

EFFECT OF CAPITAL STRUCTURE ON THE PERFORMANCE OF QUOTED COMPANIES IN NIGERIAN EXCHANGE GROUP

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ABSTRACT

This research examines the effect of capital structure on firms' performance with a study of quoted companies in Nigeria from 2020 to 2024 with the purpose of providing a critical appraisal of the need and importance of capital structure. Descriptive and regression research technique was employed to consider the impact of some key variables such as Returns on asset (ROA), Returns on equity (ROE), Total debt ratio (DR), equity ratio (DER) and Liquidity current ratio (LCR) on firms performance. Secondary data was employed using data derived from published financial reports for the period 2020- 2024 from a sample of five quoted companies. From our findings, we observe that capital structure measures (Total debt, Debt to equity ratio and Liquidity current ratio)) are negatively related to firm performance (measured by ROA and ROE). It is hereby recommended that firms should use more of equity than debt capital in financing their business activities.

Keywords: Effect, Capital structure, Performance, Quoted Companies, Nigerian Exchange group.

INTRODUCTION

BACKGROUND TO THE STUDY

Capital is a critical resource for all firms, the availability of which is a crucial condition to succeed in pursuing firms, strategies. Debt and equity are the two major sources of financial resources and they are provided by the two most important classes of stakeholders: bondholders and shareholders respectively. Finance is the life blood of business organizations. The financial manager of an organization is mainly concern with two choices. The first is the divided choice; the distribution of retain earnings to be ploughed back and to be paid out as dividends. The second is a choice of capital structure; the proportion to be raised in form of new equity.

Questions related to the choice of an appropriate financing means (debt versus equity) have increasingly gained importance in management research with researchers examining linkages to strategy and strategic outcomes. The financial management functions of a firm-including its capital structure decisions deals with the management of the sources and uses of finances.

The capital structure theory originated from the famous work of Modigliani and Miller (1958). They argued that, under certain conditions, the choice between debt and equity does not affect a firm value and hence the capital structure decision is irrelevant, but in a world with tax-deductible interest payment, firms value and capital structure are positively related. M & M (1958) pointed out the direction that capital structure must take by showing under what conditions the capital is irrelevant. The advocates of Modigliani and Miller theorem have provided empirical evidence that capital structure is insignificant. For example, Adelegan (2007), Ubogu (2021) among others. Titman (2001) lists some fundamental conditions that make M&M proposition hold as: no (distortionary) taxes, no transaction cost, no bankruptcy cost, perfect contracting assumptions and complete and perfect market assumption. The M&M publications became a subject of considerable debate both theoretically and empirical research. Some academicians received Modigliani and Miller works as being controversial and state that, in real world situation, the main assumptions never hold and hence, 'capital structure irrelevance' is nothing but a fiction. Moreover, they stated that in a 'non-perfect' world, there are factors influencing capital structure decision of a firm. This position has been supported by Stiglitz (2004).

STATEMENT OF THE PROBLEM

The difficulty facing companies when structuring their finances is to determine its effect on performance, as the performances of the business is crucial to the value of the firm and consequently its survival.

More difficulty facing companies in Nigeria has to do more with the financing whether to raise debt or equity capital. The issue of finance is important that it has been identified as an immediate reason for companies failing to start in the first place or to progress. Thus, it is necessary for companies in Nigeria to be able to finance their activities and grow over time, if they are ever to play an increasing and predominant role in creating value added, as well as income in terms of profits. In reality, optimal capital structure of a firm is difficult to determine. Financial managers have difficulty in determining the optimal capital structure. 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. Optimal capital structure means with a minimum weighted-average cost of capital, the value of a firm is maximize. If capital structure is considered irrelevant to the value of a firm in a perfect market, then imperfections that exist such as absence of corporate tax, bankruptcy cost in reality may cause its relevancy.

The standard of increasing capital in Nigeria became higher hard to achieve due to the associated risk of raising capital. 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. In Nigeria, investors and stakeholders do not look in detail the effect of capital structure in measuring their firms' performance as they may assume that attributions of capital structure are not related to their firms' performance and value. Indeed, a well attribution of capital structure will lead to the success of firms.

Consequently, the problem of this study is to assess the effect of capital structure decision on the performance of some selected quoted firms. From the foregoing, it is therefore important to understand how firm financing choice affects their performance. It is evidently clear that both internal (firm specific) factors and external (macroeconomic) factors could be very important in explaining the performance of firms in an economy.

