

# Effect of Capital Structure on Corporate Performance in Nigeria

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Abstract: Leverage is the use of debt in a firm's capital structure. In finance, capital structure refers to the way a corporation finances its assets through combination of equity, debt or hybrid securities. The main objective of this study is to determine the effect of capital structure on corporate performance in Nigeria. The specific objectives are to; examine the effect of debt to equity on corporate performance in Nigeria, examine the effect of total debt to total assets on corporate performance in Nigeria, ascertain the effect of short term debt to total assets on corporate performance in Nigeria and investigate the effect of short term debt to total debt on corporate performance in Nigeria. All were regressed on Return on Assets (ROA) proxy for corporate performance the dependent variable. An ex-post facto research design was adopted for this study because the data are time series data that already exist in various financial publications and reports of various issues. The study used Ordinary Least Square regressions (OLS), to determine the effect of independent variables on the dependent variable. The result of the study indicates that: Debt to equity, total debt to total asset and long term debt to total asset has positive and significant effect on return on asset (ROA) while short term debt to total asset has negative and insignificant effect on return on asset (ROA). The study therefore concludes that debt financing have positive effect on corporate performance in Nigeria within the period under review. Amongst the recommends is that, management of corporate firms in Nigeria should strive towards optimizing the debt to equity of their firm in order to increase the returns on asset and investment. Corporate organizations should increase their commitments into capital structure in order to improve the total debt to total asset from their business and transaction. Management of corporate organizations in Nigerian must caution against the apparent benefits of greater long term debt to total asset simply as a device for controlling managerial opportunistic behavior and investors and stakeholders of quoted firms in Nigeria should also consider the short term debt to total asset of any firm before committing their hard earned money as the strength of a firm financing mix determine the quantum of their returns.

Keywords: Return on Assets, Short Term Debt, medium Term Debt, and Long Term Debt

# 1.01 INTRODUCTION

Nigerian financial system is characterized by underdeveloped debt market; most firms' external debt finance is majorly short term finance and greater reliance on banks or other specialized financial institutions that provide most of the external funds, imposing extra burdens at very exorbitant cost on the firms. It is interesting to differentiate short- term debt, long- term debt and total debt effects since they have different risk and return profiles (Zuraidah, 2012).

This measure is very appropriate to be included in the measures of debt structure due to implication it normally revealed when there is an occurrence of mismatch of funding by a firm. This may be one of the reasons that led to adoption of different measures of leverage ratio rather than narrow measure of financial structure by some scholars. For example, Khan (2012) contend that theories have different empirical implications in regard to different types of debt

instruments.

Theoretical body of knowledge had established that long and short term debt ratio are good measure of leverage ratios in developing countries like Nigeria due to fund mismatch constrained by limited long term debt. Thus, mismatching funds is a situation when long term investments are financed by short term debt rather than long term debt. Apparently, the occurrence of this is prone to default as payment of interest and repayment of principal may fall due when the proceeds (cash inflow) from the investment are not readily available. The inability of the firm to repay the principal will expose it to the embarrassments resulting from legal actions. Short term debt ratio constitutes mostly entire amount of the firm's total debt ratio with the mean of 0.501 while long term debt had 0.146 as recorded in our panel data. Lucey and Zhang (2011) assert that in emerging market firms invariably obtain additional debt finance owing to credit market integration, but primarily at short maturities. They stressed further that the main reason for high proportion of short term debt is that the weak financial and legal institutions in developing countries will force creditors to use short term debt to monitor and discipline borrowers' behaviour. Empirical investigation by Khan (2012) revealed that engineering sector firms in Pakistan are largely dependent on short term debt but debts are attached with strong covenants which affect the performance of the firm. This disclosure raises an important research question on the effectiveness of debt structure in enhancing performance of quoted firms in Nigeria.

Many researchers had analyzed the effect of capital structure on corporate performance. However, most of these studies were done in an environment outside that of Nigeria; Most of the ones done in Nigeria do not include the core variables, while most of them do not use the standard econometric methodology. Again, the time frames considered in these studies were short and the results from these studies are conflicting. These shortcomings have somehow contributed to the knowledge gap in the literature, thus warranting a more systematic and comprehensive study of the effect of debt financing on corporate performance in Nigeria.

This study seeks to improve on the past studies by making use of a broad data set spanning 2008 to 2018. This work attempts to distinguish between long and short run effects of the variables in the model and determine the causalities among the variables used in the study.

