

# The Relationship between Capital Structure and Profitability of the Limited Liability Companies in Nigeria.

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## Abstract

*The decision on capital structure is the fundamental one that the profitability of an enterprise is directly affected by such decision. No doubt, proper care and attention is ensuring while determining capital structure decision because of the fact that the successful selection and use of capital depends on the firms' financial strategy. The aim of this paper is to investigate the relationship between capital structure and profitability of the limited liability companies from an agricultural sector in the Nigeria over the past ten year period from 2010 to 2019. Data was obtained and processed from the database of Nigerian stock exchange fact books and annual report of the companies selected and was analyzed by using descriptive statistics, i.e. mean, median, standard deviation, coefficient of variation, Jarque-Bera, Durbin-Watson, and correlation analysis to find out the association between the two variables. The results of this paper show that the capital structure has positive and noteworthy impact on firm's profitability. However, it was recommended that the managers of funds should carefully and adequately source for the capital needed for the companies so as to meet the interest of the various finance providers.*

*Keywords: Capital structure, equity, debt, finance and profitability*

## Introduction

The concept of capital structure described the combination of debt and equity that make the total capital of any firm. The proportion of debt to equity capital availability is very important choice of all the managers because of it relative important to the profitability of a company. Capital structure of a business firm comprises of two major sources; equity capital (owned capital) and debt capital (borrowed fund). The efficient use of these two sources by the companies, impact on their profit margin obtained. And this serves as a major determinant that cannot be overlooked as it determines whether the business will run profitably or not. Therefore, it is important to recognize the significant of optimal capital structure

in any business organization. It is also important to note here that any enterprises that are situated too far from the optimum capital faced greater risk of failure. Pertinently, enterprises should make efforts to increase leverage when they face growth opportunities. While unplanned capital structure of an enterprise may fail to economize the use of their funds but if companies planned rightfully on the selection of their capital composition, every stakeholders in the business will receive a good yield returns. Olowe, (2011), described capital structure as all combination of varieties of long term sources of fund as well as equity shares that includes surpluses and reserves of a particular business organization. All over the world, the general theory of capital structure

is described as the mixture of debt/borrowed and equity/owned of the total capital of firms but the proportion of debt to equity strategic choice is left to the hand of business managers.

The capital structure of a business venture is hybrid of equity shares, preferred shares and long-term debts. The decision on capital structure is the fundamental one that the profitability of an enterprise is directly affected by such decision. No doubt, proper care and attention is ensuring while determining capital structure decision. This can be seen in the financial statement (balance sheet) of a business enterprise and recognizes serious and cautious attention.

Debt implies borrowings, the money owed outside the business that subject to the payment of fixed return, such as long term loan, preference shares and debenture. All the money sources outside the business have cost implications attributed to them. While the equity capital on the other hand refers to capital that is subject to variable return and it is equally known as the proportion that belongs to the owners of the business. It is essential to reiterate there that the optimal capital decision is imperative not only for the reason of maximization of returns to various organizations' stakeholders, but to equally impact such decisions on an organizations' skill so as to attack competitive location.

All debt financing exposes firm to the danger of liquidation and takeover of firms if not properly monitored while having the advantage of tax reduction on the firm operation. Brennan and Schwartz, (1978), purported that there is no evidence of the level of gearing that can foster profitability, that is, no level of gearing has been confirmed as the best level of gearing that can enhance the performance of a firm. It is therefore required that the managers of finance need to balance the combination of these forms of financing.

Abor (2005), described that no single theory identified as a model that can be applied to fully explain the financing pattern of firms, this implies that there is no worldwide theory of capital structure existing. More also, in the optimal capital structure propounded by Modigliani and Miller's (1958) irrelevance theory and its relevance on company profitability, most especially during emerging

economy that a firm has financial and business hard time that can lead to business failure; its ability to apply financing strategy decisions at that particular time would enhance firm performance. There is quite existing number of theories that advocated for capital structure but the researchers are still not able to explain the choice in practice, or recommend what exactly constitutes an optimal capital structure.

