

Prime Equity, Leveraged Structure and Corporate Earnings in Nigeria: A Comparative Analysis

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Abstract

This study examined prime equity, leveraged structure and corporate earnings in Nigeria. The objective was to examine if equity value and debt equity ratio have relationship with earnings per share of quoted deposit money banks. Earnings per share were modeled as the function of equity value and debt equity ratio. After cross examination of the validity of the pooled effect, fixed effect and the random effect, the study accepts the fixed effect model. The study found that 74.2% and 66.7% variation on earnings per share can be traced to equity value. The β coefficient indicates that of equity value has positive impact on earnings per share, while Debt equity ratio on of deposit money banks can explain 68.9% and 59.9% variation. The β coefficient proves that debt equity ratio have positive impact on earnings per share of the quoted deposit money banks. From the above results we conclude that equity value have greater impact on earnings per share than debt equity ratio. We recommend that management should ensure optimal capital structure of the quoted deposit money banks.

Keywords: Corporate Earnings, Debt Equity Ratio, Leveraged Structure.

1. Introduction

The agency theory formulated by Jensen and Meckling in 1973 separate the owners of the firm from the management. The management entrust the operation of the firm with the objective of optimizing the interest of the owners without conflict of interest. Maximizing the interest of the shareholders is a critical management function that requires strategic and tactical planning such as optimal capital mix. Corporate organizations have financial goals and strategy which is the expression of a corporate mission and strategy that are determine by the long-term planning system as a trade-off among conflicting and competing interest. Corporate objective relates to four corporate fundamental goals of maximizing corporate profitability, maximizing Returns on Investment, maximizing corporate growth and availability of fund (Pandey, 2005).

Corporate Earnings are the net benefits of a corporation's operation. It is the amount on which corporate tax is due. For an analysis of specific aspects of corporate operations several more specific terms are used as EBIT earnings before interest and taxes, EBITDA earnings before interest, taxes, depreciation, and amortization. Earnings typically refer to after-tax net income. Earnings are the main determinant of share price, because

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earnings and the circumstances relating to them can indicate whether the business corporate firms are profitable and successful in the long run. Earnings are perhaps the single most studied number in a company's financial statements, because they show a company's profitability compared to analyst estimates and company guidance. Corporate earnings are studied because they represent a direct link to company performance. Earnings per share are a commonly cited ratio used to show the company's profitability on a per-share basis. It is also commonly used in relative valuation measures such as the price-to-earnings ratio. The price-to-earnings ratio, calculated as price divided by earnings per share, is primarily used to find relative values for the earnings of companies in the same industry. A company with a high price compared to the earnings it makes is considered overvalued. However, a company with a low price compared to the earnings it makes is undervalued.

Corporate earnings is mainly determine by management factors such as debt equity ratio, the market value of equity, profitability, composition of assets, investment and dividend policies (Anyamobi and Lucky, 2017). Debt and equity are the two major classes of liabilities, with debt holders and equity holders representing the two types of investors in the firm. Each of these is associated with different levels of risk, benefits, and control. While debt holders exert lower control, they earn a fixed rate of return and are protected by contractual obligations with respect to their investment. Equity holders are the residual claimants, bearing most of the risk, and, correspondingly, have greater control over decisions. The classical opinion such as Gordons (1959) opined that micro forces such as profitability level of a firm are an indicator that the firm is capable of adding value shareholders (Lintner, 1956). The classical models of financial evaluation indicate that capital structure like the dividend policy is important, since optimal capital mix effect the value of the corporate firm. It is used as financial signaling to outsiders regarding the stability and growth prospects of the firm (Ross, 1977). Capital structure is the mix of the sources of finances that is used by the firms to finance their operations and assets (Modigliani & Miller, 1958). The debt-to-equity ratio of a firm determines how cash flows will be shared between debt holders and equity holders the justification of financial leverage existence is project earnings achievement before interest and taxes higher than the cost of funding and the increase or decrease in operating profits financing cost will lead to an increase or decrease in return on equity. Corporate firms can reduce leverage level in order to reduce the risk level or because of unwillingness in adopting compressed financial policy in order commit toward debt holder (Jensen, 1986). While there are many studies that have dealt with the problem of capital structure and corporate performance (Akani and Lucky, 2016, Ujah and Brusa, 2013, Innocent et al, 2014, David and Olorunfemi, 2010), there are limited studies of citable significant that include prime equity and corporate earnings in deposit money banks in Nigeria, therefore this study intend to examine prime equity, leverage structure and corporate earnings with focus on quoted deposit money banks in Nigeria. Apart from section one above, section two focuses on both theoretical and empirical review of related literature, section three deals with the research methodology. Section four deals with the data analysis and presentation and the fifth section contain the conclusion and recommendations from the findings.