# 2.0 **REVIEW OF RELATED LITERATURE**

# 2.1 Conceptual Framework

# 2.1.1 Capital Structure

Capital structure refers to the mix of long-term sources of funds, such as debentures, long-term debt, preference share capital and equity share capital including reserves and surpluses i.e. retained earnings (Pandey, 2003). Capital structure is the choice between right proportion of debt and equity that will maximize the shareholder's worth (Kuang-Hua and Ching-Yu, 2015). According to Lawal, Edwin, Kiyanjui and Kayode (2014), capital structure refers to the percentage of capital at work in a business. Capital structure is the combination of debt and equity structure of a company. Afrasiabi and Ahmadinia, 2011) stated that a firm's capital structure implies the proportion of debt and equity in the total capital of the firm. Saad (2010) recognizes three general means by which firms raise funds for new investments as use of retained earnings, issue of debt, and equity. He further said that those three sources make the capital and ownership structure. The choice of capital structure mix remains a very critical decision faced by organizations. When a firm needs to procure funds, the financial manager

would have to analyze every aspect of sources of finance and select the most advantageous source in view of the targeted capital structure. The capital structure decisions of private firms are significantly different from public funds as the private firms have been found to be relying more on debt financing (Bisma, Qarser, Muhammed, Rabia, Sidra and Ghazala, 2013).

The concept of capital structure forms a major part of capital and investment theory. Businesses are usually financed through the use of equity or shareholders fund. But where this does not ensure adequate or enough capital, then the entrepreneur or investor resorts to obtaining additional money by borrowing. The funds acquired through this source constitute what is referred to (in finance) as 'liability'. If the loan is to be repaid over a short period of time, then we refer to it as short-term liability. On the other hand, if the loan repayment will spread over a long period of time, then it is called long-term liability.

"The addition of own capital (equity) to borrowed money (liability) for the purpose of financing a venture is known as capital mix or capital structure. The techniques or methods used by management to reach the decision pertaining to the amount or ratio of own funds to liability, are very complex issues considering all the factors affecting businesses including cost of capital (interest on loan), loan repayment period, profit or revenue, as well as prevalence of business prospect in the industry" (Pandey, 2003). A business financed mainly by loan capital stands the risk of collapsing under the weight of heavy debt servicing and high cost of capital.

Retained earnings on the other hand are profits that were not distributed to shareholders or owners of capital. The concept of retained earnings gives a perfect understanding of what we may call 'saving for the rainy day'. These funds may either be paid at a latter date or be reinvested in the same business (expansion) or in another kind of venture. The purpose is simply to earn more money through reinvestment and to increase the total assets of the organization (Pandey, 2003).

"The oil industry (in Nigeria) is dominated by 6 major joint venture operations managed by a number of well known multi-nationals- Shell, Mobil, Chevron, Agip, Elf, and Texaco. The production concessions are managed through joint venture companies, in which the Nigerian Government, through the Nigerian National Petroleum Company (NNPC), holds about 60% shareholding. The foreign joint venture partners manage the operations under a joint equity financing structure regulated by a Joint Operating Agreement. All operating costs are financed jointly, by a system of monthly cash-calls. A Memorandum of Understanding defines the commercial agreement between the partners and the government" (Ogebe, Ogebe and lewi, 2013).

"As the objective of a firm should be directed towards the maximization of the value of the firm, the capital structure, or leverage, decision should be examined from the point of its impact on the value of the firm. If the value of the firm can be affected by capital structure or financing decision, a firm would like to have a capital structure which maximizes the market value of the firm (Pandy, 2003). Since the size of capital invested in business tends to be mostly (positively) correlated to the size of expected revenue or profit, we can assume that retained earnings may also increase or decrease with capital size. The goal of the capital structure decision is to determine the financial leverage that maximizes the value of the company (or minimizes the weighted average cost of capital. Each time capital structure is mentioned, what readily comes to mind is the delicate issue of how to balance equity capital and debt in the process of financing a business. The use of equity finance as the only means of raising capital for a business venture in the oil industry has been found to be grossly inadequate hence many companies borrow money to do business. It is a well established fact that the proportion of debt to equity is growing everyday due to increasing cost of operations and infrastructure.

# 2.1.2 Financial Leverage

In general context, financial leverage is the use of debt in a firm's capital structure. In finance, capital structure refers to the way a corporation finances its assets through combination of equity, debt or hybrid securities. A firm's capital structure is then the composition of its liabilities. For example, a firm that sells N20 billion in equity and N80 billion in debts, is said to be 20% equity financed and the firm's ratio of debt to total financing 80% in this example is referred to as the firm's leverage. Hence, a firm's capital structure is an indicator of the proportion of debt to equity.

