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Capital structure and the Performance of Deposit Money Banks in Nigeria: Evidence from Panel Data Analysis

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Abstract

This study investigated the impact of capital structure on the performance of deposit money banks in Nigeria using secondary data from statistical bulletin of the Central Bank of Nigeria for the period 2016–2021. To evaluate the stationarity of the data, the study employed econometric techniques involving the assessment of the unit root features of the data utilizing the common unit and individual unit root procedures. A unit root test revealed that the data were stationary at first difference and at first-order of integration [I (1)]. Cointegrating equation of fully modified ordinary least square (FMOLS) analysis used to account for serial correlation effects and endogeneity in the regressors resulting from the presence of a cointegrating relationship. The research demonstrates a statistically significant positive correlation between equity (EQT) and return on asset (ROA). Long term debt (LTD) was also positively associated with return on asset, although this association was not statistically significant ($p>0.05$). The relationship between short-term debt (STD) and ROA is positive but not statistically significant ($p>0.05$). There is no statistically significant relationship between firm size (FMS) and return on asset (ROA) ($p>0.05$). It was determined that the degree of profitability of the company under consideration will depend on management skill in managing the firm's capital structure. It was suggested, among other things, that bank management find a useful way to employ this capital structure in its operations because, as the study's findings demonstrate, its beneficial impact on the bank's performance is negligible.

Key Words: Equity, Debt, Bank, Asset, Capital Structure, Performance, Panel Data

JEL: *D22, C58, C87, C23*

1 Introduction

The capital structure of companies had been an important subject of study in the corporate finance world, due to the reason that making decisions about financing is among the salient decision business managers make. Firms seemed to increase their borrowing after listing, for large listed firms the debt-to-equity ratios seemed to rise, while for the small firms

they fell, indicating that market development favoured large listed firms. There is no doubt saying that finance play important role in the running of all business. Capital structure decision is critical for any firm for maximizing profit, therefore capital structure decision is important since the profitability of an enterprise is directly affected by such decision. Rajan and Zingales (2015) has established a positive relationship between capital structure of a firm and its profitability. Profitability is the profit earning capacity, which is a crucial factor in contributing to the survival of firms (Pirog, 2015). The perpetual existence of the firms depends on the profit earning capacity of the firms, which is also considered to be the main factor in influencing the reputation of the firms mostly in every business profitability is the primary objective as profitability is the most prominent issues in the world of corporate finance and the ultimate goal for any firm is to maximize profitability. Profitability considerations help in taking decisions and constructing policies according to (Duah, 2015). Firms that earn less profit than expected by the market have difficulty in funding investment opportunities with negative implications for growth. Firms that consistently earn less than adequate profits tend to experience slow growth, stagnation, and ultimately failure.

There are different views on how capital structure (CS) influences the performance of the firm. The optimal CS is a question which the managers themselves cannot answer. There are varied factors that influence the debt level in a firm. Among the key factors the first is the benefits and cost associated with various financing choices. The trade-off between the benefits and cost leads to well-defined target debt ratio. The second is the existence of shocks that cause firms to deviate, at least temporarily, from their targets (Achleitner, Markus, Thomas & Christoph, 2009). The third is the presence of factors that prevent firms from immediately making CS changes that offset the effect of the shocks or financial distress that move them away from their targets. Profit, cash flow, the rate of growth and the level of earning's risk are important additional internal factors which influence Capital Structure. The need for this study stems from the fact that knowledge about capital structures have mostly been derived from data in developed economies that have many institutional similarities (Irene & Narula, 2014). Since different countries have different institutional arrangements, mainly with respect to tax and bankruptcy codes, existing market for corporate control, and the roles of banks and securities markets, it might prove inadequate to infer that what occurs in the developed economies or what determines their capital structure can be used to explain what is obtainable in the developing countries like Nigeria.

