

## **IMPACT OF CAPITAL STRUCTURE ON THE FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA**

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### **ABSTRACT**

An appropriate capital structure is a critical decision for any business organization to be taken for maximization of shareholder's wealth and sustained growth. This study examines the impact of capital structure on financial performance of the Nigerian industrial goods sector. To achieve the objective of this study, data was collected from annual accounts and reports of Ten (10) sample industrial goods companies listed on the Nigerian Stock Exchange spanning from year 2004 to 2014. The result from multiple regression analysis indicates that short-term debt has significant negative relationships with financial performance. It also reveals that long term debt has negative but insignificant relationship with financial performance. Therefore, the study concludes that debt has negative impact on financial performance of Nigeria industrial goods companies. The study recommends that industrial goods companies should reduce debt level in their capital structure in other to enhance their financial performance.

**Keywords:** Capital Structure, Long-term debt, Short-term debt, financial performance, Return on Assets

### **1. INTRODUCTION**

Generally, financial managers are mostly faced with major decisions on financing or capital mix, liquidity, investment and dividend. The importance of these decisions cannot be over emphasis as the survival and growth of an organization depends on them. However, capital structure decision is of utmost important as other decision lies on how firm plans its capital mix decision. Therefore, capital structure is one of the most important reference theories in enterprises financing policy and the topic continues to keep researchers busy over the years. Many researches have been conducted on capital structure and performance both in developed and emerging economies. However, the area is steel receiving greater attention from researcher. The capital structure decision is fundamental for any business organization because

of the need to maximize returns to various stakeholders and also because of the fact that such decision has great impact on the firm ability to deal with competitive environment (Tajudeen 2014).

An appropriate capital structure is very important, any wrong mix of capital may be dangerous for a firm because a high levered company may be operating at a risk due to the need of paying interest and fear that bond holder may call for their principal or even the fear that the shareholders will lose their decision right. At the same time a company that desire growth will have to look outward to source for finance for their firm so as to ensure growth. Therefor such firm needs to plan an appropriate finance mix. Appropriate financing decision which may influence firm performance is an essential tool for the achievement of organization objectives and with the use of balanced capital structure stakeholder will have higher rate of return on their investment.

The theory of capital structure and its relationship with a firm's value and performance has been a confusing issue in corporate finance and accounting literature since the Modigliani and Miller (1958) argue that under the perfect capital market assumption that, the firm 's value is independent with the structure of the capital. Moreover, Modigliani and Miller (1963) later amend that debt can reduce the tax to pay which in turn increase value of firm, so the best capital structure of enterprise should be one hundred percent of the debt. However, Jensen and Meckling (1976) proceed to the contrary and demonstrate that the amount of leverage in firm capital structure affects manager choice of operating activities and that these activities in turn affect the performance of the firm. In the same vein Myers and Majluf (1984) argue that since managers of firms try to get optimal capital structure with least possible cost, this led to emergence of pecking order theory. The theory suggests that there is no optimal capital structure for firm since there is asymmetry information between manager and investors. Therefore, to minimize this asymmetry information managers prefer to finance using retained earnings, debt and equity respectively.

Ever since, Jensen and Meckling (1976) acknowledge the possibility of this influence, researchers have conducted numerous studies that aim to explain the relationship between capital structure decisions and performance of firms. Capital structure and the impact on performance have been investigated for many years, but researchers have found different results with difference context. Therefore, there is no specific result which can be generated in respect of the relationship between capital structure and firm performance. Thus, there is a need for constant new research in different context for achieving a more complete understanding for the

dynamics of the capital structure and performance interplay. Therefore, the main objective of the study is to examine the impact of capital structure on performance of listed industrial goods companies in Nigeria. The specific objectives of the study are to:

- i. examine the impact of long-term debt on financial performance of the Nigerian industrial goods companies.
- ii. examine the impact of short-term debt on financial performance of the Nigerian industrial goods companies.

In order to achieve the above objectives, the following hypotheses have been formulated in null form;

H<sub>01</sub>: Long-term debt has no significant impact on financial performance of Nigerian industrial goods companies

H<sub>02</sub>: Short-term debt has no significant impact on financial performance Nigerian industrial goods companies

## **2. LITERATURE REVIEW**

The study conducted by Eriotis, Frangouli and Neokosmides (2002) investigates the association between debt to equity ratio and entities profitability. The study discovered that those entities that prefer to finance their investment activities using equity capital are more profitable than firms who finance by using borrowed funds. Dessi and Robertson (2003) found that financial leverage affect positively on the expected performance, where they explained this result to that low growth firms attempt to depend on the borrowing for utilizing the expected growth opportunities and investing borrowing money at the profitable projects, therefore it will increase the firm performance.