Ross, Westerfield and Jordan (1998) retreated that the use of debt in a firm's capital structure is called financial leverage. The more debt a firm has, the greater is its degree of financial leverage. To them (Ross et al 1998) debt acts as a lever in the sense that using it can greatly magnify both gains and losses. Hence, financial leverage increases the potential rewards to shareholders, but it also increases the potential for financial distress and business failures.

According to Horne (2002), the change in capital structure that is caused by an increase or decrease in the ratio of debt to equity is referred to as financial leverage. When a firm includes debt as a proportion of funds employed to finance its project, financial leverage is brought into being. Financial leverage is a company practice of the acquisition of part assets of the company with fixed interest capital with the hope of increasing ends results of the common stock holders (Oloyede, 2000).

The following are advantages a firm enjoys in using debt to finance its assets:

- 1. Interest on debt is tax deductible and as such the cost of debt is reduced.
- 2. Debt holders are limited to a fixed return, so stockholders do not have to share profits if the business does exceptionally well.
- 3. Debt holders do not have voting right over the company.
- 4. Financial leverage maximizes returns.

However, the use of high debt ratio leads to greater risk (financial risk) and higher required interest rates (to compensate for the additional risk). Also financial leverage increases shareholder risk as it concentrates the firm's business risk on the shareholders, because debt-holders who receive fixed interest payments bear none of the business risk. However, financial leverage will enhance shareholders' returns on the condition that the fixed charges funds (such as the loan, debentures) can be obtained at a cost lower than the firm's rate of return on net assets (ROA or ROE).

# 2.1.3 Return on Asset

Return on assets is a measure of performance widely used in the corporate governance literature for accounting-based measures. Rouf, and Abdur. (2015) defined return on assets as a function of how profitable a firm is in totality of its entire assets. It shows the efficacy of the board and executives in terms of deploying all the assets of the firm to its maximum use and proper utilization. It is a measure which assesses the effectiveness of assets deployed and shows investors the earnings the company has realized from its investment in capital assets. Efficient

use of a company's assets is best reflected by its rate of return on its assets by total assets. The return on assets shows the shareholders how much the managers are committing the fund of the firm into net income. It is a profitability ratio for net income of a company.

# **2.2 Theoretical Framework**

This research work is anchored upon the Trade- off theory. The Trade- off theory According to Graham & Harvey (2001), the trade off theory connotes firms' choice of leverage between the benefits and costs of debt and the trade –off of costs and benefits of borrowing while holding firms' assets in lieu as a determinant of a firms' optimal debt ratio. Therefore, trade-off can be viewed as summarized balance of different benefits and costs pertaining to debt for optimal capital structure. Moreover, a firm adjusted to optimum debt ratio, cost and lags which are known as adjustment costs. Therefore, it is known as an optimal capital structure of the firm (Myers, 1984).

Trade-off theory affirms that firms have optimal capital structures, which they determine by trading off the costs against the benefits of the use of debt and equity. One of the benefits of the use of debt is the advantage of a debt tax shield. One of the disadvantages of debt is the cost of potential financial distress, especially when the firm relies on too much debt. Already, this leads to a trade-off between the tax benefit and the disadvantage of higher risk of financial distress.

# 2.3 Empirical Review

# 2.3.1 Long Term Debt and Corporate Performance in Nigeria

There are several empirical studies that have observed the association of capital structure decision with the performance of firms. Some of them have noticed a positive impact, while others have noted either a negative effect or no effect. However, this paper will analyze those studies variable by variable using the objective of the study

# 2.3.2 Debt to Equity and Corporate Performance in Nigeria

Simon & Afolabi (2011) investigates Capital Structure and Industrial Performance in Nigeria between (1999-2007) using the Ordinary Least Square (OLS) statistical technique. The findings of the study showed a positive relationship between firms' performance and equity financing and also a positive relationship between firms' performance and debt-equity ratio. A negative relationship exists between firms' performance and debt financing.

Julius, Barine & Adesina (2015) analyzed capital structure and financial performance in Nigeria between 2005 to 2012 employing the correlation and regression model. the study indicates that capital structure has a significant positive relationship with the financial performance of Nigeria quoted banks.