2. Literature Review

2.1 Financial Leverage

Financial leverage is a measure of how much firm uses equity and debt to finance its assets. As debt increases, financial leverage increases. Management tends to prefer equity financing over debt since it carries less risk (Matt, 2000). Financial leverage takes the form of a loan or other borrowing (debt), the proceeds of which are re-invested with the intent to earn a greater rate of return than cost of interest. An unlevered firm is an all-equity firm, whereas a levered firm is made up of ownership equity and debt (Andy, Chuck & Alison, 2002). Leverage allows a greater potential returns to the investor than otherwise would have been available, but the potential loss

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is also greater if the investment becomes worthless, the loan principal and all accrued interest on the loan still need to be repaid (Andy et. al., 2002)

Pandey (2010) assert that the financial leverage employed by a company is intended to earn more return on the fixed-charge funds than their costs. The surplus (or deficit) will increase (or decrease) the return on the owners' equity. The rate of return on the owners' equity is levered above or below the rate of return on total assets. Thus, financial leverage is considered as a double-edged sword because it provides the potentials of increasing the shareholders' earnings as well as creating the risks of loss to them

2.1.1 Measures of Financial Leverage

▪ Total Debt Ratio

Total debt ratio measures the amount of a firm's total assets that is financed with external debt. This measure encompasses all short term liabilities and long-term liabilities. Nwude (2003) contend that this measures portion of the firm's assets that is financed by creditors. As the total debt ratio increase, so do a firm's fixed-interest charges, if the total debt ratio becomes too high, the cash flow the firm generates during economic recessions may not be sufficient to meet interest payments. In terms of its significance to a firm, theoretical literatures predict that debt is positively correlated with level of investment. For example, long and Malitz (1985) found a significant positive relationship between the rate of investment in fixed plant and equipment and level of borrowing. The total debt ratio is measured by dividing total debt with the total assets of the firm.

$$\text{Total Debt ratio} = \frac{\text{Total Assets}}{\text{Total Debt}}$$

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▪ Debt Equity Ratio

Debt equity ratio is similar to the debt ratio and relates the amount of a firm's debt financing to the amount of equity financing. Actually, this measure of leverage ratio is not actually a new measure; it is simply the debt ratio in a different format. Debt equity ratio is the quantitative measures of the proportion of the total debt to residual owners' equity (Nwude, 2003). Thus, it is an indicator of company's financial structure and whether the company is more reliant on borrowing (debt) or shareholders capital (equity) to fund assets and activities.

$$\text{Debt equity ratio} = \frac{\text{Shareholders Funds}}{\text{Total Debt}}$$

2

▪ Equity Financing

Equity investment simply means shareholders' fund or sweat money (Dagogo and Ollor, 2009). Two strands of equity investment exist: public and private equity investments. Public equity investment involves raising share capital directly from the public through the stock exchange, while private equity involves investment in a private company by a few investors or institutional investors. It has been proved severally that the value of a firm increases more with increasing leverage, Durand (1959) and Ezra (1963). Perhaps, this explains why there is still strong emphasis on the use of debt despite the overwhelming contribution of Franco Modigliani and Merton Miller (MM) in 1958 on the irrelevance of capital structure. However, MM position in a world of taxes (which is a more realistic assumption) implies that the expected return on equity increases as the debt-equity ratio increases. Therefore shareholders cannot be indifferent to increased leverage when it increases expected return, Brealey and Myers (1996).

2.2 Theoretical Framework

▪ The Modigliani-Miller: Irrelevant and Relevant Theory

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Modigliani and Miller (MM) 1958 illustrates that under certain key assumptions, firm's value is unaffected by its capital structure. Capital market is assumed to be perfect in Modigliani and Miller's world, where insiders and outsiders have free access to information; no transaction cost, bankruptcy cost and no taxation exist; equity and debt choice become irrelevant and internal and external funds can be perfectly substituted. The M-M theory (1958) argues that the value of a firm should not depend on its capital structure. The theory argued further that a firm should have the same market value and the same Weighted Average Cost of Capital (WACC) at all capital structure levels because the value of a company should depend on the return and risks of its operation and not on the way it finances those operations. Miller brought forward the next version of irrelevance theory of capital structure. He appealed that, capital structure decisions of firms with both corporate and personal taxes circumstances are irrelevant (Miller 1977).