OBJECTIVES OF THE STUDY

The main objectives of the study are to examine the effect of Capital structure on the performance of quoted companies in Nigeria exchange group.

Other specific objectives include;

- a. To examine the effect of debt ratio (DR) on the performance of quoted companies in Nigeria.
- b. To examine the effect of debt to equity ratio (DER) on the performance of quoted companies in Nigeria.
- c. To examine the effect of liquidity current ratio (LCR) on the performance of quoted companies in Nigeria.

SIGNIFICANCE OF THE STUDY

The choice of appropriate capital structure is a critical decision for corporate financiers because of the likely impact of such financing decision in maximizing the wealth of its shareholders. The study will be of significant benefit to a number of individuals. These include the investors to recognize the link between capital structure and financial performance and choosing appropriate measures to evaluate and analyze the companies' financial status while committing their hard-earned funds for an expected return. Industrialist and non-industrialist in identifying the appropriate leverage ratio for firms within the industry as leverage ratio varies across the industry.

RESEARCH QUESTIONS

This is a part or sub section of the statement problems. The main question of this study is; how effective is capital structure decisions on the financial performance of companies in Nigeria?

Also, during the course of the study question that may arise include;

- a. To what extent does debt ratio (DR) affect the performance of quoted companies in Nigeria?
- b. To what extent does debt to equity ratio (DER) affect the performance of quoted companies in Nigeria?
- c. To what extent does liquidity current ratio (LCR) affect the performance of quoted companies in Nigeria?

RESEARCH HYPOTHESES

Ho: Debt ratio (DR) does not have a significant effect on the performance of quoted companies in Nigeria.

Hi: Debt ratio (DR) does have a significant effect on the performance of quoted companies in Nigeria.

- Ho: Debt to equity ratio (DER) does not have a significant effect on the performance of quoted companies in Nigeria.
- Hi: Debt to equity ratio (DER) does have a significant effect on the performance of quoted companies of Nigeria.
- Ho: Liquidity current ratio (LCR) does not have a significant effect on the performance of quoted companies in Nigeria.
- Hi: Liquidity current ratio (LCR) does have a significant effect on the performance of quoted companies in Nigeria.

SCOPE AND LIMITATIONS OF THE STUDY

The scope of the study is limited to the appraisal of capital structure on the performance of listed companies in Nigeria;

This study is also limited to the capital structure decision on financing and investment decision, it does not emphasize or studies the production rate as well as marketing strategies of quoted companies in Nigeria.

CONCEPTUAL REVIEW

Capital Structure

The term capital structure, according to Kennon (2021) refers to the percentage of capital (money) at work in a business by type, which includes the two forms of capital; equity capital and debt capital.

Pandey (1999) differentiated between capital structure and financial structure of a firm by affirming that the various means used to raise funds represent the firm's financial structure, while capital structure represent the proportionate relationship between long term debt and equity. Also, the capital structure of a firm does not include short term credit but means the composite of a firm's long term funds obtained from various sources.

Therefore, a firm's capital structure is described as the capital mix of both equity and debt capital in financing its assets. Capital structure is the combination of equity and debt that finance the organization's strategic plans. Capital structure (preferred stock and common equity) are mostly used by the firms to raise needed funds, capital structure policy seeks a trade-off between risk and expected returns. A firm must consider its business risk, tax position, financial flexibility, and managerial conservatism or aggressiveness. While these factors are crucial in determining the targeted capital structure, operating conditions may cause the actual capital structure to differ from the optimal capital structure.

THEORETICAL FRAMEWORK

This study is anchored on the (MM) theory of 1955

The Modigliani and Miller (MM) Theory

Modigliani and Miller (MM) 1958 illustrates that under certain key assumptions firms value (performance) is unaffected by its capital structure. Capital market is assume to be perfect in Modigliani and Miller world where insiders and outsiders have free access to information, no transaction cost, bankruptcy cost and no taxation exist; equity and debt choice becomes

irrelevant, and internal and external funds can be perfectly substituted. The MM theory (1958) argues that the performance of a firm should not depend on its capital structure. The theory argues 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 the risk of its operation and not on the way it finances those operations. Miller brought forward the next version of irrelevance theory of capital structure. It appealed that, capital structure decision of firms with both corporate and personal taxes circumstances are irrelevant (Miller, 1977). If these key assumptions are relaxed, capital structure may become relevant to the firms performance. So research efforts have been contributed by relaxing the ideal assumptions and describing the consequences. This theory was criticized on the ground that perfect market does not exist in real life situation. Attempts to relax this assumption particularly the no bankruptcy cost and no taxation led to the static trade-off theory.