Nwaolisa & Ananwude (2016) examined the effect of equity finances on the Performance of manufacturing firms in Nigeria within the period of 1993 to 2013. This study indicates that financial structure has negative effect on financial Performance of Nigeria consumer goods firms. we suggests that firm's management should established a debt-equity mix capable of improving financial performance notwithstanding the proxy adopted for assessing performance Nikoo (2015)employing the data of 17 banks over a period of 2009–2014, observed a significant positive effect of capital structure choice on the performance of the sampled banks.

Uremadu, & Efobi (2012) used data on 100 listed firms over a period of 2006–2009 and

observed a significant positive association between the performance of a firm and capital structure. They used ROA, Earnings Per Share (EPS) and net profit margin as proxies to measure the performance and short-term debt obligations to total asset (STDTA), long-term debt obligations to total asset (LTDTA), and total debt obligations to total asset (TDTA) as the capital structure variables. The authors claimed, on the basis of exponential generalized least squares approach, that their findings support the trade-off theory.

# 2.3.3 Total Debt to Total Assets ON Corporate Performance in Nigeria

Salter (2012) inspected the influence of capital structure decision on the profitability of 28 firms from the Tehran stock exchange. They, while considering the data for 2005–2009, observed that equity and debt has positive impacts on the performance proxies by ROE and Tobin's Q.

Arbabiyan & Safari (2009) using the data of 100 firms for 2001–2007, reported a significant positive link of STDTA and TDTA with ROE. However, the authors observed an inverse association of LTDTA with ROE. The main drawback of this study was that they used only a single variable, ROE, to measure the performance. In a similar vein, Abor (2005) attempted to explore the impacts of capital structure on the performance of the firms belonging to the Ghana stock exchanges and found a significant positive impact of STDTA and TDTA on ROE. Furthermore, the author also observed a negative association between LTDTA and ROE.

Foyeke, Olusola & Adeyemo(2016) Financial Structure and the Profitability of Manufacturing Companies in Nigeria using the Spearman's Rank correlation and regression techniques between 2008 to 2012. The study showed that equity has a significant positive relationship with the profitability of manufacturing companies in Nigeria. The study recommends that managers should place greater emphasis on the facilitation of equity capital and policy makers should encourage manufacturing companies by reducing the cost of debt.

Bisma, Qarser, Muhammed, Rabia, Sidra & Ghazala (2013). Access the Nigeria Ailing Industries and the Capital Structure Theory: A Need for Concern. Using the multiple regression analysis, the study indicate that the direction of the explanatory variables such as tangibility, profitability, firm size and non-debt tax shields with total debt largely consistent with the explanations of trade-off theory and prove past empirical findings. The study thus, recommends that top management should maximize market value and not book value because capital structure theory is developed only in market value context.

# 2.3.4. Short Term Debt to Total Assets on Corporate Performance in Nigeria

Uremadu & Efobi (2012) investigate the Impact of Capital Structure and Liquidity on Corporate Returns in Nigeria: Evidence from Manufacturing Firms using OLS methodology. The results showed that long-term debt values lead profits under normal OLS function, followed by ratios of long-term debt to equity; short-term debt to total liability, and long-term debt to total liability in descending order of magnitude. It is therefore recommended that corporate firms in Nigeria should strive to always maintain a balanced proportion of long-term debts in their capital structure mix; and that both the financial system and the corporate enterprises should always endeavor to uphold a policy of maintaining an adequate domestic liquidity rating for there to be sustained increases in corporate growth and profitability in the years ahead.

Ramadan & Imad (2015) analyzed the data over the period of 2008–2012, with an aim to explore the impacts of capital structure variables, TDTA, LTDTA and STDTA, on the performance of Jordanian firms. They used the data of 72 companies over the period of 2005–

2013 and by applying the pooled OLS observed the significant negative effect of capital structure on ROA. Abdel-Jalil andTowfiq (2014) by employing multiple regression analysis documented a significant inverse influence of debt ratio and the proportion of debt to equity on the rate of return generated from investment activities, ROI.

Memon & Ahmed (2012) checked the relationship of a capital structure decision with the performance of the Pakistani organizations, where the authors used ROA as a single measure of performance. They applied the log-linear regression model on the data of 141 Pakistani textile companies for the period of 2004–2009 and reported a significantly negative association between TDTA and ROA. By using the ratio of debt to the total asset as a single proxy of capital structure and ROA as a proxy to measure the performance of firms,

Muritala (2012) examined the influence of using leverage in the capital structure on the performance of Nigerian firms. They gathered data on ten firms over the period of 2006–2010 and, by applying panel least square approach, observed a negative influence of debt to total asset ratio on ROA. In another study, investigating data of 76 firms over 2001–2006. Soumadi & Hayajneh (2012) Reported a similar negative influence on ROE and Tobin's Q. Arguing that a single measure is not enough to measure a firm's performance.