They first hypothesized that if markets are perfectly competitive, firm performance will not be related to capital structure, there by suggesting no significant relationship between a firm's capital structure and its performance. The value of the firm is similarly unaffected by its financial structure. Their assumptions of a perfectly competitive market exclude the impacts tax, inflation and transaction costs associated with raising money or going bankrupt. In addition they also assume that disclosure of all information is credible, thus there is no information asymmetry (Hamada, 1969 and Hatfield et.al, 1994).

▪ **Static Trade-Off Theory**

Kraus and Litzenberger (1973) opined that the static trade-off theory assumes that firm's trade-off the benefits and costs of debt and equity financing and find an optimal capital structure after accounting for market imperfections such as taxes, bankruptcy costs and agency costs. The theory states that there is a benefit to financing with debt, specifically the tax benefit. However there is also a cost of financing with debt, namely the indirect bankruptcy costs and the more direct financial distress costs of debt. This is thus the trade-off that all firms, whom are maximizing value, should focus on when choosing the amount of debt and equity needed to finance their operations. Needless to say, there is a maximum point where the marginal benefit of further increases in debt declines as debt increases, whereas the marginal cost increases.

▪ **Pecking Order Theory**

The pecking order theory of capital structure as introduced by Donaldson (1961) is among the most influential theories of corporate leverage. It goes contrary to the idea of firms having a unique combination of debt and equity finance, which minimize their cost of capital. The theory suggests that when a firm is looking for ways to finance its long-term investments, it has a well-defined order of preference with respect to the sources of finance it uses. It states that a firm's first preference should be the utilization of internal funds (retain earnings), followed by debt and then external equity. He argues that the more profitable the firms become, the lesser they borrow because they would have sufficient internal finance to undertake their investment projects. He further argues that it is when the internal finance is inadequate that a firm should source for external finance and most preferably bank borrowings or corporate bonds. And after exhausting both internal and bank borrowing and corporate bonds, the final and least preferred source of finance is to issue new equity capital.

▪ **Agency Theory and Capital Structure Choice**

Most of the hypotheses formulated in the following are based on the economic principal-agent theory, where a positive effect stems from the amelioration of the shareholder-management conflict, by disciplining the management. Analogously, an aggravation of the conflict results in a negative effect. The principal-agent theory is part of the new institutional economics, which developed as extension of the neoclassicism. It abandons the assumption of a complete market by allowing informational asymmetries and transaction costs to cause

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incomplete contracts. This leads to a methodological individualism, which does no longer consider institutions as profit maximizing collectives, but as a “nexus for a complex set of explicit and implicit contracts of individuals. Consequently, the economic focus on markets is shifted to man-made institutions, incorporating the individual into economic theory. The agency theory in particular analyzes the contractual conflicts arising from informational asymmetry. An agency relation is based on an explicit or implicit contract between the agent and the principal delegating decision power to the agent. Due to the contract, the agent’s actions influence the utility of both contractual partners. However, the agent behaves opportunistically maximizing his profit regardless of the principal’s interests. In the case of incomplete informational structures for the benefit of the agent, the principal cannot prevent those harming actions. Consequently, an agency conflict requires two conditions, a conflict of interest through diverging utility functions of the principal and the agent as well as the existence of informational asymmetries.

▪ Empirical Review

Anyamaobi and Lucky (2017) examined corporate characteristics and value creation of quoted manufacturing firms in Nigeria. The objective was to examine if factors within the control of management affects corporate value. Cross sectional data was sourced from financial statement of twenty quoted manufacturing firms. Market value was proxy for dependent variable while asset tangibility, return on investment, risk, liquidity, firm size, debt equity ratio, dividend payout ratio, retention ratio, corporate governance, management efficiency and cost of capital was proxy for independent variables. After cross examination of the validity of the pooled effect, fixed effect and the random effect, the study accepts the fixed effect model. Findings reveal that assets tangibility, return on investment, debt equity ratio, retention ratio, management efficiency and cost of capital have positive effect on the market value of the quoted manufacturing firms while risk, liquidity, firm size and corporate governance have negative effect on the market value.