The Nigerian banking industry brings a major development to the Nigeria economy through financial inclusion, employment creation and deepening of the Nigerian financial sector through the provision of financial intermediation and a host of other activities. Failure of banks have been attributed to many factors. However, the importance of capital to corporate financial stability, growth and adequate returns on investment cannot be overemphasized. Capital structure decisions are very difficult to make in uncertain economies. In developing economies in particular, the existence of macro environment factors such as high and soaring interest rates, volatility in economic and political situations are important factors that determines the capital structure of firms. The financing decision mix of debt and equity represents a fundamental issue faced by financial managers of firms. The actual impact of capital structure on corporate performance in Nigeria has been a major problem among researchers that has not been resolved. Hitherto, there is still no conclusive empirical evidence

in the literature about how capital structure influences corporate performance of firms in Nigeria (Ozkan, 2011, Abor, 2015). According to Ozkan (2011), poor capital structure decisions may lead to a possible reduction/loss in the value derived from strategic assets. Hence, the capability of a firm in managing its financial policies is important, if the firm is to realize gains from its specialized resources. The main objective of this study is to examine the effect of capital structure on the performance of deposit money banks in Nigeria. The specific objectives however are to: evaluate the effect of equity, long and short-term debt on the performance of deposit money banks in Nigeria. In line with the objectives of the study, three hypotheses namely; equity, long and short-term debt have no significant effect on the performance of deposit money banks in Nigeria were formulated to guide the study. The study is divided into five sections: introduction and literature review in sections one and two, methodology, discussion of findings, and conclusions with policy recommendations in sections three, four and five respectively.

2 Literature Review

Theoretical Framework

Agency Costs Based Theory

Agency costs show that firms chose their capital structure according to agency costs, which is the constitution of the costs in debt and equity. The costs which are linked to equity issue are: monitoring expenses, expenses in bonding of the agent and decrease in the amount for principal caused by the difference of agent's decisions from those which maximize the proportion of the principal. Further, debt issue causes the owner-manager's incentive to increase, as the result they invest in more risky projects which have higher returns to the owner-manager. Though, these incentives can cause more chance of failure. As it is expected in this case, a higher premium is needed to compensate the possible chances of failure. Afterwards, the agency costs of debt will consist of the opportunity costs which are the results of the effect of debt on the investment decisions in the corporation; "monitoring and bond expenditures by both the bondholders and the owner-manager; and the costs associated with bankruptcy and reorganization (Walsh & Ryan, 2017). If there is a relationship between the debt and financial performance in a firm, agency theory is among the best choices of theory to describe the relationship between the variables of the study. Since ownership and control in a firm are separated, there is always a good chance to face the agency problem. The conflict might happen because of the managers' lack of effort in their responsibilities and also their preferences on their own perquisites, or policy choices which are only suitable for their own preferences.

Conceptual Framework

Capital Structure

A firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm (Alfred, 2007). Pandey (2009) differentiated between capital structure and financial structure by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity capital. Therefore, a firm's capital structure simply refers to the combination of long-term debt and equity financing.

As financial capital is an uncertain but critical resource for all firms, suppliers of finance are able to exert control over firms. 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 (Pandey, 2009). 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. Questions related to the choice of an appropriate financing means (debt versus equity) have increasingly gained importance in management research. Traditionally examined in the discipline of finance, these issues have gained relevance in the past few years, with researchers examining linkages to strategy and strategic outcomes. Determinants of capital structure include age of firm, firm size, asset structure, firm profitability, firm growth firm risk (Mohammad, 2013).

Firm Performance

Firm or bank performance addresses the question of how well financial institutions are performing in providing their services to consumers and businesses, and how much we can gauge that performance with regards to certain benchmark. Various performance aspects cannot be observed directly whereas they are economically important. While stockholders will view performance in terms of the profits made on their behalf, whether or not adjusted for risks taken, performance in a broader sense is the contribution financial institutions make to the common wealth, on behalf of consumers and businesses. They will be mainly interested in whether financial products are not too expensive and whether the quality is sufficient. Firm performance is analyzed in terms of its capacity to generate sustainable profitability (Nyor & Yunusa (2016). Profitability is a firm's first line of defense against unexpected losses, as it strengthens its capital position and improves future profitability through the investment of retained earnings. Since the ultimate purpose of any profit-seeking organisation is to preserve and create wealth for its owners, the firm's return on equity (ROE) needs to be greater than its cost of equity in order to create shareholder value (Khan, Sajid, Waseem & Shehzad, 2016). Many measures are useful to verify performance. Both accounting and market variables can be considered. Accounting measures include profit, return on investment (ROI) return on asset (ROA) and earnings per share while market measure of performance include market share, sales growth, customer's satisfaction, business expansion etc. This study uses financial measures.