Salim & Raj Yadav. (2012) employed EPS, ROA, ROE and Tobin's Q as measures of performance. They used panel data of 237 Malaysian companies for 1995–2011 and observed a significant negative influence of TDTA, LTDTA and STDTA on EPS, ROA, ROE and Tobin's Q.

Manawaduge (2011) in the context of an emerging market, scanned the influence of leverage on Sri Lankan firms' profitability. An analysis of pooled panel data of 155 firms over the period of 2002–2008 indicated an inverse influence of leverage on the profitability of firms.

Chakraborty (2010) also found an inverse relationship between leverage and the performance of firms where performance was considered by the relative amount of profit before interest and taxes.

Kakanda, Mohammed & Abba(2016) investigate the effect of Capital Structure on Performance of Listed Consumer Goods Companies in Nigeria using the Descriptive statistics, correlation, and hierarchical multiple regression analyzes. The study indicates that short-term debt (STD) has no significance positive effect on return on equity (ROE) while Long-term debt (LTD) has positive relation and significant effect on ROE. The study recommends that firms should consider the mixture of equity and debt since they are major determinants of corporate performance.

# 2.3.5 Short Term Debt to Total Debt on Corporate Performance in Nigeria

Akeem, Edwin, Kiyanjui & Kayode (2014) examined the effects of Capital Structure on Firm's Performance: Empirical Study of Manufacturing Companies in Nigeria using Descriptive and regression technique. The result indicates that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance. It was thus, hereby recommended that firms should use more of equity than debt in financing their business activities, in as much as the value of a business can be enhanced using debt capital.

Al-Tanani (2013) inspected the association of capital structure choice with the profitability of Jordanian companies. Applying the data of 2005–2009, they found no statistically significant association between ROA and debt ratio.

Safiudin (2015) applied descriptive statistics to trace the influence of financial structure

on the financial and non-financial firms operating in Bangladesh. They employed the data for 40 firms for a period of 2008–2012 and concluded that leverage plays a critical role in the performance of a firm. The major drawback of their study was that it used only descriptive statistics rather than an econometric model to explain the relationship.

Hossain & Md. Akram (2015), explored the antecedents of capital structure in Bangladesh. By using the data of 74 manufacturing firms for the period, 2002–2011, the authors applied a panel corrected standard regression model and observed a negative relationship between most of the variables and then concluded that, in Bangladesh, most firms follow pecking order theory and static trade-off theory.

Rouf (2015), considering the data for a period of 2008–2011 for 106 manufacturing companies investigated the impacts of capital structure on the performance of non-financial companies, where the performance, measured by ROA and ROS, showed a significant negative influence.

Hasan, Bokhtiar, Mainul, Afzalur & Md. Nurul (2014), excluded the performance of bank sector and inspected the effects of capital structure choice on the performance of Bangladeshi firms over the period of 2007–2012. The authors used ROA, ROE, EPS and Tobin's Q as the measures of performance. Applying pooled OLS, they observed negative impacts.

Chowdhury & Chowdhury (2010), checked the influence of capital structure on the goal of the maximizing a firm's value. They, excluding the banking sector, considered the data of 77 non-financial firms for a period of 1994–2003 and observed a positive influence.

#### 3.0 METHODOLOGY

#### **3.1** Research Design

The data for the analysis are secondary data therefore the researcher used an ex-post facto research design for the study. The study used secondary data that were sourced from financial publications such as the Nigeria Stock Exchange (NSE) Fact Book and daily official list. Central Bank of Nigeria Statistical Bulletin, CBN Annual Reports and Accounts, Nigeria Bureau of Statistics (NBS) for the period under review. The model regresses debt to equity, total debt to total assets, long term debt to total assets and short term debt to total debt on corporate performance in Nigeria which will be peroxide by return on asset (ROA) which is the dependent variable (Y) while debt to equity, total debt to total asset, long term debt to total asset and short term debt to total asset are the independent variables(X).