Bad selection of capital structure decisions will increase the cost of capital for the firm, loss of shareholder value as well as loss of maximization of profit. Disproportionate use of debt financing can lead to financial suffering or bankruptcy at the end. The risk of insolvency affects the overall performance of the firm and could wear away company profits. As much as liability levels of a firm persistently rising, the defaulting risk will also increase, in so doing causing the price of debt to get higher. Companies overloaded by debt financing may end up being not capable to service their money owing obligations while the concurrent payments increase.

It is therefore imperative for managers of firm to systematically pay proper attention to composition of capital structure so as to increase the value of firm and the same time shareholders' wealth. Therefore, financial manager's decisive responsibility is to choose the best financing option that would improve profitability and increase the net worth of the firm.

Lastly, the relationship between capital structure and profitability cannot be ignored because the improvement in the profitability is necessary for the long-term survivability of the firm therefore, it is important to test the relationship between capital structure and the profitability of the firm to make sound capital structure decisions.

### **Objective**

The main objective of this paper is to find out the relationship between capital structure and the profitability of the limited liability companies in Nigeria.

### **Hypothesis**

Ho: There is no relationship between the capital structure and profitability of the limited liability companies in Nigeria.

### **Review of Related Literature**

The decision on capital structure is a major financial judgment that affects the shareholders' return and risk taken, as well as the shares market value. Capital structure is known as the combination of long term capital in term of owned (equity) such as ordinary shares and preference shares, and debt or borrowed funds such as debentures, long term borrowings in the capital formation of a company (Tulsian, 2009). It is not an overstatement to link Theory of capital structure to Miller and Modigliani of many years ago which described the basic determinants of the capital structure of firms. Many time firms may need to adjustment their capital structure toward a targeting debt ratio that is reliable based on tradeoffs involving the costs and benefits of debt.

Profitability can be defined as the excess of money invested into a business over a period of time or on a regular basis. It is use to evaluate the performance of the business organization. Profitability uses percentage, proportion or ratio as a standard for evaluating the performance of a firm. Ratios help to summarize quantities of financial information and to make qualitative decision about the firm's financial performance. Among the various decisions facing financial manager of a company is financial decision and is the most important decision that is the choice between debt and equity capital (Glen & Pinto, 1994). The selection of this chooses depends on the understanding of financial manager on capital structure and how it influence company financial performance.

However, financing decisions in financial management remain competitive because it is believed that the on capital formation decision differs from one country to another depending on nature of the economy variables. Olowe (2011) opined that at the selection of the external fund, firm must follow the ranking of the cheapest to the dearest ones. The study of Omolehinwa (2006) stated that it is convenient to utilise retained profits than external finance because it bears no issue cost. More also, investors fancy safer securities and that is why a number of management believes that debt financing have a better signaling effect than equity capital. Many companies prefer to raise equity as a financing means of last resort and this in line with the least

resistance or least effort theory. This was the reason why Kehinde et.al (2013) argued that companies should prioritize the sources of financing ranging from internally source (equity) to debt capital. This implies that internal source of finance should be sourced first before engaging external source (debt).

Ogebe, Ogebe and Alewi (2013) investigate the impact of capital structure on firm performance in Nigeria from 2000 to 2010. The traditional theory of capital structure was employed to determine the significance of leverage and macroeconomic variables on firm's performance to make comparative analysis of the selected firms of highly and lowly geared firms. A static panel analysis was used to achieve the desired objectives. Fixed effect regression estimation model result shows that there is significant negative relationship established between leverage and performance. The study strongly recommended that firms should use more of equity than debt in financing their business activities.

