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## RELATIONSHIP BETWEEN RETURNS ON INVESTMENT, RETURN ON EQUITY AND CAPITAL STRUCTURE OF SELECTED QUOTED FIRMS IN NIGERIA

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### ABSTRACT

Extant literatures show that Nigeria firms have issue with determination of the perfect mix of debt and equity or whether to use equity or debt capital only to finance their investments and operations. The study explored the extent of relationship between profitability of the firms in Nigeria through the use of return on assets and return on investment ratios and capital structure decisions. This study used regression analysis to find the relationship that exists between capital structure and return on assets of the selected quoted firms in Nigeria from 2011 to 2015. It also find the relationship that exists between capital structure and return on assets of the selected quoted firms in Nigeria. This research limits its analysis to the use of data taken from the selected firms' financial statement for the period under study. This finding shows that the relationship between to return on asset (ROA) and capital structure is insignificant but the relationship between return on equity (ROE) and capital structure is significant.

**Keywords:** *Capital Structure, Profitability, Nigerian Accounting Standard, IFRS*

## **INTRODUCTION**

In every business organization, there are necessary characteristics that should be put in place to ensure its survival. These characteristic includes its capital structure, assets and investment policies. It also has to with how these characteristic are managed to ensures high financial performance and improve the firm's value. Capital structure decision involves how the firm combines its debt and equity and uses it to finance its business activities. It is considered as one of the necessary financial decisions for any business firm in order to enable the firm maximize returns and affect the firm's value. Globally the growth of business organizations have significantly been as a result of good decisions made by the management of the organization which affect or get affected several stakeholders of the organization resulting to its growth. Financial statements information plays a significant role in providing necessary information to aid the users in their decisions and these users of financial information include managers. It is the role of the firm's management to make all the necessary decisions which may include capital structure decisions, financial and other managerial decision to enable them improve the firms' financial performance and firm value. Financial performance of a firm includes profitability, liquidity, solvency and maximization of firm' value. Profitability is considered important cause it is mostly the reason for existence of the firm. It is obvious that if a firm does not make profit it will lose its purpose especially for organizations other than nonprofit making organization.

Decisions on the capital formation can affect the firm by changing its expected profit earnings. Firm should therefore put so much thought on their capital structure decisions such that they know the level of debt-equity mix that will result in efficiency and effective

performance. The main classes of funding a firm operation include debt and equity. These give us two types of investors namely debt holders who involve in providing the firm with all the short term or long term loans and the equity holders who provides funds by purchasing units of shares of the firm. Firm's assets can be acquired using either debt or equity or mix which in turn means that the value of the firm asset is as a result of good capital structure. Its tangibility and the turnover response will be measured by how much debt or equity figures were involved. Assets turnover ratio measures the firm's efficiency in utilizing its assets to generate sales revenue. Profitability as one of a measure of financial performance can be measured as net income divided by the total assets. The two measure of profitability used in this study are return on assets and return on investment. Firm with large amount of non-current assets can use them as collateral to obtain loans or debts. Therefore a firm's assets tangibility is a determinant to the amount of debt it's able to acquire per time thereby contributing to the capital structure of the firm. Extant literatures show that Nigeria firms have issue with determination of the perfect mix of debt and equity or whether to use equity or debt capital only to finance their investments and operations. The study explored the extent of relationship between profitability of the firms in Nigeria through the use of return on assets and return on investment ratios and capital structure decisions.

## **LITERATURE REVIEW**

Capital structure has been seen to be very necessary in financial decision making; this in turn assists the company's management to predict the firm end result from their operations in either on the long run or short run. Capital structure represents the organizations several types of equities and liabilities. Capital structure

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decision is the mix of debt and equity that a company uses to finance its business (Damodaran, 2001). Generally, Capital structure has been defined as that combination of the debt and equity that attains the stated managerial goals i.e. the maximization of the firm's market value. It also can be defined as that combination of debt and equity that minimizes the firm's overall cost of capital. A company's financial performance is calculated by how much better are the shareholders at the end when compared to the beginning of a period. We can then say that a firm's financial performance is calculated as how much wealthier are the shareholders. Financial performance can be measured in five broad ways: profitability, liquidity, solvency, repayment capacity and efficiency.