EMPIRICAL REVIEW

Babalola (2020) studied how an optimal capital structure can maximize performance of the selected firms under the same systematic risk by investigating the relationship between Return on Equity (ROE) and the capital structure for a sample of 10 firms in Nigeria between 2015 and 2020. it observed that the optimal capital structure and their concerning maximum value on ROE may change over time as the firm's performance and environments change while firm's adjust their capital structure toward an optimal debt ratio consistent with the historical financial behaviors of firms

Ubogu (2021) examined the impact of capital structure choice in firm's performance in Nigeria using a multiple regression analysis in estimating the relationship between capital structure level and firm's performance. The study covers between 2012 and 2023. Three accounting based measures financial firm's performance (Return on Equity, Return on Assets and Gross Profit Margin) were used. The result revealed that capital structure choice decision in general has a weak-to-no impact on firm's performance.

Babalola (2020) using 31 manufacturing firms with audited financial statements for a 4 years (2020-2023) from static trade-off point of view. He employed the triangulation analysis and the study revealed that capital structure is a trade-off between the cost and the benefits of debt, and it has been refuted that large firms are more inclined to retain higher performance than middle firms. In another study, using a sample of 10 firms for a period of 4 years (2020-2024), from agency and static trade-off point of view. He used the regression analysis and concluded that the manufacturing industry's capital structure in Nigeria is consistent with trade-off theory and the hypothesis tested that the corporate performance is a nonlinear function of the capital structure.

Akinyomi (2013) using three manufacturing companies selected randomly from the food and beverages categories and a period of five years (2007-2011) using the static trade-off and the pecking order theory point of view. He adopted the use of correlation analysis method and revealed that each of debt to capital, debt to common equity, short term debt to total debt and the age of the firm is significantly and positively related to return on asset and return on

equity but long term debt to capital is significantly and relatively related to return on asset and return on equity. His hypothesis also tested that there is significant relationship between capital structure and financial performance using both return on asset and return on equity.

Taiwo (2012) using ten firms listed on the Nigeria Stock Exchange for periods of five years (2006-2010) from the static trade-off, pecking order and agency theory point of view. In his findings, he employed the panel least square test and revealed that the sampled firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms performance.

Bassey, Aniekan, Ikpe and Udo (2013) using a sample of 60 unquoted agro-based firms in Nigeria within a period of six years (2005-2010) from the agency cost theory point of view. They employed the Ordinary Least Square regression and descriptive statistics and revealed that only growth and educational level of firms owners were significant determinant of both long and short debt ratios, assets structure, age of the firms, gender of owners and export status impacted significantly on long term debt ratio for the firms under investigation.

SOURCE OF DATA/METHOD OF DATA COLLECTION

The secondary data employed in this study have been adopted in previous studies with regard to financial structure and firms' performance, and other related studies. There are several studies performed in the area and the researcher has gathered information from these studies to enhance this research work and to proffer solution to the research problem. The dataset employed in this study were generated from Nigeria Stock Exchange fact book and annual reports and statement of accounts of quoted firms in Nigeria. Firm annual statements and reports are deemed to be reliable because they are statutorily required to be audited by a recognized auditing firm before publication (CAMA, section 331-335) in Onwumere et al (2011). The items of interest in the financial statement are assets, liabilities, shareholders' funds, and earnings for each financial year. The population of the study was all listed companies quoted on the Nigeria Stock Exchange as at 2020. The sample size was determined by using Regression Analysis. They contain the most comprehensive data across all sectors of the Nigeria. However, due to some reasons (for Example, non-availability of complete data set of some firms as a result of closure of operation during the period of study). It was difficult to make use of the entire population in the course of this study, hence the use of sample. The sample of firms chosen for this study was representatives of Nigerian firms.

METHOD OF DATA ANALYSIS

To determine the relationship and effects of the various variables, regression or multivariate regression was employed. Regression analysis was applied to examine the relationship of independent variables with dependent variables and to know the effect of the independent variables on firm's performance (dependent variables). The model used multiple regression (more than one independent variable) and also ordinary least square method for analysis of hypothesis.

