across the industry is significantly dispersed.

Furthermore, the ratio of total debt to total asset (TDTA) on the other hand averaged 85.39302 ranging between a minimum of 74.6005 to maximum of 93.0546 with standard deviation of 4.379573 suggesting that TDTA is significantly dispersed across the firms of the industry. The high value of the means suggested that the selected banks used more debt than equity in their capital structure and that dispersion either

maximum or minimum of 4.379573 shows that there is highly level of variation in the used of the debt financing across the unit.

Also the result in the table 4.1 revealed that long-term debt to total asset measured as the proportion of the company's long-term debt to the gross asset revealed an average of 6.474968 for the period, ranging between 0.621203 to 17.7771 as minimum and maximum with standard deviation of 3.70282 suggesting that LDTA varies mildly across the cross sectional unit. Finally, Total debt to equity ratio which measures the proportion of total debt cover by the company's equity showed an average value of 6.279267 ranging between a minimum of -5.2198 to a maximum of 13.3978 with a standard deviation of 2.762584 suggesting that TDTE is highly varied from one cross sectional unit to the next.

#### Robustness Test

This section present the result of the robustness test conducted majorly centering on variance inflation factor (VIF) and tolerance statistics to check multi collinearity in the data used as given thus.

### Correlation Matrix

Table 4.2 shows the correlation values between the dependent and independent variables. Correlation matrix depicts the level of association between and among all pairs of variables given the level of significance. However, the study would also make used the result of the correlation to test for the pre-multicolliearity. The result of correlation matrix are presented in the table 4.2

**Table 4.2 Correlation Matrix**

e(V)	rtdta	rltdta	rqta	_cons
tdta	.00519314			
ldta	-.00172018	.00266078		
tdeq	-.00683131	.00257196	.01274273	
_cons	-.38942444	.11351329	.48667769	29.49096

Source: Researcher computation, Stata Output (2017).

From the Table 4.2, it is evident that the correlation coefficients between the independent variables are very low. According to Gujarati and Porter (2009), a correlation coefficient between two independent variables above 0.8 is considered excessive and may indicate the presence of multicolliearity among the variables. However the correlation coefficient is generally less than an average value of 70%. The result of correlation coefficients matrix above indicates that there is no existence of multicolliearity between the research explanatory variables, where the maximum correlation coefficient of 0.4866 or

48.67% is found via a correlation between earning per share and ratio of total debt to total asset, the researcher considers this percent within the acceptable limits. This implied that there is absence of multicolliearity among the variables under study. Hence, the null hypothesis of no multicolliearity could not be rejected. Further test will also be carried out to affirm and be sure that there is absence of multicolliearity among the explanatory variables. Variance inflation factors (VIF) will be used to carry out the test as suggested by Mayer (1990).

### Multicolliearity Test

**Table 4.3 Variance Inflation Factor Test**

Variable	VIF	1/VIF
tdta	3.52	0.284318
tdeq	3.43	0.291209
ldta	1.29	0.776291

Mean VIF | 2.75

Source: Researchers Computation, 2017.

Multicolliearity is a situation in which two or more regressor variables in regression are highly correlated, meaning that one can linearly predicted from the others with a certain degree of

accuracy. According to Mayer 1990, when VIF value is more than 10 then there is a strong indication of presence of multicolliearity. The result of VIF reveals a value less than 10 and this



signified that absence of multicollinearity among the explanatory variables. The study can rely on

regression coefficient to predict the level of impact of independent variables on dependent variable.

### Heteroskedasticity Test

Breusch-Pagan

/

Cook-Weisberg

test

for

heteroskedasticity

Ho: Constant variance  
 Variables: fitted values of eps  
 chi2(1) = 0.13  
 Prob > chi2 = 0.7154

**Source: Researcher Computation, Stata Output (2017)**

The heteroskedasticity test is conducted to check the validity of homoscedasticity (i.e random variables) assumption of the regression model. The absence of homoscedasticity violates the assumption and may lead to wrong inference. The result above reveals absence of heteroscedacity given the probability value 0.7154 which is greater than 5% conventional level. This implies that errors varies across the residuals are homogeneously distributed. This indicates presence of homoscedacity which is desirable for panel data analysis and the value of the study standard error are not overstated or understated.