A firm's performance as considered objectively is affected by so many factor and capital investment decision as well as capital structure is considered to be a major contributor. Capital structure is referred to as a mix or combination of the debt and equity components of a firm. Debt financing consists of the company's long term borrowing from creditors and is expected to pay a particular interest rate annually until the loan is fully repaid. Debt financing is principally money that you borrow to run your business and is divided into two categories based on the time frame and it use: long term debt financing and short term debt financing. Long Term Debt Financing usually used to finance capital projects and it is for a period more than a year and it consists mainly on non-current assets, such as equipment, buildings, land, or machinery. Short Term Debt Financing also referred to as operating loan refers to borrowings to carry out day to day activities and replacements is expected to be made within a year. So we can say that Debt financing is a combination of both short and long term borrowings.

Equity financing refers to money proceeds from sale of company's units of share to raise fund for financing other project of the business and its operational running. It involves business investors acquiring part of the company with the hope of getting profits in form of dividend from the investment which the equity was used in financing. Unlike debt financing, no annual interest rate is required to be paid. Although, no collateral is required, the investor possesses part of the company and can be referred to as a shareholder of the firm. Assets turnover as defined as the ratio of sales to total asset of the firm. The measure indicates how much sales can be attributed to each asset thereby showing an effect of the financial performance of the firm. We can therefore say that since profitability measured as net income to average asset has an effect on the financial performance of the firm; the asset turnover can also serve as a good predictor to financial performance of the firm.

Assets tangibility is the ratio of tangible assets also referred to as non-current assets to total asset of the firm. Since assets play important role in the financial performance, profitability tend to be affected by the presence of tangible assets. The presence of effective tangible asset leads gives room to the availability of good collateral for loan acquisition which boosts the capital structure of the firm. Profitability is distinguished from "Profit". Profit refers to the absolute quantum of profits whereas the profitability refers to the ability to earn profits. Profits are necessary to run the firm in a healthy atmosphere and to defend it from rival business firms. The structural composition of the capital of a company or organization will have an impact on its profit earning capacity (Reddy, 2012).

Traditional theory is on the opinion that debt financing is less expensive than equity acquisition and advices that

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it's better for a firm to borrow than for it to consist of several owners. The theory assumes that if the cost of debt stays the same and it reaches a substantial level then there would be an increase and therefore the weighted cost of capital will fall without delay an external source of finance is brought forth and the appointment of increase in the level of gearing and also the market value of the firm and the market value per share will be increased where the weighted cost of capital is the lowest point. The traditional theory speculates that there is an optimal capital structure which increases the firm's value and decreases the cost of capital. The theory acknowledges that the value of the firm cannot be idem at different levels of capital structure.

Modigliani-Miller Theory (M&M) capital structure irrelevance theory was published in 1958 and it states that under specific situations of no bankruptcy cost, no taxes, an efficient market, and in irregular information, the worth of firm is not relevant how the firm is financed. It is on the opinion that the ways which a firm is financed has no impact with the profitability of the firm's value saying that the firms' profitability is due to the inflows and worth of the assets invested in by the firm. M&M implies that unless the assumptions of no taxes, vat with corporate taxes, firms should be financed with all debts as it will lead to tax reduction since the tax will be deducted from the debt interest. The Modigliani and Millers based on what they called homemade leverage, implied that investors do not need the company to acquire a loan on their behalf rather the individual investors acquire it themselves, claiming that investors receive nothing from corporate leverage that the individual cannot get on its own especially on the assumption that individuals and companies have the same interest rate on borrowings.