#### **3.2** Model Specification

The model used for the study was the adaption and modifications from the work of Abeywardhana, (2015) who analyzed the effect of debt financing on corporate performance in United Kingdom The model is stated thus:

ROA =f( DTE, TDTA, LDTA)

Where: ROA= Return on Asset DTE= Debt to Equity TDTA= Total Debt to Total Asset LDTA=Long Term Debt to Total Asset The model was adopted and modified as follows. It is stated as functional thus: ROA = f(DTE, TDTA, LDTA, SDTA)  $ROA = b_0 + b_1 DTE b_2 TDTA + b_3, LDTA + b_4 SDTA + Ut - - - - 1$ Where: ROA = Return on Asset DTE = Debt to Equity TDTA = Total Debt to Total Asset LDTA = Long Term Debt to Total Asset SDTA = Short Term Debt to Total Asset b0 = the constant B1 - b4 = the coefficients of the explanatory variablesUt = Error term

#### 3.3 Method of Data Analyses

The data are analyzed with econometric techniques involving descriptive statistics, Augmented Dicker Fuller tests for unit roots, Johansson technique for cointegration test for long run relationship and the ordinary least square (OLS).

# 4.0 DATA PRESENTATION AND ANALYSIS

Data for analysis are presented as Appendix I

#### 4.1 Unit Root Test

The unit root test is conducted using the Augmented Dickey Fuller (ADF) test proposed by Dickey and Fuller (1979). The result of ADF statistics is presented below.

Variables	ADF Statistic	Order Of Integration	Level Of Significance
ROA	-6.190751	1(1)	5%
DTE	-5.494642	1(1)	5%
TDTA	-8.023468	1(1)	5%
LDTA	-4.554952	1(1)	5%
SDTA	-11.66793	1(0)	5%
<u>a</u> 1 1			

#### **Table 4.2 Augmented Dickey Fuller Test**

Source: Authors Computation from E-View Version 8.0

The result confirmed that short term debt to total asset is stationary at level. Debt to equity, total debt to total asset and long term debt to total asset were stationary after first difference. All the variables are significant at 5% level of significance.

# 4.2 Co-integration

After the test for the order of integration, the next step is to test for co-integration. This test is used to check if long run relationship exists among the variables in the model. This will be carried out using the Johansen technique for cointegration.

# Table4.2: Cointegration Test for Long-run Relationship Between debt financing on and corporate performance in Nigeria

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None * At most 1 * At most 2 * At most 3 * At most 4 *	0.857689 0.716711 0.484159 0.410603 0.347869 0.169413	135.3988 82.75585 48.70113 30.82830 16.55460 5.011821	95.75366 69.81889 47.85613 29.79707 15.49471 3.841466	0.0000 0.0033 0.0415 0.0379 0.0345 0.0252

Unrestricted Cointegration Rank Test (Trace)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.857689	52.64297	40.07757	0.0012
At most 1 *	0.716711	34.05472	33.87687	0.0476
At most 2	0.484159	17.87282	27.58434	0.5057
At most 3	0.410603	14.27370	21.13162	0.3430
At most 4	0.347869	11.54278	14.26460	0.1290
At most 5 *	0.169413	5.011821	3.841466	0.0252

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The result of the cointegration indicate that, for trace statistic, six cointegrating equations exist at 0.05 level while for the Max-Eigen statistic, three cointegrating equation obtains at 0.05 level. Thus, the null hypothesis of no cointegrating equation is rejected using the Trace Statistics and the Max-Eigen value tests. This suggests the existence of a long run relationship among the variables at 5% level of significance. Thus, the study posits that there is presence of long run relationship between debt financing on and corporate performance in Nigeria

#### 4.3 The Ordinary Least Square Regressions

In this section, we provide the benchmark test of the significance of the independent variables in explaining the effect of debt financing on corporate performance in Nigeria

#### Table 4.3 Regression Result for the Model

Dependent Variable: ROA Method: Least Squares Date: 05/12/14 Time: 13:24 Included observations: 30

riable	Coefficient	Std. Error	t-Statistic	Prob.
С	10.19959	0.473190	2.535498	0.0000
TE	5.379378	0.031406	2.527495	0.0032
DTA	7.023766	0.063750	2.372804	0.0024
	riable C TE DTA	riable Coefficient C 10.19959 DTE 5.379378 DTA 7.023766	ciableCoefficientStd. ErrorC10.199590.473190OTE5.3793780.031406OTA7.0237660.063750	ciableCoefficientStd. Errort-StatisticC10.199590.4731902.535498OTE5.3793780.0314062.527495OTA7.0237660.0637502.372804

LDTA SDTA	3.053499 -2.267337	0.058387 0.385615	2.416286 -1.362468	0.0001 0.7536
R-squared	0.757334			
Adjusted R-squared	0.705801			
F-statistic	4.788675	Durbin-Watson s	tat	2.487265
5Prob(F-statistic)	0.00021			

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Sources: Computation from the E-view 8.0

From the results of the OLS, it is obvious that the constant parameter (Bo) is positive at 10.19959. This means that if all the independent variables are held constant, ROA as a dependent variable will grow by 10.19959 units in annual-wide basis.