Alawwad (2013) examined the impact of capital structure on the performance of non-financial firms operating in Saudi Arabia for the period between 2008 and 2012 to analyze the relationship between capital structure and profitability of 67 companies from 13 different sectors. Results show that there are significant relationship between the variables used; short-term debt (STD), long-term debt (LTD) and total debt (TD) with earnings per share (EPS), net profit margin (NPM), return on assets (ROA) and return on equity (ROE).

Nirajini and Priya (2013) attempted to analyze the capital structure and financial performance during 2006 to 2010 (Five years) financial year of listed trading companies in Sri Lanka. Correlation and multiple regression analysis were used for analysis. The study revealed that there is positive and significant relationship between capital structure and financial performance, debt equity ratio (DER), gross profit margin (GPM), net profit margin (NPM), Return on Capital Employed (ROCE), Return on Asset (ROA) and Return on Equity (ROE) were significant at 0.05 and 0.1 level of threshold.

Tudose (2012) examined the evolution of debates on capital structure and firm performance. The study employed a three-pronged approach: conceptual, theoretical and empirical. The study

concluded that specialist literature has been enriched with wide-range of theoretical and empirical debates that led to the development of analytical diagrams serving as references, essential for assessing the relationship between capital structure and firm performance.

Chao (2012) examined the influence of capital structure on organizational performance at Taiwan-listed info-electronics companies on corporate governance. Linear Structural Equation Modeling (SEM) was adopted to verify the goodness-of-fitness of the effects. Findings show that, the capital structure and corporate governance both have significant interactive influence on the organizational performance. Therefore, study concluded that Taiwan-listed-electronics companies should emphasize corporate governance in order to enhance capital structure.

Ajeigbe, Fasesin and Ajeigbe (2013) examined the relationship between capital structure determinants and ailing manufacturing firms of the listed companies in Nigeria for the period of 2005-2010 using sample of 14 manufacturing companies. The result of multiple regression analysis shows that there is positive relationship between the capital structure and long-term debt ratio, short term debt ratio and total debt ratio. Babalola (2012) critically examined the effectiveness of capital structure under the systematic risk of the performance maximization of the selected firms. The study investigated the relationship among Return on Equity (ROE) and the capital arrangement for a test of 10 firms from 2000 to 2009. Study established that there exist significant relationship between the optimal capital composition and the expected maximum worth of ROE.

However, the following studies among others found out a negative relationship between profitability and leverage: Titman and Wessels (1988); Ogebe, Ogebe and Alewi (2013) and Kehinde, Oluitan, Agbodu (2013) confirmed a negative correlation

between profitability and leverage in their various studies.

### Methodology

Data were obtained from the database of Nigerian Stock Exchange Fact books and financial annual reports of the sampled companies for time series 2010 to 2019. The study makes use of multiple regression analysis using ordinary least squares via E-views 9.0 statistical analysis, based the statistical significance limit for hypothesis testing at 5%.

### Research Model

Regression analysis was carried out to identify the relationship between capital structure and profitability. Here capital structure is the independent variable and profitability is the dependent variable. From these independent and dependent variables, the following relationship is formulated. Profitability of the limited liability companies is dependent upon the capital structure. It is represented as follows;

$$P = f(C_s) = (Eq_t, Db_t)$$

Which shows profitability is the function of capital structure.

Where;

P = Profitability

CS = Capital Structure

Here, profitability is measured with the help of four ratios namely Net profit ratio.

The model simply explains that dependent variable is subject to respective mixture of owned capital (equity) and borrowed funds (debt)

Such that:

$$Y = b_1X_1 + b_2X_2 + \dots + b_nX_n$$

Where:

$$Y = y_1, y_2$$

Y = Profit

y<sub>1</sub>, y<sub>2</sub> = Equity capital, Debt capital.