The trade off theory is an addition to the M & M theory by considering the additional risk that debt acquisition carries. The tradeoff theory says that there is a maximum level of debt where an additional increase is equal to the extra cost of the financial suffering. The calculation of the extra cost of the financial suffering is the hardest job such that one can determine the optimal debt level. Therefore, the theory argues that firms should find out the optimum level of the debt and equity financing. (Ata and Ag, 2010). The obvious candidate is bankruptcy. Kraus and Litzenberger (1973) provide a classic statement of the theory that optimal leverage reflects a trade-off between the tax benefits of debt and the deadweight costs of bankruptcy. According to Myers (1984), a firm that follows the trade-off theory sets a target debt-to-value ratio and then gradually moves towards the target. The target is determined by balancing debt tax shields against costs of bankruptcy. Static trade off theory states that every firm has an optimal debt to equity ratio that maximizes its value. De Angelo and Masulis (1990), the trade-off theorist, posit that a firm sets its target debt level and then works towards it. The theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The static trade off theory of capital structure says that firms should choose their mix of debt and equity financing aiming to bring balance to the cost and benefits of the debt acquisition. Under dynamic trade off theory, the first dynamic models to consider the tax savings versus bankruptcy cost trade-off are Kane, Marcus, and MacDonald (1984) and Brennan and Schwartz (1984). Their model took into consideration: taxes, uncertainty and bankruptcy costs but no transaction cost. The firms maintain high debt level and take advantage of tax savings as there is no transaction cost.

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Agency theory is concerned with the relationship between shareholder and agents usually the company's managers. In this theory, shareholders are the actual owners of the company and the job of the agent is limited to making sure that the shareholders' values are fully maximized'. Jensen and Meckling (1976) put forward the concept of agency costs. There is an agency relationship between the shareholders and creditors of firms that have substantial amounts of debt. The conflict now arises because the interest of the shareholder differ from that of the managers as the shareholders make sure that excess cash flow comes back to them in form of dividend while the agents is aimed at using the free cash flow to fulfill the need for self-aggrandizement and prestige and invest in unprofitable projects. If the shareholders want this to actually happen. They have to undertake a cost called agency cost.

Pecking order theory is based on the assumption that there are three sources of financing which is: in from internally generated debt issue and equity issue. The theory is on a basis that company should finance themselves first on their internally generated cash, then on debt issue and lastly on the equity issue. The theory makes this leads on the fact of asymmetric information meaning that an investor cannot have the same information with the managers because the managers work in the company and is able to have information pertaining to all the investment and project showing the true values of the firm. The theory also said that there is a signaling affect that because of the information the managers have, he can undervalue the stock so it is always preferable to issue debt than equity. In contrast to the tradeoff theory, the pecking order theory insists that there is no optimal amount of debt and its always preferable that the companies should finance themselves form retained earnings. Moreover, it argues that the D/E



ratio shows the internal financing capability as well as new investment opportunities of the firms. Profitable firms that have less investment opportunities will have low D/E ratio, while firms with more investment opportunities but restricted internal funding will have high D/E ratio.

This research will not complete and insufficient if previous empirical studies on the subject are not consulted. Mwangi & Birundu, 2015 using a five year operation on 40 SME companies with multiple regression resulted on the findings that there is no significant effect of debt ratio, asset turnover and assets tangibility on the financial performance. (Salawu, 2009) concluded using 50 companies of listed firms in Nigeria, a secondary data analysis was carried out which resulted that there is an insignificant relationship between capital structure and profitability measured as earnings after tax and interest divided by net assets. Khidmat & Rehman (2014) concluded on a 9 year period financial statement analysis of ten listed companies in the chemical sector of Pakistan that capital structure has a negative and significant relationship on profitability measured by return on asset (ROA) and return on equity (ROE) measuring capital structure on the basis of debt ratio. Anafo, Amponteng, and Yin, (2015) carried out their studies on 17 listed banks of the Ghana stock exchange during the period from 2007 to 2013 concluding that both long term and short term debt to total asset have a positive and significant relationship to return on assets (ROA) and return on equity (ROE). Badar and Saeed (2013) after carrying out a 5 year period analysis on 10 firms from the sugar sector of Pakistan found out that short term debt ratio has a negative significant effect on firms' performance while the long term debt ratio and asset turnover has a positive significant relationship on profitability.

### **1. Research Questions**

The questions answered by the study include:

1. To what extent does return on assets relate with capital structure?
2. To what extent does return on equity relate with capital structure?

### **2. Objectives of the Study**

The specific objectives of the study are to:

1. examine the relationship between return on assets and capital structure
2. examine the relationship between return on equity and capital structure

### **3. Research Hypotheses**

The following hypotheses in null form were tested.

$H_0$ : there is no significant relationship between return on assets and capital structure.

$H_0$ : there is no significant relationship return on equity and capital structure.