Empirical Review

Duah (2015) assessed the impact of capital structure on profitability of manufacturing industry in Ghana. This research was done to assess the impact of capital structure on profitability of manufacturing industry in Ghana using some selected firms as the case study for a period of eight (8) years: 2005-2012. Data for the study were obtained from the audited financial statements of the selected firms from the GSE and the individual firms‟ websites or obtained with permission. Return on equity (ROE) or profit after interest and tax was used to representing profitability, whilst capital structure was represented by the natural logarithms of short-term debt (STD), long term debt (LTD) and equity (EQ). Panel data regression method,

using both the fixed –effects and the random –effects, was used for the data analysis. Descriptive statistics and correlation analysis were also employed in the study. The result shows that STD and LTD were negatively related to profitability but the effect of the LTD was insignificant whilst EQ was positively related to profitability. This was consistent with previous empirical studies and also with literature.

Abdulrashid, Pofi, Saminu and Mohammad (2017), conducted a study on the effect of capital structure on the performance of DMBs. The objective of the study was to examine the effect of capital structure on the financial performance of DMBs in Nigeria. Secondary data was obtained from the financial statements of DMBs listed in the Nigerian Stock Exchange. Four banks were selected as sample and data from their financial statements for a period of 10 years (2006-2015) was used. The study employed the use of Pearson correlation coefficient and GLS regression model for analysis. The result of the study showed that there is a positive relationship between ROE and DER. However, ROA and ROCE have a negative relationship with DER. The study concluded that capital structure has a significant effect on the financial performance of listed DMBs in Nigeria. The study recommended that DMBs in Nigeria should employ an appropriate mix of debt and equity capital in order to maximize return on investment and achieve an optimum capital structure.

Salim and Yadav (2012) examined the relationship between capital structure and firm performance. The investigation was performed using panel data procedure for a sample of 237 Malaysian listed companies on the Bursa Malaysia Stock exchange during 1995-2011. The study used four performance measures (including return on equity (ROE), return on asset (ROA), Tobin's Q and earning per share (EPS)) as dependent variable. The empirical tests indicate that capital structure (especially TD and STD) negatively impacts performance measured by ROE. On the other hand, capital structure (LTD and TD) has negative significant impact on firm's performance measured by ROA. Furthermore, findings of this study suggest that there is a significantly positive relationship between Tobin's Q (firm performance) and capital structure measured by LTD and STD. Finally, the results show that Tobin Q has a positive and significant relationship with size (as control variable) for all sectors under study except for property sector a negative effect on the Tobin's Q observed.

Abor (2015) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period (1998-2002). Panel data methodology and regression analysis were used in the estimation of 18 functions relating the return on equity (ROE) with measures of capital structure. And, the finding revealed a significantly positive relation between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. This implies that an increase in the long-term debt position is associated with a decrease in profitability. With regard to the relationship between total debt and return rates, the results show a significantly positive association between the ratio of total debt to total assets and return on equity.

Chechet and Olayiwola (2014) examined capital structure and profitability of the Nigerian listed firms from the Agency Cost Theory perspective with a sample of seventy (70) out of population of two hundred and forty-five firms listed on the Nigerian stock exchange (NSE) for a period of ten (10) years: 2000 - 2009 with the aid of the NSE Fact Book covering the period under review. Panel data for the firms are generated and analyzed using fixed-

effects, random-effects and Hausman Chi Square estimations. Two independent variables which served as measure of capital structure were used in the study: debt ratio (DR) and equity over the period (EQT) while profitability (PROF) as the only 19 dependent variables. The result showed that DR is negatively related with PROF, but EQT is directly related with PROF.