MODEL SPECIFICATION

In order to capture the effect of capital structure on firm's performance, we specify a model in line with the theoretical framework. In this study, we adopt the capital structure model which states that firm's performance depends on capital structure and some control or controlling variables. The equation below describes the specification model used by this study;

$$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots + e_1$$

Where:

Y=Dependent variables of the company,

X=Independent variables of the company,

Bo=Intercept for X variables of the company,

B₁-B₂=Co-efficient for the independent variable X,

E₁=the error term. When the above equation is converted into the specified variables. It becomes;

Firm Performance Measured By ROE-

$$ROE = \text{Return on Equity} = b_0 + b_1 (DR)_1 + b_2 (DER)_2 + b_3 (LCR)_3 + e_1$$

It is a measurement of profitability of a business in relation to the book value of shareholders equity. It measures how well a company uses investment to generate earnings growth.

ROE=Profit after tax

Total Equity

Firm Performance Measured By ROA

$$ROA = b_0 + b_1 (DR)_1 + b_2 (DER)_2 + b_3 (LCR)_3 + e_1$$

ROA=Return on Asset (firms performance variable) which can be measured as net profit after tax divided by total asset. ROA figure can be a useful tool for comparing performance of two different companies. It measures how a company uses its assets to generate profits. A high ROA is a good sign of solid financial and operational performance. Where;

Dependent variables

ROE=Return on Equity

ROA=Return on Assets

Independent variables

DR=Debt Ratio

Debt Ratio is measured as total debt divided by total assets.

Total debt is the amount of total funds provided by creditors

DER=Debt to Equity Ratio. It is a financial ratio indicating the relative proportion of equity and debt used to finance a company's asset which is an indicator of financial structure. It can be measured as:

Total liabilities

Total equity

Liquidity Current Ratio (LCR)

Liquidity current ratio measures the company's ability to pay off its current liabilities (payable within one year) with its current assets.

Current assets

Current liabilities.

DATA PRESENTATION AND ANALYSIS

Table 4.1.1: Descriptive Statistics

Variables	Mean	Max	Min	Std.Dev	JB(p-value)
ROA	0.13	0.30	0.03	0.08	0.31
ROE	0.26	0.85	0.06	0.25	0.10
DR	0.56	0.75	0.29	0.15	0.40
DER	1.46	3.06	0.47	0.80	0.50
LCR	1.46	3.49	0.73	0.65	0.00

Source: Computed from financial statement of the sample firms

Table 4.1.1 shows the mean (average) for each of the variable, their maximum values, minimum values, standard deviation and Jarque-Bera (JB) statistics (normal test. The results in table 4.1 provided some insight into the nature of the selected Nigerian quoted companies that were used in this study. Firstly, it was observed that on the average over the Four (4) years period (2020-2024), the sampled quoted companies in Nigeria were characterized by positive average ROA (0.13) and ROE (0.26).

We also observed that the average Debt Ratio (DR) over the period was 0.56, the maximum amount of Debt ratio (DR) of our sample firm was 0.75, while the minimum value stood at 0.29. This shows a wide variation in Debt ratio variable and this wide variation mean that most quoted companies in Nigeria have different Debt ratio structure in their financial statements. This wide variation in DR variable of the sample companies therefore justify the need for this study, as we expect companies with low Debt ratio (DR) to perform better than those with high Debt ratio.

The table also shows that our sampled quoted companies have on the average, positive Debt to Equity ratio (DER) and Liquidity current ratio (LCR) as their values stood at (1.46) and (1.42) respectively and this further justify the need for this study, as we expect companies with high Debt to Equity ratio (DER) and high Liquidity current ratio (LCR) to perform better. Lastly, in table 4.1, the Jarque-Bera (JB) which test for normality or the existence of outliers or extreme values among the variables, shows that most of our variables are normally distributed. This means that any variable with outlier are not likely to distort our conclusion and are therefore reliable for drawing generalization.