## **METHODOLOGY**

This study used regression analysis to find the relationship that exists between capital structure and return on assets of the selected quoted firms in Nigeria from 2011 to 2015. It also find the relationship that exists between capital structure and return on assets of the selected quoted firms in Nigeria. This research limits its analysis to the use of data taken from the selected firms' financial statement for the period under study.

### **Sampling selection**

The population of study comprises of total number of two hundred and nineteen (219) companies are listed on the Nigerian Stock Exchange (NSE) between the years 2011 to 2015 and formed the population for this study. In

order to be part of the sample size, firms selected must fulfill the conditions stated below:

(i) The company must be listed on the Stock Exchange in the selected country.

(ii) The company' financial statement from 2011 to 2015 must be available and financial statement variables must be obtainable.

Thirty quoted firms that met the conditions given above and were selected as sample size for this study (i.e. 13% of the total population). Egbide (2008) and Krejcie and Morgan (1970) suggested minimum sample size of 10% of the population for sample size and was supported by the modern online sample size calculator by Raosoft, Inc. In line with these previous the sample size of this study is above the minimum sample size required.

### **Sources of Data**

Secondary data used for this study were extracted from annual published financial statements of selected firm. This study examined the relationship between the independent variable and the dependent variable and a statistical analysis was be used to provide descriptive statistics. The data was analysed using regression analysis to study the relationship between return on assets and capital structure. Also the relationship between return on equity and capital structure was analysed.

### **Operationalisation of variables**

#### **Independent variables**

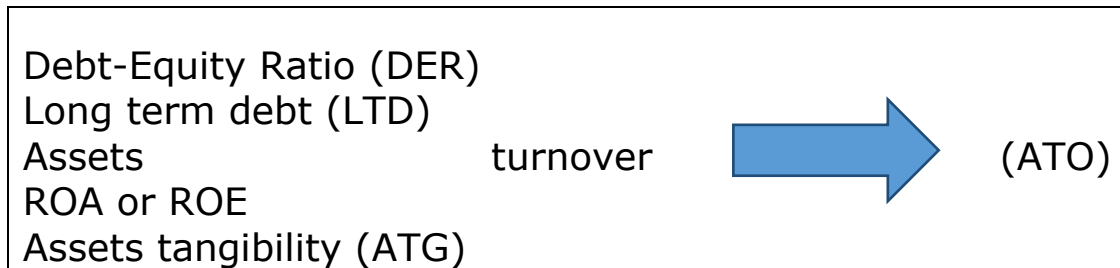
Three variables which serve as proxies for measuring the capital structure as long term debt, Assets turnover, Assets tangibility from the statements.

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**Dependent variables**

The dependent variables are ROA (Return on Assets = Net Income / Total Assets) and ROE (Return on Equity = Net Income / Equity) for comparison.



SOURCE: RESEARCHER, 2017

Where: DER, LTD, ATO, ATG = Capital structure analysis (Independent Variable)

ROA or ROI = profitability (dependent Variables)  
Profitability – as explained in the previous chapter, according to(University of Brighton, 2007) stating that because the shareholders or owners can only get a return on their investment if the business is making a profit. It can be (cite) measured through the ROA (Return on Assets = Net Income / Total Assets) and ROI (Return on Investment = Net Income / Equity). It is then proper to say that profitability is as a function of the capital structure as measured in the financial statement. Therefore, we will generate two equations for comparison of two measures of profitability and their effect on capital structure

$$ROA = F (DER, LTD, ATO, ATG)$$

$$ROE = F (DER, LTD, ATO, ATG)$$

Where ROA and ROE = profitability (dependent variable)

F = as a function of

DER, LTD, ATO, ATG = Independent variable

**Model Specification**

The regression formula for this study is expressed as thus:

$$ROA = \beta_0 + \beta_1DER + \beta_2LTD + \beta_3ATO + \beta_4ATG + \mu$$

..... (1)

$$ROE = \beta_0 + \beta_1DER + \beta_2LTD + \beta_3ATO + \beta_4ATG + \mu$$

..... (2)

Where: ROA and ROI = Profitability

DER = Debt to Equity ratio (ratio of debt to equity)

LTD = Long term debt (ratio of total long term debt to total assets)

ATO =Assets turnover (ratio of sales to total assets)

ATG = Assets tangibility (Net tangible assets to total assets)

$\beta_0$  = constant

$\beta_1, \beta_2, \beta_3, \beta_4$  = coefficient of slope parameters

$\mu$  = Error Term.