The research gap which this study has filled is by the use of proper analytical framework for data analysis and interpretation. The study used a cointegrating regression analysis in which the fully modified ordinary least square framework was used to control for serial correlation effects and endogeneity in the regressors. Most of the empirical studies disregard these procedures and end up carrying out Hausman test for randomization of panel result which chooses between fixed and random effect regression. The findings of such study will produce spurious results which will lead to misleading policy recommendations. The result of the current study will bring fresh perspective on the ongoing debate on how the variables of capital structure truly affects banks' performance rating due to the robust analytical procedure.

3 Methodology

An ex-post-facto research design was adopted. The ex-post-facto research design attempts to explore causes that affect relationship where causes already exist and looks backwards to explain why. Ex-post-facto research design involves ascertaining the effect of past factor (s) on the present happenings or event. The study population consists of all the deposit money banks operating in Nigeria. The sample of this study consists of ten (10) deposit money banks randomly selected based on the following criteria: They must have full audited annual report for the whole period under investigation (2016-2021). The bank's audited annual report must be publicly available and accessible from the bank's official website. Data for this study was collected from secondary sources. The secondary data was extracted from the audited annual reports and accounts of the deposit money banks from Central Bank of Nigeria statistical bulletin 2021. Guided by the implicit and the explicit form of the model, the following relationships exist between the variables of the study. The implicit form of the model is shown below:

$$ROA = f(EQT, LTD, STD, FMS) \quad (1)$$

Where,
ROA= Return on Asset (A proxy for firm performance)
EQT= Equity
LTD = Long Term Loan
STD = Short Term Debt
FMS = Firm Size (control variable)
In explicit form the model is presented thus;

$$ROA_{it} = \beta_0 + \beta_1 EQT_{it} + \beta_2 LTD_{it} + \beta_3 STD_{it} + \beta_4 FMS_{it} + U_{it} \quad (2)$$

β_0 =Intercept of the line with Y- axis or the value of y when x is zero.
U_{it}=Error term

$\beta_1, \beta_2, \beta_3$ & β_4 = the regression coefficients

***A priori* expectation**

($\boldsymbol{X_1}$) = Equity; *a priori* expectation is +
($\boldsymbol{X_2}$) = Long term debt; *a priori* expectation is +/-
($\boldsymbol{X_3}$) = Short Term Debt; *a priori* expectation is +/-
($\boldsymbol{X_4}$) = Firm Size; *a priori* expectation is +

Data Analysis Techniques

The hypotheses formulated were tested by means of the estimates of regression analysis. Thus, from the random sample from the population, we estimate the population parameters and obtain the sample linear regression model:

$$\hat{y}_i = \hat{\beta}_o + \hat{\beta}_1 x_i .... + \beta_n x_n$$

The residual, $e_i = y_i - \hat{y}_i$, is the difference between the value of the dependent variable predicted by the model, $\hat{y}_i$, and the true value of the dependent variable, y_i . Fully Modified Ordinary least squares (FMOLS) was used to obtain parameters estimates that minimize the sum of squared residuals, SSE:

$$\text{SSE} = \sum_{i=1}^{n} e_i^2 .$$

Minimization of this function results in a set of normal equations , a set of linear equations in the parameters, which are solved to yield the parameter estimators, $\hat{\beta}_o, \hat{\beta}_1$:

$$\hat{\beta}_1 = \frac{\sum\left(x_i - \bar{x}\right)\left(y_i - \bar{y}\right)}{\sum\left(x_i - \bar{x}\right)^2} \text{ and } \hat{\beta}_o = \bar{y} - \hat{\beta}_1 \bar{x}$$

where $\bar{x}$ is the mean (average) of the x values and $\bar{y}$ is the mean of the y values. Under the assumption that the population error term has a constant variance, the estimate of that variance is given by:

$$\hat{\sigma}_\varepsilon^2 = \frac{SSE}{n-2}$$

This is called the mean square error (MSE) of the regression. The denominator is the sample size reduced by the number of model parameters estimated from the same data, (n-p) for p regressors. The standard errors of the parameter estimates are given by:

$$\hat{\sigma}_{\beta_0} = \hat{\sigma}_\varepsilon \sqrt{\frac{1}{n} + \frac{\bar{x}^2}{\sum\left(x_i - \bar{x}\right)^2}}$$

$$\hat{\sigma}_{\beta_0} = \hat{\sigma}_\varepsilon \sqrt{\frac{1}{\sum\left(x_i - \bar{x}\right)^2}} .$$