**Debt to Equity:** the coefficient of debt to equity (DTE) is positive at 5.379378 with t-Statistic of 2.527495 and probability value of 0.0082 which means that debt to equity (DTE) has positive and significant effect on return on asset (ROA), a unit increase in debt to equity (DTE) will cause (ROA) to increase by 5.379378 units.

**Total Debt to Total Asset:** The coefficient of total debt to total asset (TDTA) is positive at 7.023766 with t-Statistic of 2.372804 and probability value of 0.0024 which means that, total debt to total asset (TDTA) have positive and significant effect on (ROA). A unit increase in total debt to total asset (TDTA) will lead to a unit increase on (ROA) by 7.023766.

**Long Term Debt to Total Asset:** the coefficient of long term debt to total asset (LTDTA) is positive at 3.053499 with t-Statistic of 2.267337 and probability value of 0.0001 which means that, long term debt to total asset (LTDTA) has positive and significant effect on return on asset (ROA). A unit increase in long term debt to total asset (LTDTA) will cause return on asset (ROA) to increase by 3.053499 units.

**Short Term Debt to Total Asset**: the coefficient of short term debt to total asset (SDTA) is negative at 2.267337 with t-Statistic of 1.362468 and probability value of 0.7536 which means that, short term debt to total asset (SDTA) has negative and insignificant effect on return on asset (ROA). A unit increase short term debt to total asset (SDTA) will cause return on asset (ROA) to decrease by 3.267337 units.

The Adjusted R-squared is 0.715801 which means that 71% of total variation on return on asset (ROA) can be explained by the variables, namely DTE, TDTA, LDTA and SDTA while the remaining 29% is due to other stochastic variables. The Durbin-Watson statistics at (2.487265) which means the model is free from autocorrelation. The F-statistic is 4.788675 which imply that all the explanatory variables in the study have significant effect in return on asset (ROA) within the period under study.

# **4.4 Discussion of Finding**

The result of the ordinary least square (OLS) indicates that:

**Debt to Equity:** has positive and significant effect on return on asset (ROA), the results of our findings are consistent with the work of Kumar, (2015). Posit that debt to equity has positive effect on return on asset in Nigeria,

**Total Debt to Total Asset:** have positive and significant effect on (ROA). The result of our findings are consistent with the work Merugu, & Reddy (2016), they posit that total debt to total asset has positive effect on return on asset in Nigeria within the period under review. Gichangi, (2014).summit that total debt to total asset had positively affected the performance of quoted firms in Nigeria

**Long Term Debt to Total Asset:** has positive and significant effect on return on asset (ROA) The results of our findings are consistent with the work of Onyenka and Uchenna (2014).they posit that long term debt to total asset has positive effect on return on asset in Nigeria within the period under review

**Short Term Debt to Total Asset**: has negative and insignificant effect on return on asset (ROA). The result of our findings is inconsistent with the work Bhushan and Mohinder, (2016) they posit that short term debt to total asset had negative and insignificant effect on return on asset of quoted firms in Nigeria.

# 5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

In line with the objectives and hypotheses of the study, the result of the study indicates that:

**Debt to Equity:** has positive and significant effect on return on asset (ROA)

**Total Debt to Total Asset:** have positive and significant effect on (ROA)

Long Term Debt to Total Asset: has positive and significant effect on return on asset (ROA)

**Short Term Debt to Total Asset**: has negative and insignificant effect on return on asset (ROA) The Adjusted R-squared is 0.715801 which means that 71% of total variation on return on asset (ROA) can be explained by the variables, namely DTE, TDTA, LDTA and SDTA while the remaining 29% is due to other stochastic variables. The Durbin-Watson statistics at (2.487265) which means the model is free from autocorrelation. The F-statistic is 4.788675 which imply that all the explanatory variables in the study have significant effect in return on asset (ROA) within the period under study.

The result of the study indicates that: Debt to equity, total debt to total asset and long term debt to total asset has positive and significant effect on return on asset (ROA) while short term debt to total asset has negative and insignificant effect on return on asset (ROA).