### Analysis and Discussion of Findings

MODEL 1: Return on Assets (ROA) and Capital Structure

**TABLE 1 Descriptive Statistics of Variables (2011-2015)**

Variables	Observation	Mean	Std.Dev.	Min	Max
ROA	150	.6264346	6.573039	-.396	80.58
DER	150	.4354182	.5728021	-.3885	3.7786
LTD	150	.505244	.1845779	.0726	1.183
ATO	150	.8516147	.5830996	.014	2.622
ATG	150	.5408067	.2492297	.002	1.026

Source: Author's computation using STATA

### Model 2: Return on Equity (ROE) and Capital Structure

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**Table 2 Descriptive Statistics of Variables (2011-2015)**

Variables	Observation	Mean	Std. Dev.	Min	Max
ROE	150	.2118681	.1848152	.00058	.94882
DER	150	.4354182	.5728021	-.3885	3.7786
LTD	150	.505244	.1845779	.0726	1.183
ATO	150	.8516147	.5830996	.014	2.622
ATG	150	.5408067	.2492297	.002	1.026

*Source: Author's computation using STATA*

**Interpretation**

Table 1 gives details for summary statistics for the variables used in the research. Analytical examination of the variables disclosed issues. Observing the descriptive statistics table, it shows that ROA industrial mean value is 62.64%. It revealed that Nigeria firms have a high accounting profitability. Table 2 gives details for summary statistics for the variables used in the research. Analytical examination of the variables disclosed issues. Observing the descriptive statistics table, it shows that ROI industrial mean value is 21.19%, it revealed that Nigeria firms have a relatively low accounting profitability when calculating its returns on investment. The mean value of DER is 43.5% revealing that the use of debt to equity in Nigeria firms is on the average. The mean value of LTD to total assets 50.52% it signifies that companies in Nigeria use much of LTD in their corresponding capital structure choice. This contradicts the previous studies that have been piloted in Nigeria firms (Salawu 2007). This proposed that large and small firms have particular difficulty in accessing long term finance with low and diminishing capital structure measurements. ATO's mean value observed 85.16% which is high. The firms faced a high growth in the Asset turnover with a minimum value

of 0.014% and a maximum value of 2.6% within the period. ATG's mean value observed 54.08% which is high. The firms possess highly valued tangible asset with a maximum value of 1.03% and a minimum value of 0.002% within the period.

### **Correlation**

The table below summarizes the results of correlation analyses among the variables. This exercise serves two important purposes. First is to ensure that the correlations among the explanatory variables are not so high to the extent of posing multi-collinearity problems. Second is to determine whether there are bivariate relationship between each pair of the dependent and independent variables

### **MODEL 1: Return on Assets (ROA) and Capital Structure**

**Table 3 correlation of the Variables (2011-2015)**

	ROA	DER	ATG	ATO	LTD
ROA	1.0000				
DER	0.2567*	1.0000			
ATG	0.0419	0.1661*	1.0000		
ATO	0.2176*	0.2275*	-0.1146	1.0000	
LTD	0.1311	0.2520*	-0.0512	-0.3771*	1.0000

*Source: Author's computation using STATA Note: \*, signifies 5% level of significance*

### **Model 2: Capital Structure and Return on Equity (ROE)**

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**Table 4: Correlation of the Variables (2011-2015)**

	ROE	DER	ATG	ATO	LTD
ROE	1.0000				
DER	0.1378	1.0000			
ATG	0.2738*	0.1661*	1.0000		
ATO	0.3213*	0.2275*	-0.1146	1.0000	
LTD	0.1565	0.2520*	-0.0512	-0.3771*	1.0000

*Source: Author's computation using STATA Note: \*, signifies 5% level of significance*

**Interpretation**

The result shows a weak positive relationship between ATG and ROE at 4.2%. The result also indicates that long term finance has no significant impact on the profitability of the Nigerian firm as it is on 13.1%. However, it indicated that debt to equity ratio and assets turnover have a positive significant correlated result at 25.7% and 21.8% respectively.