Under the further assumption that the population error term is normally distributed, the estimated standard errors are used to create confidence intervals and conduct hypothesis tests

about the population parameters. Once the Fully Modified Ordinary Least Square regression model has been constructed, the goodness of fit of the model is confirmed using R-squared. The statistical significance of the estimated parameters was checked by an F-test of the overall fit, followed by the probability value of the individual parameters. The decision rule for accepting or rejecting the hypotheses of the study is based on the probability value of the estimate. Thus, *If the probability value of* b_i [*p* (b_i) > the critical value] we accept the null hypothesis, that is, we accept that the estimate b_i is not statistically significant at the 5% level of significance. *If the probability value of* b_i *[p* (b_i) <critical value] we reject the null hypothesis, in other words, that is, we accept that the estimate b_1 is statistically significant at the 5% level of significance.

In presence of a linear cointegration relationship, it appears to be misguided to use any estimation method that does not correct the serial correlation and address the endogeneity issues in the model. Fully modified ordinary least square does this better than any other classes of estimators.

4 Results and Discussion

This section deals with the presentation of data and description of the analysis of the data collected. The panel data used for this study covered a period of 2016-2021 for 10 companies. The secondary data on key variables of the was obtained from the published Annual Reports of the financial services companies' understudy covering the various years.

Normality of the Sample

Table 1: Descriptive Statistics

	ROA	EQT	LTD	STD	FMS
Mean	0.070967	81.84507	60.52774	133.0784	7.758023
Median	0.051900	71.79900	56.86740	120.1550	7.774400
Maximum	0.237600	156.4303	134.2029	313.5241	8.564800
Minimum	-0.077700	43.82670	8.388600	7.154300	6.968500
Std. Dev.	0.065340	31.95778	29.03592	76.33649	0.433736
Skewness	0.759638	1.103718	0.735948	0.207869	-0.145065
Kurtosis	3.367311	3.241050	3.449260	2.414696	2.430117
Jarque-Bera	6.107793	12.32721	5.920779	1.288546	1.022353
Probability	0.447175	0.802105	0.059799	0.525044	0.599789
Sum	4.258000	4910.704	3631.664	7984.706	465.4814
Sum Sq. Dev.	0.251893	60256.68	49742.00	343808.3	11.09950
Observations	60	60	60	60	60

Source: Author's Computation, 2022

The above Table 1 shows the descriptive statistics for our study. The Mean score, Median Maximum, Minimum, Standard deviation, Skewness and Kurtosis etc are shown above. Return on Asset has a 0.070967 a standard deviation of 0.065340 and a positive

skewness of 0.759638. Equity has a Mean of 81.84507, a standard deviation to the right of the Mean of 1.103718. Long term Debt has a Mean of 60.52774 with a positive standard deviation of 29.03592. Short Term Debt (STD) has a Mean of 133.0784, a standard deviation to the right side of the Mean of 76.33649. The control variable Firm Size (FMS) has a Mean of 7.758023, a negative standard deviation to the left side of the Mean of -0.145065. The main statistics of interest, the Jarque-Bera statistics which is used to establish the normality or otherwise of a time series data indicate that the Jarque–Bera test probability values are greater than 0.05 i.e ($p>0.05$) for all the variables of the study, implying that the data is normally distributed. The descriptive statistics gives an indication of the spread of the data collected. The Mean, the standard deviation and other test statistics indicates a good spread of the data collected.

Testing for Unit Root

Panel unit root testing emerged from time series unit root testing. The major difference to time series testing of unit roots is that we have to consider asymptotic behaviour of the time-series dimension T and the cross-sectional dimension N. The way in which N and T converge to infinity is critical if one wants to determine the asymptotic behaviour of estimators and tests used for panel analysis.