Akani and Lucky (2016) examined the effects of capital structure on shareholders’ value of quoted Nigerian commercial banks from 1981 – 2014. The model built for the study proxy Return on Investment (ROI), Equity Price (EQP) and Earnings per Share (EPS) as dependent variables measuring shareholder’s value as the function of percentage in Debt Capital to Total Capital (DC/TC), percentage of Equity Capital to Total Capital (EQC/TC), percentage of Preference Share Capital to Total Capital (PSC/TC as independent variables). The Econometrics Techniques of Ordinary Least Square (OLS), Augmented Dickey Fuller (ADF), Unit Root Test, Johansen co-integration test and pair wise Granger Causality test were employed in the empirical analysis. R^2 , Regression coefficient, probability value, t-statistics and f-statistics were used to determine the extent to which the independent variables can affect the dependent variable. The co-integration result shows that long run equilibrium exists among the variables except preference share capital. In model I, the study found that all the independent variables have positive relationship with the Return on Investment. Model II found that equity capital and preference share capital have positive effects but insignificant relationship with Return on Investment while short term borrowings and preference share capital have positive relationship and debt capital have negative relationship with Equity Price of quoted commercial banks. Model III found that Equity Capital has positive relationship while debt and preference share capital have negative relationship with Earnings per Share. From the regression summary, Model I can explain 79% variation on Return on Investment, Model II explains 48% variation on Equity Prices while Model III explains only 11% variation on Earnings per Share. From the above, the study concludes that capital structure has more effect on Return on Investment and Equity prices than Earnings per Share.

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Al – shimmiri, (2003) showed a relationship between firms' performance and datedness level, as well as a direct relationship between internal investor ownership and financing decisions for these industries, furthermore financing decision has a close correlation with firms size and profitability. Kareem (2006) The study revealed a significant relationship between weighted average capital cost and stocks market returns, where external (debt) financing has more affection stocks market return compared to internal (owned) financing. Salah, (2007) study revealed that ranking companies according to their assets growth rate in the previous year was not superior to ranking them according to profit / price percentage and distribution to price ratio. In general the study revealed that distribution to price ratio was superior to the other strategies. Abdel Ghani, (2008) study attempted to find out the effect of financing decision on institutions' financial performance and tax and financing cost effects. The study showed that positive financial performance is contingent on the institution ability in forming the optimal mix of financial structure.

Tian and Zeitun (2007) investigated the effect of capital structure on corporate performance of corporations in Jordan using a panel data approach of 167 companies for a period of 15 years from 1989 to 2003. The study used ROA, ROE, EBIT and tax plus depreciation to total assets (PROF) as proxies for accounting performance measurements and Tobin's Q, market value of equity to book value of equity (MBVR), price/earnings (P/E) ratio and market value of equity plus book value of liabilities divided by book value of equity (MBVE) as market performance measures. The results show that a firm's capital structure has significant negative effect on the firms' performance using both the accounting and market measurements. 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 secondary panel data contained in the annual reports and financial statements of the sampled listed firms, and employs panel data models (random effects) and feasible generalized least square (FGLS). The results show that financial leverage is statistically negatively related to performance measured by return on assets and return on equity.

Maina and Kondongo (2013) in an attempt to validate Modigliani and Miller (1963) theory in Kenya, examined the effects of debt-equity ratio on performance of firms listed at the Nairobi Securities Exchange for the period 2002- 2011. The study finds that firms listed at Nairobi Securities Exchange rely more on short term debt. The result also reveals that significant negative relationship exists between debt-equity ratio and all measures of performance. The result also provides support for MM theory that capital structure is relevant in determining the performance of a firm. Ebaid (2009) carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. ROE, ROA, and gross profit margin were used as proxies for performance while financial leverage was measured using short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression technique was applied to determine the relationship between the leverage and performance. The result reveals that leverage has no impact on a firm's performance.

Maroko (2014) examined the influence of capital structure on organizational financial performance of firms listed in Nairobi Securities Exchange. The study employs secondary data sourced from financial statements of sampled listed firms' which were selected using stratified random sampling technique. Multiple regression technique was used to explain the relationship between financial leverage, cost of equity, debt interest and organization financial performance. The findings showed that positive relationship exist between financial leverage, cost of equity, debt interest and organization financial performance. Gweji and Karanja (2014) investigated the effect of financial leverage on firm performance of deposit taking savings and credit co-operative in Kenya. The study utilized secondary data sourced from financial statements of 40 savings and credit co-operative societies (SCCOS) sampled for the study from 2000 to 2012. Descriptive and analytical

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designs were both adopted. The result show perfect positive correlation between financial leverage surrogated by debt-equity ratio with ROE and profit after tax at 99% confidence interval, and a weak positive correlation between debt-equity ratio with ROA and income growth.