Abor (2005) who conduct a study on the influence of capital structure on profitability of listed companies on the Ghana Stock Exchange finds that short-term debt and return on equity (ROE) are significantly positively related. The result also indicates that firms that earn a lot use more short-term debt to finance their business than firms that earn less. In other words, short-term debt is a vital source of financing operations of Ghanaian firms, because it represents 85% of total debt financing. Moreover, Abor's result also indicates an adverse relation exist between long-term debt and ROE. This signifies that firms, which earn a lot, are more dependent on debt as their basic financing means.

A study conducted by Pratomo and Ismail (2006) investigated the performance and capital structure of 15 Malaysian Islamic banks in the period (1997 to 2004). The

result found out that the higher leverage or a lower equity capital ratio is associated with higher profit efficiency. Their findings were consistent with the hypothesis which proposes that, a high leverage tends to have an optimal capital structure and therefore it leads to producing a good performance. Siddiqui and Shoaib (2011) came up with the same results after analyzing capital structure and performance in Pakistani banks.

Weill (2007) investigated the effect of financial leverage on the firm performance in seven European countries. The study summarized that financial leverage related positively and significantly on firm performance in Spain and Italy, whereas negatively and significantly in Germany, France, Belgium and Norway, but insignificantly in Portugal. Cheng, Liu and Chien (2010) used threshold regression model on 650 Chinese firms (2001-2006). The results revealed that debt ratio and firm value are positively related when the debt ratio is between (53.97%-70.48%), on the contrary, relationship is negative when the debt ratio is more than 70.48%.

Kaumbuthu (2011) carried out a study to determine the relationship between capital structure and financial performance for industrial and allied sectors in the Nairobi Securities Exchange during the period 2004 to 2008. Capital structure was proxied by debt equity ratio while performance focused on return on equity. The study applied regression analysis and found a negative relationship between debt equity ratio and ROE. The study focused on only one sector of the companies listed in Nairobi Securities Exchange and paid attention to only one aspect of financing decisions.

Abdul (2012) conducted a similar study to determine the relationship between capital structure decisions and the performance of firms in Pakistan. The study concluded that financial leverage has a significant negative relationship with firm performance as measured by Return on Asset (ROA) and Tobin's Q. The relationship between financial leverage and firm performance as measured by the return on equity (ROE) was negative but not statistically significant. In another study, Javed and Akhtar (2012) explored the relationship between capital structure and financial performance. They concluded that there is a positive relationship between financial leverage, financial performance, and growth and size of the companies. The study, which focused on the Karachi Stock Exchange in Pakistan, used correlation and regression tests on financial data. The findings of the study are consistent with the agency theory. This study however isolated the other financing decisions and focused only on financial leverage.

Ahmad, Abdullah and Roslan (2012) examine the effect of capital structure on the firm performance of public listed companies in Malaysia covering two major sectors (Consumers and industrials sector). Fifty-eight (58) firms are used as the sample covering year 2005 through 2010, having 358 observations. Their result indicates that there is significant relationship between capital structure variables (Short-term debt and Total debt) and performance measure (return on assets, ROA). They found that Short-term debt and total debt is negatively significant related to ROA.

Saeed, Gull and Rasheed (2013), using multiple regression models, studied the impact of capital structure on performance of Pakistani banks. They utilized data of banks listed on Karachi Stock exchange for the period 2007 to 2011. Performance was measured by return on assets, return on equity and earnings per shares and determinants of capital structure include long – term debt to capital ratio, short term debt to capital ratio and Total debt to capital ratio. Their result indicated that there is a positive relationship between determinants of capital structure and performance of the banking industry.

Nirajini and Priya (2013) examined the impact of capital structure on financial performance of listed trading companies in Sri Lanka. They extracted data from the annual reports of the sample companies from 2006 to 2010. Correlation and multiple regression analysis were used for their analysis. They found out that there is a positive relationship between capital structure and financial performance. They also discovered that capital structures have significant impact on financial performance of the firm showed by debt asset ratio, debt-equity ratio and long-term debt correlated with gross profit margin (GPM), net profit margin (NPM), Return on capital employed (ROCE), Return on Asset (ROA) and Return on Equity (ROE) at significant level of 0.05 and 0.1.