Table 2: Panel Unit Root Test at Level

Cross-sections included: 10

	Unit Root Process	
Variables	PP - Fisher Chi-square	PP - Choi Z-stat
ROA	0.1805	0.3861
EQT	0.0000	0.0000
LTD	0.0000	0.0000
STD	0.0035	0.0006
FMS	0.0117	0.7907

PP Fisher Chi Square and PP Choi

Stat Test: *Assumes individual unit root process*

Source: *Author's Computation, 2022*

Table 2 reports the findings from two alternative unit root processes, namely, the PP - Fisher Chi-square and PP - Choi Z-stat at levels. At levels, ROA had p-values greater 0.05 indicating that they are not stationary at levels using the two test statistics. Firm Size (FMS) was stationary at levels using the PP - Fisher Chi-square unit root process but not stationary using the PP - Choi Z-stat unit root process. All the variables EQT, LTD, STD, were all stationary at levels using the test statistics at 5% level of significance. With this result, we will proceed to difference at first difference as all the variables must be at the same level of integration.

Table 3: Panel Unit Root Test at First Difference

	Unit Root Process

Variables	PP - Fisher Chi-square	PP - Choi Z-stat
ROA	0.0345	0.0240
EQT	0.0000	0.0000
LTD	0.0194	0.0093
STD	0.0001	0.0003
FMS	0.0036	0.0273

PP Fisher Chi Square and PP Choi
Stat Test: *Assumes individual unit root process*
Source: *Author's Computation, 2022.*

All the variables ROA, EQT, LTD, STD, FMS were all stationary at levels using the test statistics of PP - Fisher Chi-square and PP - Choi Z-stat at 5% level of significance. With this result, we will proceed to examine the long run relationship between the variable of the study.

Table 4: Kao Residual Cointegration Test

	t-Statistic	Prob.
ADF	-2.262086	0.0118
Residual variance	0.003982	
HAC variance	0.002340	

Source: Author's Computation, 2022

Cointegration examined as if two series have constant co-variance over time. Kao tests are based on Engle-Granger (1987) two-step (residual-based) cointegration tests. Kao proposes several tests for cointegration that allow for heterogeneous intercepts and trend coefficients across cross-sections. The probability value of the estimate is used to establish the presence or otherwise of cointegration in a heterogeneous panel using Kao cointegration method. The t-statistics shows the value of -2.262086 with a probability value of 0.0118 *($p< 0.05$)* and Panel ADF-statistic (*$p<0.05$)* rejects the null hypothesis of cointegrating relationship between the variables of the model. From the statistics reviewed, there is a strong support for the presence of cointegrating relationship among the variables of the model. This result thus confirms the presence of cointegration among the variables of the model.

Regression Analysis and Discussion of Findings

In presence of a long-run association, the relationship can be modeled through fully modified Ordinary Least Square (FMOLS). Fully modified least squares (FM-OLS) regression was designed to provide optimal estimates of cointegrating regressions. The method modifies least squares to account for serial correlation effects and for the endogeneity in the regressors that results from the existence of a cointegrating relationship. The regression result for the study is presented below for the model of the study.

Table 5: Panel Fully Modified Least Squares (FMOLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EQT	0.350259	0.101614	3.446957	0.0185
LTD	0.060207	0.050031	1.203393	0.1961
STD	0.150314	0.100077	1.501983	0.0863
FMS	-0.023903	0.041713	-0.573035	0.7508
R-squared	0.389516	Mean dependent var		0.064753
Adjusted R-squared	0.133506	S.D. dependent var		0.066390
S.E. of regression	0.061800	Sum squared resid		0.118395
Long-run variance	0.002766			

Dependent Variable: ROA

Source: *Author's Computation, 2022*

The regression result shows a positive coefficient of (0.350259) and a statistically significant value of (0.0185), indicating that Equity (EQT) has a positive significant effect on performance of selected deposit money banks in Nigeria proxied by ROA and statistically significant ($p<0.05$) in line with *a priori* expectation. This implies that a unit increase in equity (EQT) will lead to a corresponding increase in performance selected deposit money banks in Nigeria by a margin of 35.03%. This finding is in line with that of Chechet and Olayiwola (2014) who examined capital structure and profitability of the Nigerian listed firms from the Agency Cost Theory perspective with a sample of seventy (70) out of population of two hundred and forty-five firms listed on the Nigerian stock exchange (NSE) for a period of ten (10) years: 2000 - 2010 with the aid of the NSE Fact Book covering the period under review. The result showed that data for the firms are generated and analyzed using fixed-effects, random-effects and but equity over the period is directly related with profitability. The positive effect of Equity on return on asset could be as a result of the larger sample size. With a larger sample size, the effect of equity could have been influenced by the size of the observation to influence the performance variable.