CORRELATION ANALYSIS

In examining the association among the variable, we employed the Pearson correlation coefficient (correlation matrix) and the result are presented in table

Table 4.2.1: Pearson correlation matrix

ROA	ROE	DR	DER	LCR	
ROA	1.00				
ROE	0.95	1.00			
DR	0.32	0.52	1.00		
DER	0.34	0.56	0.95	1.00	
LCR	0.25	0.40	0.80	0.68	1.00

Source: Pearson Correlation Matrix Results using SPSS 21.0

The use of correlation matrix in most regression analysis is to check for multicollinearity and to explore the association between- each explanatory variable (DR, DER, and LCR) and the dependent variables ROA and ROE. Table 4.2 focuses on the correlation between firm profitability (Measured as ROA and ROE) and the independent variables (DR, DER, and LCR). The finding from correlation matrix table shows that there exist a strong positive association between ROA and ROE (0.95). This clearly shows that ROA and ROE are both close proxy for measuring firm performance. This also justifies that any of the two firm's performance variables can be used to test our hypothesis. In case of our dependent variables, the findings from the correlation matrix table shows that there all our independent variables (ROA, DR=0.32; ROA, DER=0.34; & ROA, LCR=0.25) were observed to be positive and weakly associated with firm performance (ROA). Similarly, a close look at the correlation matrix also revealed that all our independent variables (ROE, DR=0.53; ROE, DER=0.56; ROE, LCR=0.40) were observed to be positive and weakly associated with firm's performance (ROE).

In checking for multicollinearity, we noticed that no two explanatory variables were perfectly correlated. This means that there is no problem of multicollinearity between explanatory variables may result to wrong signs or implausible magnitude of the estimated model coefficients, and the bias of the standard errors of the coefficients.

TESTING OF FORMULATED HYPOTHESES

In order to examine the impact relationship between the dependent variables (ROA and ROE) and the independent variables (DR, DER, and LCR) and to also test our formulated hypothesis, we used an ordinary least square regression analysis (OLS) and the results are presented in table 4.3.1 below:

Table 4.3.1: Ordinary Least Square Regression Result

Variables	ROA	ROE
C	0.43 (0.67)	0.37 (0.71)
DR	-0.13 (0.90)	-0.35 (0.73)
DER	0.49 (0.63)	1.00 (0.33)
LCR	-0.14 (0.89)	-0.33 (0.75)
R-Squared	0.12	0.32
Adjusted R-Squared	-0.05	0.19
F-Statistics	0.71	2.5
Pro (F-Statistic)	0.56	0.09

Source: Regression Analysis Results

In table 4.3.1, the R-Squared and adjusted R-Squared values were (0.12) and (-0.05) respectively for ROA model. This indicated that all the independent variables jointly explain about 12% of the systematic variables in ROA of our sampled companies over the four (4) years period (2020-2024). Similarly, a look at table 4.3 also shows that the R-Squared and adjusted R-Square values were (0.32) and (0.19) respectively for our ROE model. This indicates that all the independent variables jointly explain about 32% of the systematic variation in ROE of our **four** (4) years period (2020-2024). The F-statistics (ROA=0.71, ROE=2.5) and their P-values that the ROE model is generally significant and well specified. The F-statistic also shows that the overall ROE regression model is generally significant at 10% level.

In addition to the above, the specific findings from each explanatory variables are provided as follows;

SUMMARY OF FINDINGS

Based on the regression results of the hypotheses tested, the following are the summary of our findings:

1. Total debt ratio has negative and significant impact on the performance of Nigerian quoted firms.
2. Long term debt ratio has negative and significant impact on the performance of Nigerian quoted firms.
3. Short term debt ratio has negative and significant impact on the performance of Nigerian quoted firms.

CONCLUSION

In accordance with the research finding of the effect of capital structure on the performance of quoted companies in Nigeria stock exchange, the study concludes as follows.

This study is one of the empirical investigations of the effect of capital structure on the performance of Nigerian quoted firms. The ultimate goal of the firm is to ensure optimal employment of capital, which in turn triggers long run value maximization of owners' equity. Agent(s) of the firm is left with capital structure decision and other corporate financing decisions that must be align to attain "value maximization". These decisions are very crucial one in transitory economies peculiar to Nigeria couple with underdeveloped debt market and numerous intrinsic market risks. The impact of capital structure on the firm performance has been significantly verified in the study.

RECOMMENDATIONS

Based on the findings of the research, the following actions are recommended:

To maximize the market values, the major focus of quoted firms in Nigeria should be in the choice of capital structure. They should strive to establish a positive significant relationship between the total and debt-equity mix and their performance as revealed in the findings of the study. It is imperative for firms to strike a balance between the choice of capital structure and the effect the performance will have on the shareholder's risks.

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