### Hausman Test of Random Effect

Test: Ho: difference in coefficients not systematic  

$$\text{chi2}(3) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 7.68$$
 Prob>chi2 = 0.0531

**Source: Researchers Computation, 2017**

In other to choose the best model between the fixed effect and random effect estimate, hausman specification test was carried out. However, the null hypothesis is that random effect estimate is appropriate while alternate hypothesis is that fixed effect estimate is appropriate. The result of Housman test shows that the probability value of 0.0531 with the chi-square value of 7.68 is greater than 5% significance level. This implies that the

study cannot reject the null hypothesis which stated that random effect estimate is appropriate. Hence random effect result would be used for study and the details of fixed effect estimate will be presented in the appendix. However, this study further run Breusch and Pagan Lagrangian multiplier test for random effects to choose between the random effect estimate and pool regression estimate below;

### Breusch and Pagan Lagrangian multiplier test for random effects

Breusch and Pagan Lagrangian multiplier test for random effects

	Var	sd = sqrt(Var)
eps	3.559702	1.886717
e	.8612893	.9280567
u	.6544723	.8089946
chibar2(01) =		10.85
Prob > chibar2 =		0.0005

**Source: Researcher Computation, 2017.**

The study further carry out langranger multiplier test for random effect to decide between random effect and pooled ordinary least square estimate. The null hypothesis is that pool effect estimate is appropriate while the alternate hypothesis is that random effect estimate is appropriate. The result

reveals that random effect estimate is appropriate given the probability value of 0.0005 less than 5% significance level. However, the study would proceed to interpret the random effect result for the test of hypotheses.

### Summary of Random Effect Estimate

Random-effects GLS regression						Number of obs	=	55
Group variable: id						Number of groups	=	11
R-sq: within	=	0.7115				Obs per group: min	=	5
between	=	0.2720				avg	=	5.0
overall	=	0.5599				max	=	5
corr(u_i, X) = 0 (assumed)						Wald chi2(3)	=	102.64
						Prob > chi2	=	0.0000
-----								
eps		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]		
-----								
tdta		.4046509	.0630776	6.42	0.000	.2810211	.5282806	
ldta		-.0292969	.0526196	-0.56	0.578	-.1324295	.0738357	
tdeq		-.8772248	.0961703	-9.12	0.000	-1.065715	-.6887345	
_cons		-27.73317	4.798781	-5.78	0.000	-37.1386	-18.32773	
-----								

Source: Researcher Computation, 2017.

The results of the Random effect model shown in table 5 indicate that the overall coefficient of determination R<sup>2</sup> is 0.5599 or 55.99%. This implies the predictor variables explained 55.99% of the variations in the outcome variable. This is an indication that there is a strong relationship between the outcome variable, firm's value as measured by the earning per share, and predictor variables in the selected banks in Nigeria. The results further show that Wald chi2 of 102.64 and p-value of 0.0000 which is less than 5% significance level. This indicates that the

overall model is statistically significant and it's fit for the study. It further implies that explanatory variables have significant impact on outcome variable.

### Test of Hypotheses

This section presents the univariate analysis undertaken in order subject the conjectural statements to test for validity. The regression results used for the test of hypotheses of this study is presented below;

Table 4.6: Test of Hypotheses

EPS	Coefficient	Hypotheses	P-value	Decision on Null hypotheses
TDTA	0.404659	I	0.000	Fail to Accept
LDTA	-0.029296	II	0.578	Accept
TDEQ	-0.877225	III	0.000	Fail to Accept

Source: Researchers Computation, (2017).

### Summary of Findings

Total debt to total asset ratio as one of the explanatory variable of capital structure showed a positive and statistically significant relation with the firm's value given the p-value put at 0.000. This implies that TDTA has a significant impact on the financial performance of the listed deposit money banks in Nigeria. However, based on this finding the study fail to accept the null hypothesis that Total debt to total assets ratio has no significant impact on the firm's value of listed deposit money banks in Nigeria. This implies that TDTA is one of the significant determinants of firm's value of listed deposit money banks in Nigeria.

The result presented in table 4.6 shows that ratio of long-term debt to total asset as a proxy for capital structure has a negatively and insignificantly influence firms value proxy by earning per share of the listed deposit money bank in Nigeria at 5% level of significance as revealed by the computed p-value of 0.578 which provides a forum for accepted the null hypothesis which states that long-term debt to total asset ratio has no significant impact on the firm's value of listed deposit money bank in Nigeria. This shows that the proportion of long-term financing the capital structure of listed deposit money banks has no significant influence on the firm's value.

From the table 4.6 total debt to total asset ratio as a capital structure proxy have a negative and significantly influence firm's value as evidenced by a low p-value of 0.000 less than 5% significant level. Therefore, the third null hypothesis which states thus; total debt to equity ratio has no significant impact on the firms value of listed deposit money banks in Nigeria was reject for this study. This implies that ratio of total debt to equity is one of the significant determinant of firm's value of listed deposit money banks in Nigeria.

### **Discussion of Findings**

#### **Total Debt to Total Asset Ratio and Firm's Value**

The result from the table 5 shows that the coefficient of total debt to total asset ratio (TDTA) of 0.4046509 with the corresponding p-value of

0.000 is significant at 5% significance level. This finding implies that a unit percent rise in the value of asset of the listed deposit money banks in Nigeria will bring about 40.47% rise in the firm's value proxy by earning per share. This findings implies that as banks employed more debt into his capital structure, the value of the firms will increase by about 40.47% over times. This findings in the support of the pecking order theory of capital structure which suggested that the cheapest means of financing is through borrowing following by the internal source. The findings was not in line with the work of Ibrahim and Tikeliamie 2016, whose found that TDTA has no significant impact on organization performance in Pakistan. Also in the line with the findings of Saeed et al (2013) and akinyemi (2013) who's found that ratio of total debt to total asset have a positive and significant impact on the financial performance.