Long term debt (LTD) was also positively related to Return on Asset (0.060207) and the relationship is not statistically significant (0.1961). This implies that a unit increase in the long-term debt (LTD) will lead to a corresponding increase in Return on Asset (ROA) by 6.0207 %. The result is contrary to the findings of Abor (2005) who investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period (1998-2002). The finding revealed a negative relationship between the ratio of long-term debt to total assets and ROE was found. This implies that an increase in the long-term debt position is associated with a decrease in profitability. However, the positive effect of long-term debt on return on asset in the present study is not significant and hence has no contribution to return on asset.

The fully modified ordinary least square regression result shows a positive coefficient of (0.150314) and a non-statistically significant value of (0.0863), indicating that Short Term

Debt (STD) has a positive but a none significant (*p>0.05)* effect on ROA. This implies that a unit increase in Short Term Debt (STD) will lead to a corresponding increase in performance of Deposit Money Bank proxied by (ROA) by 15.0314 %. Salim and Yadav (2012) who examined the relationship between capital structure and firm performance found similar effect between capital structure proxy (short term debt) and profitability proxied by Return on Asset (ROA). The significant positive result of the empirical study could be as a result of management ability to convert short term debt into profit by proper investment and effective utilization of the debt capital in investment purposes.

Firm Size (FMS) was negatively related to return on Asset (ROA) and the relationship is not statistically significant (*p>0.05*). This implies that a unit increase of Size will lead to a corresponding decrease in Return on Asset by the margins of 2.3903%. When it comes to the control variables; a negative relationship between firm size and return on assets which is a proxy for profitability may stem from the relatively high level of factors such as interest rates volatility in Nigeria.

5 Conclusions and Recommendations

Conclusion

The study investigated the effect of capital structure on performance of selected deposit money banks in Nigeria. It was concluded that a firm funds its operation with capital raised from varied sources. A mix of these sources is generally referred to as capital structure. The study found that the optimal Capital Structure is that combination of debt and equity that minimizes the firm's overall cost of capital. The study noted that understanding of the tradeoff between equity and debt and the various determinants of capital structure as used in the study is very important in the sustenance of business organization. Management plays a significant role in the debt/equity handling in the firm. How management handles the combination of debt and equity might form the basis of conflicts between creditors and shareholders and generate agency costs.

The study concludes that the variables of the capital structure as used in the study such as equity capital, long time debt, short term debt and tangibility have significant have both positive and negative effect on performance of listed financial services companies in Nigeria. Hence, management of the financial services companies will play a significant role in choosing the best capital structure and the combination of the capital structure that will maximize profit and bring about optimum of the performance of the banks under study.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Equity capital can be made to have a much higher positive effect on performance of the Deposit Money Banks if this capital is increased by the stakeholders of the company. Our result indicated that equity capital was positively related to performance. This percentage of the effect can be increased by management when they are able to manage shareholders fund and invest it judiciously in the bank.

2. Long term debt was positively related to performance of the deposit money banks and not statistically significant. It is recommended therefore that the management of the banks should find an effective use of this capital structure in its operation as the positive effect it has on the performance of the bank is not significant as shown by the result of the study.
3. Management of the studied deposit money banks should utilize effectively the short-term debt instrument as it has been shown that an effective use of this capital structure variable in relationship with others will contribute to a significant increase in the performance of the Nigerian Deposit Money Banks.
4. The management of the banks under study should adopt policies that will increase the banks size as it is know that firm size is a very important precursor that improves performance as large banks have all the options of the financial service industry in investment and the attendant economies of scale.

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