A review of the correlation result presented in table 4.3.1 displays that there is a positive correlation relationship between LTD and measurement of profitability which is proxied by ROE which is 27.66% distinctly with a correlation coefficient ( $r = 0.2766$ ). ROE is also positive correlated and significant with ATO having a 30.07%. But ROE is positively correlated and not significant with ATG with a correlation coefficient of 8.64%

This result indicates that long term finance and asset turnover of the firm have the tendency to have a positive impact on the return on equity of Nigeria firms while asset tangibility has a negative non-significant impact on return on equity



## Regression Analysis

In this section regression analysis was used to examine the impact of capital structure on profitability of firms (ROA) from 2011 to 2015.

### Model 1: Capital Structure and Return on Assets (ROA)

**Table 5: Regression Results of the Variables (2011-2015)**

MODEL	Coefficient	Std. Error	t-statistics	Prob.
CONSTANT	-2.698087	1.983321	-1.36	0.176
DER	2.410882	.968324	2.49	0.014
ATG	.7097433	2.145103	0.33	0.741
ATO	1.866523	.9763131	1.91	0.058
LTD	.5965188	3.096527	0.19	0.848

R-squared = 0.0935 Source: Author's computation using STATA.

Predictors: (CONSTANT), DER, LTD, ATO, ATG.

Dependent Variable: ROA

### MODEL 2: Return on Equity (ROE) and Capital Structure

**TABLE 6: Regression Results of the Variables (2011-2015)**

MODEL	Coefficient	Std. Error	t-statistics	Prob.
CONSTANT	-.0286304	.0522996	-0.55	0.583
DER	.0011838	.0255344	-0.05	0.963
ATG	.2342794	.0565658	4.14	0.000
ATO	.107589	.0257451	4.18	0.000
LTD	.0449084	.0816546	0.55	0.583

R-squared = 0.2027 Source: Author's computation using STATA.

Predictors: (CONSTANT), DER, LTD, ATO, ATG.

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*Dependent Variable: ROI*

**Interpretation**

The regression analysis results as displayed in table 4.4.1 indicates that there's a positive insignificant relationship between LTD and the profitability of firms in Nigeria proxied by ROE, where the coefficient is .59565188 which makes the coefficient value non-significant to ROE and a t-statistics value of 0.19. This indicates that the higher the level of LTD in the firm's capital structure then the higher the return on Assets of firms, in other words, it means LTD locus of firms is related with a increase in the return on Assets of such firms. As well as, there is a positive insignificant relation between ATG and return on Equity (ROE) of Nigeria firms as shown in the t-statistics value of 0.33. But as regards to ATO, there is a positive significant relation between ATO and return on assets (ROE) of Nigeria firms as shown in the t-statistics value of 1.91, it was also shown that there's also a positive significant relationship between with DER and ROE with t-statistics 2.49. The regression analysis results as displayed in table 4.4.1 indicates that there's a positive relationship between ATO and ATG and the profitability of firms in Nigeria proxied by ROI, where the coefficient is .107589 and .2342794 respectively which makes the coefficient value statistical significant to ROE and a t-statistics value of 4.18 and 4.14 correspondingly. This indicates that the higher the tangible assets and turnover in the firm's capital structure then the higher the return on Investment of firms, in other words, it means ATO and ATG locus of firms is related with a increase in the return on investment of such firms. Also, there is a negative and insignificant relationship between DER and return on investment (ROI) of Nigeria firms as shown in the t-statistics value of -0.05. But as regards to LTD and return on investment of the firms (ROI) showing a t-statistics value of 0.55 thereby showing a positive

insignificant relationship considering at a 95% significant level after showing a p-value of 0.583.

## Testing the Hypothesis

Hypothesis One

### MODEL 1: Return on asset (ROA) and Capital Structure

R-squared = 0.0935	
Adjusted R-squared = 0.0685	
Root MSE = 0.24496	
F-statistics = 2.74	
Prob(F-statistics) = 0.0063	

### Interpretation

The statistical characteristics of model 1 are fair as only the coefficient estimate of because assets tangibility (ATG) and long term debt ratio is found statistically insignificant because of its prob (t-statistics) of 0.0741 and 0.848 respectively is greater than 0.05 while that of long term debt(LTD) and asset turnover(ATO) have been seen as statistically insignificant because of their prob (t-statistics) of 0.336 and 0.923 correspondingly as they are greater than 0.05.