Abeywardhana (2015) the study investigate the impact of capital structure on firm performance of manufacturing sector SMEs in UK for the period of 1998-2008. Capital structure was measured by leverage while performance by return on asset and return on capital employed. The study runs a Pearson correlation and multiple regression analysis. Results of the study reveals that there was a significant negative relationship between leverage and firm performance (ROA, ROCE), strong negative relationship between liquidity and firm performance and highly significant positive relationship between size and the firm performance. The study concluded that firms which perform well do not rely on debt capital and they finance their operations from retained earnings and specially SMEs have less access to external finance and face difficulties in borrowing funds.

Samson (2015) the study investigate the impact of capital structure on the financial performance of non-financial firms quoted at the Nairobi securities exchange (NSE) in Kenya for the period of 2009-2013. The study adopts an explanatory descriptive research design. The findings show that capital structure variables; current liabilities to total assets ratio, long term liabilities to total assets ratio and total liabilities to total assets ratio have a negative and significant effect on financial performance measured by return on assets for non-financial firms quoted on the NSE in Kenya. The study concludes that capital structure is an important determinant of firm financial performance.

Ata and Jubiliy (2015) the study investigates the impact of capital structure on financial performance of selected Indian Steel Industry during 2007 to 2012. Multiple regression model, correlation matrix, ANOVA and descriptive statistics are performed for the study. Financial performance was proxy as operating profit margin (OPM), return on asset (ROA), return on equity (ROE) and return on capital employed (ROCE). Capital structure was proxy as total debt equity ratio (TDER), total asset debt ratio (TADR), interest coverage ratio (ICR) and financial debt ratio (FDR). The result of multiple regression and ANOVA indicated that there is a significant impact of capital structure on financial performance of Indian Steel Industry. Correlation results confirmed that there is negative relationship between capital structure and financial performance.

Ausa (2016) the study examined the relationship between capital structure and financial performance of the listed firms in the Stock Exchange of Thailand and the market for alternative investment (MAI) from 2013 -2015. Financial performance as dependent variable was measured using return on asset (ROA), return on equity (ROE) and net profit margin. Capital structure as independent variable was measured by financial leverage, debt to equity ratio (DE) and debt to asset ratio. The results revealed that capital structure has a significant relationship on firm performance of listed firm on Thailand stock exchange. On the other hand the result indicated that capital structure has little to no impact on a firm performance for companies listed in MAI.

Ramachandram and Madhumathy (2016) the study investigate the impact of capital structure and financial performance of Indian textile industry from 2004 -2013. Capital structure was proxy as debt to equity ratio while performance as dependent variable was proxy by net profit margin, return on capital employed, return on equity, return on asset and earning per share. The result reveals that all the proxy for performance as significant negative relationship with capital structure.

With reference to Nigeria, a study by Adaramola, Suleiman, and Fapetu (2005) found that capital structure has no significant impact on the value of non-banking firms as all explanatory variables used in the panel for non-banking firms were not statistically significant from zero. On the other hand, the result showed that the value of the banking firms was positively affected by its capital structure. According to the authors, this result suggests that the concept of optimal capital structure is not applicable to the Nigerian banking institutions.

Moreover, Adekunle (2010) used debt ratio to proxy capital structure while return on asset and return on equity were used as measures of firm performance. The study used the Ordinary Least Squares method of estimation. The result of the study indicated that debt ratio has a significant negative impact on the firm financial measures of performance. The study, however, did not consider other financing decisions in the analysis, including the mediating effect of internal cash flow available.

A study by Aliu (2010) which examines the effect of capital structure on the performance of quoted manufacturing firms in Nigeria reveals that Leverage has significant effect on the performance of quoted Manufacturing firms in Nigeria showing that leverage is positively related to performance. Dare and Sola (2010) the study examines the impact of capital structure on corporate performance in Nigeria petroleum industry from 1999 to 2005. The finding reveals that there was positive relationship between earnings per share and leverage ratio on one hand and positive relationship between dividend per share and leverage ratio on the other hand.

Similarly in a study by Osuji and Odita (2012) which investigates the impact of capital structure on the financial performance of sample thirty Nigerian firms from 2004 to 2010. The result of the study shows that a firm capital structure proxy as debt ratio has a significant negative impact on the firm financial measures as Return on Asset, (ROA) and Return on Equity (ROE)

In another study by Appah, Okoroafor and Bariweni (2013) which investigates the impact of capital structure on performance of quoted firms in the Nigerian Stock Exchange for thirty two firms for the period 2005 to 2011. The result reveals that short term debt, long term debt and total debt have significant negative relationship with performance using return on asset and return on equity and tangibility and efficiency have significant positive relationship with performance while non tax debt and liquidity shows negative relationship with performance.