Innocent, Ikechukwu and Nnagbogu (2014) conduct a study on the effect of financial leverage on financial performance: evidence from quoted pharmaceutical companies in Nigeria for the period 2001- 2012. Financial leverage surrogated by debt ratio (DR), debt-equity ratio (DER), and interest coverage ratio (ICR) was used as independent variable while financial performance proxy by ROA was used as dependent variable. The study utilized secondary data sourced from financial statements of 3 pharmaceutical companies quoted on the Nigerian Stock Exchange. Descriptive statistics, Pearson correlation and multiple regressions were employed in order to determine the relationship between financial leverage variables and performance measure variable identified in the study. The results showed that debt ratio and debt-equity ratio have negative relationship with ROA, while interest coverage ratio has a positive relationship with ROA in Nigerian pharmaceutical industry. The study also reveals that on aggregate financial leverage variables have no significant effect on financial performance of sampled companies.

Thaddeus and Chigbu (2012) studied the effect of financial leverage on bank performance using 6 banks from Nigeria. The study utilized secondary data from Nigerian Stock Exchange fact book and the financial statements of the sampled banks. Debt-equity and coverage ratios were taken as proxies for financial leverage and these constitute the independent variables, while earning per share (EPS) representing performance is the dependent variable. Multiple regression technique was used to establish whether relationship exist between financial leverage and performance of sampled banks. The findings show mixed results. While some banks report positive relationship between leverage and performance, others revealed negative relationship between leverage and performance. Laurent (2002) studied the relationship between leverage and corporate performance in France, Germany and Italy. The multiple regression technique was adopted on the study variables (leverage, tangibility, short-term liabilities, inventory and size). The study found mixed evidence depending on the country; while negative relationship was reported in Italy, the relationship between leverage and corporate performance is significantly positive in France and Germany. Laurent (2008) investigates the relationship between leverage and corporate performance of medium-sized firms from seven European countries using a maximum likelihood procedure to estimate a stochastic cost frontier and the parameters of an equation relating cost inefficiency to leverage simultaneously. Findings indicate that relationship between leverage and corporate performance varies across countries which tend to support the influence of institutional factors on this relationship.

Akhtar et al. (2012) examined the relationship between financial leverage and financial performance using the Fuel and Energy Sector of Pakistan. The findings showed a positive relationship between financial leverage and financial performance of the companies thus confirming that the firms having higher profitability may improve their performance by having high levels of financial leverage. In addition, the study provides evidence that the players of the fuel and energy in Pakistan can improve their financial performance by employing the financial leverage and can arrive at a sustainable future growth by making vital decisions about the choice of their optimal capital structure. Akinmulegun (2012) tests the effect of financial leverage on selected indicators of corporate performance Earnings per Share (EPS), Net Assets per Share (NAPS) in Nigeria using the Vector Auto-Regression (VAR) technique. Findings indicated that leverage shocks exert significantly on corporate performance. Also, the measures of corporate performance (EPS, NAPS) depends more on feedback shock and less on leverage shock but the leverage shocks on EPS indirectly affect NAPS of firms as the bulk of the shock on NAPS was received from EPS of the firms. Akande (2013) apply the Ordinary Least Square (OLS)

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regression analysis on panel data collected from financial statements of 10 Nigerian firms over 20 years from 1991- 2010. ROA, ROE, EPS and DPS on one hand and DC (total debts to capital employed) on the other hand, were surrogated for firm's performance and debt financing respectively. The findings show that positive relationships exist between DC and ROE, EPS and DPS, while negative relationship exists between DC and ROA. The study therefore, concluded that financial leverage will considerably impact on firm performance.

Onaolapo and Kajola (2010) investigate the effect of capital structure on financial performance of companies listed on the Nigerian Stock Exchange. This study was performed using 30 non-financial companies in 15 industry sectors in a 7-year period from 2001 to 2007. The results showed that financial leverage (debt ratio) has a significant negative effect on financial performance (ROA and ROE) of sampled firms. Fosu (2013) examined the relationship between capital structure and firm performance using panel data approach comprising 257 South African firms for the period 1998- 2009. The results uncover evidence that provides support for significant positive relationship between financial leverage and firm performance. David and Olorunfemi (2010) study the impact of capital structure on corporate performance of firms in the Nigerian petroleum industry for the period 1999- 2005. The study employed panel data analysis using fixed-effect estimation, random-effect estimation and maximum likelihood estimation. The study found that there is positive relationship between leverage and firm performance surrogated by earning per share and dividend per share.