The R-squared coefficient of determination of 0.0409 is extremely low and indicating a extremely poor goodness of fit of the regression line and that the combined influence of the independent variables is represented by 4.09% is shown in the total variation in the return on assets (ROA). The F-statistic of 3.74 has a prob (f-statistics) of 0.0063 which is lesser 0.05, therefore making it statistically significant in line with the statistical decision theory. We can reject the null hypothesis of the

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statistical insignificance of the combined coefficients estimates. To this effect we reject the null hypothesis that there is no statistically significant relationship between debt-equity ratio (DER), long term debt (LTD), assets turnover (ATO), and asset tangibility (ATG) on return on asset (ROA).

**Hypothesis Two**

**MODEL 2: Return on Equity (ROE) and Capital Structure**

R-squared = 0.2027
Adjusted R-squared = 0.1807
F-statistics = 9.21
Prob(F-statistics) = 0.0000

**Interpretation**

The statistical characteristics of model 2 is stronger than that of model 1 as the coefficient estimate of assets tangibility (ATG) and asset turnover (ATO) have been seen as statistically significant because of their prob (t-statistics) of 0.000 and 0.000 correspondingly as they are lesser than 0.01.while that of debt-equity ratio (DER) and long term debt (LTD) is found statistically insignificant because of its prob (t-statistics) of 0.963 and 0.585 is greater than 0.05. The R-squared coefficient of determination of 0.1740 is although low is much more higher when compared with that of ROA of 0.0409 and indicating also a low but better than ROA goodness of fit of the regression line and that the combined influence of the independent variables is represented by 17.4% is shown in the total variation in the return on assets (ROE). The F-statistic of 9.21 has a prob (f-statistics) of 0.000 which is lesser than 0.01, therefore making it statistically significant in line with the statistical decision theory. We can therefore reject the null hypothesis of the

statistical insignificance of the combined coefficients estimates. To this effect we accept the alternative hypothesis that there is statistically significant relationship between long term debt (LTD), assets turnover (ATO), and asset tangibility (ATG) on return on asset (ROE).

**Table 7**

No	Hypothesis	Result	Estimation technique
H <sub>0</sub>	There is no significant relationship between capital structure and return on Asset(ROA)	Rejected	Regression
H <sub>0</sub>	There is no significant relationship between capital structure and return on Equity (ROE)	Rejected	Regression

## CONCLUSIONS AND RECOMMENDATIONS

The study deliberated the effect of capital structure as proxied as debt-equity, long term debt, assets turnover, asset tangibility (DER, LTD, ATO, ATG respectively) on profitability proxied by return on asset (ROA) and return on investment (ROI) which produced a diverse result. The result signaled that capital structure is insignificant to return on asset (ROA) but significant to return on equity (ROE). These result walks hand in hand with the discoveries of Zuraidah, Norhasniza Mohd, & Shashazrina, (2012) that there is an insignificant relationship with capital structure and return on asset (ROA) they also showed a significant relationship of capital structure and return on equity (ROE). Taqadus, Riaz, Sabeen, & Parveen (2013) results showed that capital structure is significant to ROA in the private sector but insignificant in the public sector. The findings

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of Muritala, (2012) showed that although there might be an insignificant relationship with asset tangibility with ROE, there was still a significant relationship between LTD and ATO with ROE. Based on the critical evaluation of the findings from the study, we hereby make the following recommendations that managers should let their capital structure be as a result of the business needs however, they should load the business with too much debt than it has the room for as this can lead to financial challenges like bankruptcy. This study also exposed that LTD has a significant positive influence on profitability of firms that foresee LTD as a source of finance since it is reasonably less expensive due to certain costs related with it. These discoveries shows that the Nigeria firms used in this research used more of long term finance in respect of their capital structure choices. The Nigeria stock exchange should provide channels of reducing any form of restrictions placed on the firms.

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