The study therefore concludes that debt financing have positive effect on corporate performance in Nigeria within the period under study.

Following our findings, the study recommends that,

- 1. The management of corporate firms in Nigeria should strive towards optimizing the debt to equity of their firm in order to increase the returns on asset and investment. They can do that through ensuring that their capital structure is optimal.
- 2. Corporate organizations should increase their commitments into capital structure in order to improve the total debt to total asset from their business and transaction.

- 3. The Management of corporate organizations in Nigerian must caution against the apparent benefits of greater long term debt to total asset simply as a device for controlling managerial opportunistic behavior. This is because as the level of debt increases, the capital structure can change from one of internal control to one of external control.
  - 3. Investors and stakeholders of quoted firms in Nigeria should also consider the short term debt to total asset of any firm before committing their hard earned money as the strength of a firm financing mix determine the quantum of their returns.

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Companies		ars	ROA (Ratio)	STD (M)	MTD (M)	— LTO (M)
Pz Cussons Nig Plc		2007-	0.02	49241	72901	35577
Pz Cussons Nig Plc		2008	0.03	52614	34219	33327
Pz Cussons Nig Plc		2009	0.03	67612	41209	34905
Pz Cussons Nig Plc		2010	0.05	51742	54351	32770
Pz Cussons Nig Plc		2011	0.04	17530	57229	22642
Pz Cussons Nig Plc		2012	0.06	10498	52295	35577
Pz Cussons Nig Plc		2013	0.05	25040	11249	33324
Pz Cussons Nig Plc		2014	0.17	21399	1099	34908
Pz Cussons Nig Plc		2015	0.06	43284	783	32465
Pz Cussons Nig Plc	2018	2016	0.01	43284	457	27706
UAC Nig Plc		2007	0.12	35493	75199	58325
UAC Nig Plc		2008	0.25	53128	61248	40858
UAC Nig Plc		2009	0.23	24080	46244	45513
UAC Nig Plc		2010	0.24	13191	91620	30648
UAC Nig Plc		2011	0.28	32959	60150	52639
UAC Nig Plc		2012	0.11	24131	2395	39607
UAC Nig Plc		2013	0.16	35582	8797	49522
UAC Nig Ple		2014	0.16	36532	1172	59488
UAC Nig Pic		2015	0.19	13128	7395	53476
UAC Nig Plc		2016	0.12	60329	3028	48525
Nestle foods Nig plc		2007	0.43	51899	7525	20668
Nestle foods Nig plc		2008	0.05	31599	10261	42669
Nestle foods Nig plc		2009	0.08	83578	49886	34378
Nestle foods Nig plc		2010	0.15	10219	34564	24533
Nestle foods Nig plc		2011	0.14	18764	2 6950	35575
Nestle foods Nig plc		2012	0.02	37275	24372	35712
Nestle foods Nig plc		2013	0.03	58279	72901	35577
Nestle foods Nig plc		2014	0.03	35640	34219	33327
Nestle foods Nig plc		2015	0.05	36777	41209	34905
Nestle foods Nig plc		2016	0.04	34968	54351	32770
Dangote Nig Ple		2007	0.06	34080	57229	22642
Dangote Nig Ple		2008	0.05	34114	52295	35577
Dangote Nig He		2009	0.17	35493	11249	33324
Dangote Nig Fle		2010	0.06	33128	1000	34908
Dangote Nig He		2011	0.01	31080	783	32465

# APPENDIX DATA FOR THE ANALYSIS

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Dangote Nig Plc	2012	0.12	16416	457	27706
Dangote Nig Plc	2013	0.25	45932	75199	58325
Dangote Nig Plc	2014	0.23	35779	61248	40858
Dangote Nig Plc	2015	0.24	42372	46244	45513
Dangote Nig Plc	2016	0.28	43938	91620	30648
Guinness Nig Plc	2007	0.11	11060	60150	52639
Guinness Nig 11e	2008	0.16	10310	2395	39607
Guinness Nig , le	2009	0.16	54189	8797	49522
Guinness Nig Ple	2010	0.19	14119	1172	59488
Guinness Nig Ple	2011	0.12	27933	7395	53476
Guinness Nig Me	2012	0.43	14620	3028	48525
Guinness Nig Plc	2013	0.05	16326	7525	20668
Guinness Nig Te	2014	0.08	32238	10261	42669
Guinness Nig Me	2015	0.15	37949	49886	34378
Guinness N.g Plc	2016	0.14	25826	34564	24533

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