Chinaemerem and Anthony (2012) carry out a study on the impact of capital structure on financial performance of Nigerian firms using a sample of 30 non-financial quoted companies on the Nigerian Stock Exchange (NSE) for a period of 7 years from 2004- 2010. Panel data for the selected companies were generated and analyzed using ordinary least squares (OLS) method of estimation. The results show that a firm's capital structure surrogated by debt ratio has a significantly negative relationship with the firm's financial performance surrogated by ROA and ROE. This finding provides evidence in support of agency cost theory.

Al-Taani (2013) investigate the relationship between capital structure and firm's performance across 45 Jordanian manufacturing companies listed on Amman Stock Exchange for a period of 5 years from 2005- 2009. The study variables include: return on assets (ROA), profit margin (PM), short term debt to total assets (STDTA), long term debt to total assets (LTDTA) and total debt equity (TDE). ROA and PM constitute the dependent variables and were used as proxies for performance, while STDTA, LTDTA and TDE represent the independent variables and were taken as proxies for capital structure. Two multiple regressions in which ROA was regressed on STDTA, LTDTA and TDE, and PM was also regressed on the same explanatory variables were used. The results show that there is no significant relationship between STDTA and ROA, TDE and ROA, STDTA and PM, LTDTA and PM, and TDE and PM. However, the result also reveals that significant negative relationship exists between LTDTA and ROA. Leon (2013) investigate the impact of capital structure on financial performance of 30 listed manufacturing firms in Sri Lanka for a period of 5 years from 2008- 2012. The study used correlation and regression techniques in the analysis of data using statistical package for social sciences (SPSS). The results show on one hand, that there was a significant negative relationship between leverage and return on equity, and on the other hand, there was no significant relationship between leverage and return on assets.

Rehman (2013) investigate the relationship between financial leverage and financial performance of 35 listed sugar companies in Pakistan for a period of 6 years from 2006- 2011. Correlation technique was used by taking financial leverage proxy by debt-equity ratio as independent variable and financial performance surrogated by EPS, NPM, ROA, ROE and sales growth as dependent variables. The results show that financial leverage has a positive relationship with ROA and sales growth, and negative relationship with EPS, NPM and ROE. Yoon and

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Jang (2005) conduct a study on the relationship between return on equity (ROE), financial leverage and size of 62 restaurant firms in US for the period 1998 to 2003 using ordinary least squares (OLS) regressions. Results show that high leveraged firms were less risky in both market and accounting-based performance measures. The results also found support for positive relationship between financial leverage and both measures of performance. Additionally, the results further indicate that firm size had a more dominant effect on ROE than debt, and regardless of the level of leverage, smaller firms were relatively more risky than larger firms. Ujah and Brusa (2013) examine the effects of financial leverage and cash flow volatility on earnings management using 559 US firms for a period of 20 years from 1990 to 2009. The findings provide evidence that suggest that financial leverage and cash flow has an impact on the extent to which firm's manage their earnings. The results also revealed that earnings management of firms varies according to industry they belong.

3. Research Methodology

Descriptive and longitudinal design was employed with a view to making statistical inferences on factors that determine corporate value of quoted manufacturing firms. A Sampling frame of 15 quoted deposit money banks was selected using random sampling techniques. The required cross-sectional data were sourced from annual reports of the banks and stock exchange factbook from 2011-2016.

3.1 Analytical Framework and Empirical Model Specification

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

$$Y_{it} = \beta X'_{it} + \alpha Z'_i + \varepsilon_{it} \quad 1$$

In the equation above, the heterogeneity or individual effect is Z^i which may represent a constant term and a set of observable and unobservable variables. When the individual effect Z'_i contains only a constant term, OLS estimation provides a consistent and efficient estimates of the underlying parameters (Kyereboah-Coleman, 2007); hut if Z'_i is un-observable and correlated

with X_{it} , then emerges the need to use other estimation method because OLS will give rise to biased and inconsistent estimates.