#### **Long-term Debt to Total Asset Ratio and Firm's Value**

The result from the table 6 also shows that long-term debt to total asset ratio has insignificant and negative impact on the firm's value of listed deposit money banks in Nigeria given the P-value of 0.578 greater than 5% conventional level. This signified that unit percent rise in LDTA will bring about 2.92% decrease in the firms value of listed deposit money banks in Nigeria. This findings may be attributed to inability of some banks to take tax advantage of debt financing as well as cost that associated with long-term debt such as interest paid on debt, economic factors, repayment plan among others. The finding is in conformity to the work of Khalaf (2013) whose document that long-term debt has negative and insignificant relationship with the value of firms.

#### **Ratio to Total Debt to Total Equity and Firm's Value**

Furthermore, the result also shows that total debt to total equity ratio has significant and negative impact on the firm's value proxy by earning per share of the listed deposit money banks in Nigeria. This is indicated from the coefficient of -0.8772248 and p-value of 0.000. However, this findings implies that a unit percent increase in TDEQ will

bring about 87.77% decrease in the firm's value of listed deposit money banks in Nigeria. This findings further support capital structure theory that degree of financial leverage in the financial structure of a firms affect it performance. The result was contrary with the findings of Hammed (2015); Osuji and Odita (2012) who's found positive and significant of leverage on organization performance in Ghana. But in line with the findings of Taiwo (2012) who's found negative relationship between total debts to equity ratio in Nigeria.

### Summary

In summary, the study reveals that capital structure variable proxy by ratio of total debt to asset has significant and positive impact on the firm's value of the listed deposit money bank in Nigeria. The findings also show that capital structure variables proxy by ratio of long-term debt to total has a negative but insignificant impact on the firm's value of listed deposit money bank in Nigeria. This signify that long-debt as source of banks financing is not the major determinant of the value of the bank in Nigeria.

Furthermore, the study also find that capital structure variable proxy by ratio of total debt to equity has negative and significant impact of the value of listed deposit money banks in Nigeria given the p-value less that 5% level of significance. The findings of this study are in conformity with some previous findings by difference scholars. The findings also this study also confirm capital structure relevant theories (traditional approach). The study confirms that the traditional capital structure theory is valid. It reaffirms that leverage in both the highly and lowly geared firms is statistically significant and is an important determinants of the value of the listed deposit money banks in Nigeria.

### Conclusions

Traditional capital structure theory provides models that can assess the effects of capital structure on firm's value. This study has examines the effectiveness of capital structure variables on the value of listed deposit money banks in Nigeria. However, the study found that capital structure

variables proxy by ratio of total debt to total asset (TDTA) have a statistically positive and significantly impact on the value of listed deposit money in Nigeria. However, based on this findings it's therefore, concludes that bank total debt contribute significantly positive toward the performance of the listed deposit money banks in Nigeria.

Furthermore, the study also found that capital structure variables proxy by total debt to equity ratio has a significant negative impact on the value of deposit money banks in Nigeria. Based on these findings it's therefore, infer that the proper mixture of debt and equity in the firm's capital structure has significant positive impact on the performance.

Finally, the findings of this study shows that long-term debt to total asset ratio has negative and insignificantly impact on the value of deposit money banks in Nigeria. Based on this findings, its therefore concludes that irrespective of external financing means (long-term) it will have significant negative impact on the value of listed deposit money banks in Nigeria. it can therefore infer from the three findings that capital structure impact the firms value of listed deposit money banks in Nigeria.

### Recommendations

The study examined impact of capital structure on the firm's value of listed deposit money banks in Nigeria. In line with our finding, we strongly recommend that firms (both highly and lowly geared) should take into cognizance the amount of leverage incurred because it is a major determinant of firm's value, this is obvious in both the highly geared and lowly geared firms.

Also, firms should use more of equity than long-term debt in financing their business activities, in as much as the value of a business can be enhanced using debt capital, it gets to a point that it becomes detrimental to the value of the business, hence firms should establish the point at which the weighted average cost of capital is minimal and maintain that gearing ratio so that the company's value will not be eroded, as the firm's

capital structure is optimal at this point ceteris paribus. This is because the highly geared firms are more prone to lower firm performance as a result of an additional leverage incurred.

Firms can also employ the use of cheap finance sources instead of expensive fixed interest bearing debts. In addition, the government should create an enabling business friendly environment so that businesses can thrive and thus increase firm's performance level. This is evident in the fact that macroeconomic variables positively affect the performances of most firms in Nigeria.

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