Using three manufacturing companies randomly selected from the food and beverage categories and a period of five years (2007-2011), Akinyomi (2013) documents that debt to common equity, short-term debt to total debt and the age of the firms' are significantly and positively related to return on asset and return on equity but long term debt to capital is significantly and relatively related to return on asset and return on return on equity. His hypothesis also tested that there is significant relationship between capital structure and financial performance using both return on asset and return on equity.

According to study conducted by Patrick, Joseph and Kemi (2013) that investigate the impact of capital structure on firm performance in Nigeria from 2000 to 2010. The study considered the impact of some key macroeconomic variables (gross domestic product and inflation) on firm performance. The study makes a comparative analysis of the selected firms which are classified into highly and lowly geared firms setting a leverage threshold of above 10% as being highly geared. Performance as dependent variable was proxy by return on investment and capital structure as independent variable was proxy by leverage. The results provide that there is significant negative relationship between leverage and performance.

In a study that examine the effect of capital structure on firm performance of manufacturing companies in Nigeria by Lawal, Edwin, Monica and Matthew (2014). Financial performance as dependent variable was proxy as Returns on asset (ROA) and Returns on equity (ROE) capital structure as independent variable was proxy as Total debt to total asset (TD) and Total debt to equity ratio (DE). Secondary data was employed using data derived from ten (10) manufacturing companies. The findings reveal that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance.

Tajudeen (2014) carried out a similar study on capital structure and performance of quoted conglomerates firms in Nigeria from 2002 to 2011. The study reveals that short term debt has significant negative impact on all the three accounting measure of performance studied. The result also reveals that long term debt has significant negative impact on return on asset (ROA) but not significant with respect to earnings per share (EPS) and net margin (NM). The study concludes that capital structure has significant negative impact on financial performance of quoted conglomerates firms in Nigeria for the period under study.

Ishaya and Abduljeleel (2014) examined capital structure and profitability of selected 70 listed companies on the Nigerian stock exchange from 2000 – 2009 from the Agency Cost Theory perspective. Panel data for the firms are generated and analyzed using fixed-effects, random-effects and Hausman Chi Square estimations. Two



independent variables which served as surrogate for capital structure were used in the study: debt ratio, DR and EQT while profitability as the only dependent variable. The result show that DR is negatively related with PROF, the only dependent variable but EQT is directly related with PROF.

Sunday (2015) assess the impact of capital structure on firm performance of selected 62 non-banking quoted companies in Nigeria from 2006-2013. Financial performance was proxy by return on asset and return on equity. Capital structure proxy by short term debt ratio and long term debt ratio. Relationship was control by asset tangibility, growth rate and size. The study reveals that quoted firms use long term debts in the short run to boost profitability and earnings but in the long run, as they become more profitable, they resort to internal source of financing. It further reveals that while the of combination debt and equity capital that optimizes return on asset differ from which optimizes return on equity, it submits that long term debts contribute positively and significantly to enhancing returns to equity owners.

In a similar study carried out by Julius, Barine and Oluwatosin (2015) revealed that Capital structure proxy by debt and equity has significant positive relationship with the financial performance proxy as profit before tax of Nigeria quoted banks. Oladeji and Olokoyo (2015) the study examines the impact of capital structure on firm performance in Nigeria from 2003 to 2012. The study uses data from six petroleum companies in Nigeria. The study carried out a panel data analysis by using fixed effect estimation. Capital structure as independent variable was proxy by leverage and financial performance proxy by return on asset. The relationship was control by size, tax and lagged return of asset. The study found that a negative relationship exists between leverage and firm performance and the study established that a positive relationship exists between three of the explanatory variables (firm size, tax and lagged return of asset) and firm performance.

Moreover in a study carried out by Kakanda, Bello and Abba (2016) which examine the effect of capital structure on the financial performance of listed Consumer goods companies in Nigerian from 2008- 2013. The study proxy capital as independent variable by long term debt (LTD) and short term debt (STD) while financial performance as dependent variable by return on equity (ROE). The study found 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.

Based on the comprehensive review of literature carried out in this study most especially those related to Nigeria, little attention was given on the relationship between capital structure and financial performance of companies in the industrial

goods sector. Therefore, this study will fill-in the vacuum left by prior relevant studies.