Similarly for endogeneity issues, it is generally assumed that the explanatory variables located on the right hand side of the regression equation are statistically independent of the disturbance ε_{it} such that the disturbance term ε_{it} is assumed to be uncorrelated with columns of the parameters X_{it} and Z_{it} as stated in equation

(1), and has zero mean and constant variance $\sigma^2\eta$ (Hausman and Taylor, 198). If this assumption is violated,

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

$$Y_{it} = \beta X'_{it} + \alpha Z'_i + \varepsilon_{it} \quad 2$$

Where:

Y = dependent variable

D = independent variable

β_o = intercept

β_i = coefficient of the explanatory variable

e = error term

I = cross-sectional variable

T = time series variable

Model Specification

$$EPS = F(EV) \quad 3$$

Pooled regression specification

$$EPS = \alpha_0 + \alpha_1 EV_i + \varepsilon_{1it} \quad 4$$

Fixed Effect Model Specification

$$EPS_{it} = \alpha_0 + \alpha_1 EV_{1it} + \sum_{i=1}^9 \alpha_i idum + \varepsilon_{1it} \quad 5$$

Random effect model specifications

$$EPS_{it} = \alpha_0 + \alpha_1 EV_{1it} + \mu_i + \varepsilon_{1it} \quad 6$$

$$EPS = F(DER) \quad 7$$

Pooled regression specification

$$EPS = \alpha_0 + \alpha_1 DER_i + \varepsilon_{1it} \quad 8$$

Fixed Effect Model Specification

$$EPS_{it} = \alpha_0 + \alpha_1 DER_{1it} + \sum_{i=1}^9 \alpha_i idum + \varepsilon_{1it} \quad 9$$

Random effect model specification

$$EPS_{it} = \alpha_0 + \alpha_1 DER_{it} + \mu_i + \varepsilon_{it}$$

Where

EPS = Earnings per share

EV = Equity Value

DER= Debt Equity Ratio

ε_{it} = Stochastic or disturbance/error term.

t = Time dimension of the variables

α_0 = Constant or intercept.

Variable	Notation	Effect
Earnings per share	EPS	Dependent Variable
Debt Equity Ratio	DER	+
Equity value	EV	+

4. Result and Discussion

4.1 Presentation of Results: Equity Value and Earnings per Share

Table 1: Testing the Significance of the Models

Test: Redundant	Chi -Sq Stat	Df	Prob
Cross-section F	11.724740	(9,38)	0.0000
Cross-section Chi-square	66.445337	9	0.0000
TEST: Hausman	CHI -SQ STAT	DF	PROB
Cross-section random	0.718309	2	0.6983

Source: Extract from E-View Windows 9.0

For the purpose of decision making regarding choice between fixed and random effects Hausman test was run. The decision of choice between fixed and random effect is based on p-value of Hausman test. If the p - value of the Hausman test is less than 0.05, we have a preference to use a fixed effects model. On the other hand if the p-value of the Hausman test is more than 0.05, we select to use fixed effects. In this study, the p-value of Hausman test was more than 0.05 so fixed effects are used. For comparison purpose pooled regression results are also given. Value may be shown as F-Value. “F” value of the table signifies whether the overall model is statistically significant or not. The more the F value or Wald chi square test value the more the model is considered not significant. From the above, the study adopts the fixed effect model for the three models above.

Table 2 Equity Value and Earnings per Share of Deposit Money

Variable	Pooled Effect			Fixed Effect			Random Effect		
	β Coefficient	T-Stat	P-Value	β Coefficient	T-Stat	P-Value	β Coefficient	T-Stat	P-Value
EV	8.76E-05	1.138244	0.2608	7.44E-05	0.922395	0.3621	6.72E-05	0.909176	0.3679
β_0	1.823160	4.100633	0.0002	2.338500	4.486475	0.0001	2.101920	3.594702	0.0008
R-squared	0.026857	1.138244	0.2608	0.742344			0.022935		
Adj R ²	0.014554			0.667760			-0.018642		
F-statistic	0.648548			9.953051			0.551628		
F-Prob	0.527419			0.000000			0.579695		
DW	0.861168			1.888071			1.723324		

Source: Extract from E-View Windows 9.0

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Result from the table above, proved evidence on the relationship between equity value and earnings per share of commercial banks. It is evidence that the independent variable which is equity value can explain 74.2% and 66.7% variation on the dependent variable which is earnings per share. The remaining 26.8% and 34.3% can be explained by exogenous variables not captured in the model. The F-statistics and the F-probability justifies that the model is significant as the probability value of 0.000000 is less than the critical value of 0.05. However, the T statistics and probability prove that equity value is statistically not significant in explain variation in earnings per share. The β coefficient indicates that number of equity value have positive impact on earnings per share.