## Results Analysis and Discussion

### Descriptive Analysis

	PROFIT	C	EQUITY	DEBT
Mean	15361470	1.000000	20712411	22162162

<b>Med.</b>	277210.0	1.000000	4009518.	457203.0
<b>Max.</b>	13214022	1.000000	3.12E+08	20023231
<b>Mini.</b>	-4104769.	1.000000	-3012000.	0.000000
<b>Std. Dv.</b>	4015205.	0.000000	50124673	4132154.
<b>Jarque-Bera Prob.</b>	25.31297 0.000001	NA NA	1562.251 0.000000	125.1305 0.000000
<b>Sum</b>	85025046	49.00000	1.03E+03	1.13E+06
<b>Sum Sq. Dev.</b>	8.02E+11	0.000000	1.23E+15	1.00E+13
<b>Observations</b>	49	49	49	49

The descriptive statistics table shows that EQUITY has mean value of 20712411 and maximum and minimum values of 3.1200 and -3012000 respectively. However, the standard deviation that measures the spread of the distribution stands at 50124673. This shows a considerable dispersion from the mean. The Jarque-Beta value stood at 1562.25 and the p-value of 0.0000 indicate that the

statistics is normally dispersed at 5% level of significance ( $p < 0.05$ ). DEBT is observed with a mean value of 2216216 with minimum and maximum values of 0.00000 and 20023231 in that order. The standard deviation value of 4132154 also indicates significant spreading from the mean value. Lastly, the Jarque-Bera statistics of 125.1305 and probability-value of 0.0000 indicate the normality of the distribution.

Dependent Variable: PROFIT

Method: Least Squares

Sample (adjusted): 2 50

Included observations: 49 after adjustments

Variable	Coeff	Std. Error	t-Stat	Prob.
C	68721.18	473212.4	0.144311	0.5672
EQUITY	0.007121	0.005111	2.014621	0.0002
DEBT	0.401202	0.054011	3.782446	0.0000
R-sqd	0.725072	Mean dep.var		1534149.
Adj R-sqd	0.712177	S.D. dep. var		3912274.
S.E. of regression	3492745.	Durbin-Watson stat		0.720442
Sum sqd resi	2.87E+11			
Log likelihood	-537.5412			
F-statistic	23.10121			
Prob(F-stat)	0.000000			

The table above shows that the coefficient of multiple determinations is 0.725172 which explained the model is about 73% of the systematic variations in the dependent variable. The implication of this is that 73% of the variation in the dependent variable (profit) is explained by the independent variables "equity (EQT) and borrowing (DBT) financing in the model, while the remaining 27% is explained by other factors

which are not included in the model. The adjusted R<sup>2</sup> coefficient explanatory variables on the degree of freedom stood at 0.712177 (71%) signifies that the model is good. The F-statistics value of 23.10121 having the related p-value of 0.0000 shows that the model is jointly statistical significance at 5% level of significance. Indicating that capital structure is positively and significantly impacts on profitability.

Also, the result of the gradient coefficient of the explanatory variables also revealed that the existing positive connection between equity capital and profitability shows coefficient of 0.007121. Debt capital also found positively correlated with the level of profitability with an indication of a gradient coefficient value of 0.401202. Obviously, the p-value of 0.0000 is less than the critical p-value of 0.05 at 5% level ( $p > 0.05$ ) which is statistically significant. Finally, the Durbin-Watson value of 0.720442 shows that stochastic dependence error term is unlikely.

### Conclusion and Recommendations

This study concluded that the mean values of equity capital and debt capital 20712411 and 2216216 respectively. The  $R^2$  values of 0.51 revealed the good fitness of the model. The slope coefficient of both equity and debt capital shows positive values of 0.007121 and 0.401202 respectively. The result is significant as the p-value is 0.0000 which is less than the critical p-value of 0.05 ( $p < 0.05$ ) at 5% level. This indicates that the percentage increase in the level of equity and debt finance increases the profitability. It implies that any firms that prudently taken financing decision would absolutely have a competitive advantage in the industry and as well making higher profits. Therefore, it is recommended that firms appropriate selection of capital mix should be adopted to ensure increase in profitability, an hybrid of the capital structure is better but that firms may utilized the equity capital before any other sources in order to raise their profitability.

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