Table 3: Testing the Significance of the Models: Model II

Test: Redundant	Chi -Sq Stat	Df	Prob
Cross-section F	7.181278	(9,38)	0.0000
Cross-section Chi-square	49.677937	9	0.0000
Test: Hausman	Chi -Sq Stat	Df	Prob
Cross-section random	0.718309	2	0.6983

Source: Extract from E-View Windows 9.0

The table above explains the validity of the models based on decision making regarding choice between fixed and random effects Hausman test was run. The decision of choice between fixed and random effect is based on p-value of Hausman test. If the p - value of the Hausman test is less than 0.05, we have a preference to use a fixed effects model. On the other hand if the p-value of the Hausman test is more than 0.05, we select to use fixed effects. In this study, the p-value of Hausman test was more than 0.05 so fixed effects are used. For comparison purpose pooled regression results are also given. Value may be shown as F-Value. “F” value of the table signifies whether the overall model is statistically significant or not. The more the F value or Wald chi square test value the more the model is considered not significant. From the above, the study adopts the fixed effect model for the three models above.

Table 4: Debt Equity Ratio and Earnings per Share of Deposit Money Banks

Pooled Variable	Effect			Fixed Effect			Random Effect		
	β Coefficient	T-Stat	P-Value	β Coefficient	T-Stat	P-Value	β Coefficient	T-Stat	P-VALUE
DER	0.004785	1.811650	0.0764	0.003873	0.473331	0.6387	0.005289	1.230725	0.2245
β_0	15.99420	3.964834	0.0002	20.74188	1.471534	0.1494	16.55345	2.152492	0.0365
R-squared	0.161578			0.689569			0.045787		
Adj R ²	0.125901			0.599707			0.005183		
F-statistic	4.528854			7.673669			1.127636		
F-Prob	0.015899			0.000001			0.332400		
DW	0.826584			1.309553			1.227520		

Source: Extract from E-View Windows 9.0

Adopting the fixed effect model as validated by the Hausman test, we interpret the relationship between the dependent and the independent variables. The effect of Debt equity ratio on earnings per share of deposit money banks proves that the independent variable can explain 68.9% and 59.9% variation. This is justified by the significance of the F-statistics and the F-probability as it proves that the model is significant. The T-statistics and the probability prove that the variable is statistically not significant which implies that variation on the independent variable have no significant impact on the dependent variable. The β coefficient proves that debt equity ratio have positive impact on the dependent variable which is earnings per share of the quoted deposit money banks. The Durbin Watson statistics of 1.309553 is less that 1.50 but greater than 1.00, this proves that there is absence of serial auto correlation among the variables within the time series.

5. Findings of the Research

Findings from the panel data result shows that equity value and debt equity ratio of the quoted deposit money banks have positive relationship with earnings per share. This finding confirms the a-priori expectation of the results and validates the relevance theory of Gordon against the irrelevance theory of Miller and Modigliani. The findings confirm the empirical findings of Anyamaobi and Lucky (2017) that debt equity ratio, retention ratio, management efficiency and cost of capital have positive effect on the market value of the quoted manufacturing firms, Akani and Lucky (2016) equity capital have positive relationship with the Return on Investment and the findings of Rehman (2013) that financial leverage has a positive relationship with ROA and sales growth, and negative relationship with EPS, NPM and ROE. In comparing the effect on the variables, equity value can explain 74.2% and 66.7% variation on the dependent variable which is earnings per share while Debt equity ratio explains 68.9% and 59.9% variation. From the above we conclude that have more effect on earnings per share of the quoted deposit money banks.

6. Conclusion and Recommendation

This study intends to examine the relationship between equity value, debt equity ratio and earnings per share of quoted deposit money banks in Nigeria. The study found that 74.2% and 66.7% variation on earnings per share can be traced to equity value. The β coefficient indicates that of equity value has positive impact on earnings per share, while Debt equity ratio on of deposit money banks can explain 68.9% and 59.9% variation. The β coefficient proves that debt equity ratio have positive impact on earnings per share of the quoted deposit money banks. From the above results we conclude that equity value have greater impact on earnings per share than debt equity ratio. We recommend that management should ensure optimal capital structure of the quoted deposit money banks.

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