### **3. METHODOLOGY**

For the purpose of this study, Ten (10) out of the seventeen (17) industrial goods Companies listed on the Nigerian Stock Exchange whose accounting year ends 31 December and listed as at 2004 is used as a sample. The purpose of choosing a sample with the same accounting year-ends is to enhance comparability, because different accounting policies and period for an annual account for comparison will influence the accuracy of result (Kakanda et al., 2016). For this study, data was utilized from annual reports and accounts of the Ten (10) sampled industrial goods companies on their websites, African financials website and some publications on the website of Nigerian Stock Exchange. The use of listed industrial goods companies is due to availability of data. Data for this study covered the period between 2004 and 2014. For analysis purpose, Stata version 12 was used to run descriptive statistics, correlation and regression.

#### **The Dependent Variable**

The dependent variable in this study is return on asset (ROA) which is used as a proxy of financial performance. For the purpose of this study, ROA is measured as profit after tax divided by total asset (PAT/TA) which is similar to Osuji and Odita (2012); Tajudeen (2014); and Aliu (2010).

#### **Independent Variables**

Long term debt (LTD): according to Abor (2005) and Tajudeen (2014) long-term debt is calculated as long term debt divided by total capital (LTD/TC).

Short term debt (STD): following the work of Abor (2005); Kyereboah and Coleman (2007) and Tajudeen (2014) short term debt was measured as short term debt divided by total capital (STD/TC).

#### **Control Variables**

Efficiency: it was measured as Sales divided by total assets to ascertain how efficient total asset was turnover, among the previous study that uses this ratio was (Tajudeen 2014; Kakanda, et al. 2016).

Size (SZ): In most previous studies, firm size was expressed as natural logarithm of total assets. This indicator is the most suitable measure of a firm's size. Total assets are defined as the sum of net fixed assets, total intangibles, total investments, net

current assets, and other assets. Pitman & Wessels (1988), state that there is a high correlation between the logarithm of total assets and the logarithm of sales (about 0.98), and therefore choosing any of them is a substitute to the other. Studies that use natural logarithm of total assets include (Akhtar, 2005; Abor 2005).

### **Model Specification**

$$ROA_{it} = \beta_0 + \beta_1LTD_{it} + \beta_2STD_{it} + \beta_3EFF_{it} + \beta_4SZ_{it} + e_{it}$$

Where:

ROA<sub>it</sub> = Return on asset of firm i in year t

LTD<sub>it</sub> = Long term debt ratio of firm i in year t

STD<sub>it</sub> = Short term debt ratio of firm i in year t

EFF<sub>it</sub> = Efficiency of turnover of firm i in business in year t

SZ<sub>it</sub> = Size of firm i in year t

e = the error term

## **4. RESULTS AND DISCUSSION**

In this section, the results are presented and major findings are discussed. The section covers the descriptive statistics, correlation matrix, variance inflation factor and regression.

**Table 4.1 Descriptive Statistic**

Var.	Minimum	Maximum	Mean	Std. Dev
ROA	-0.612	0.540	0.052	0.153
LTD	-1.183	6.032	0.315	0.622
STD	0.065	1.233	0.397	0.188
EFF	0.168	2.242	0.913	0.388
SZ	18.733	26.563	22.245	1.801

Source: researcher's analysis 2016.

The above table shows the descriptive statistics of dependent and independent variables used in the study, containing minimum, maximum, mean and standard deviation. The dependent variable that is Return on Asset (ROA) has a mean and standard deviation of 0.052 and 0.153 respectively, indicating absence of substantial variation. The independent variables show some level of variability. To sum up, size (SZ) has the highest mean of 22.245 with the highest standard deviation of 1.801. Long term debt (LTD) records the lowest mean of 0.315, while short term debt (STD) has the lowest standard deviation of 0.188.

**Table 4.2: Correlation Matrix (Pearson) of the variables of the Study**

VAR	ROA	LTD	STD	EFF	SZ
ROA	1.0000				
LTD	-0.3155	1.0000			
STD	-0.1544	0.1943	1.0000		
EFF	0.3111	-0.1590	0.3326	1.0000	
SZ	0.3192	-0.1553	-0.3477	-0.4228	1.0000

Source: researcher's analysis 2016.

The above table is on the correlation matrix between all pairs of the variables used in the regression model. The value 1.0000 on the diagonal indicates that return on asset has a perfect positive relation with itself. It also shows that the independent variables have a negative correlation with the dependent variables except efficiency and size which has a positive effect. The negative correlation indicates that as long term debt and short term debt increase return on asset reduces.

**Table 4.3: Regression Results of the Model**

ROA Value	Coef.	t	P> t	VIF	Tolerance
LTD	-0.031	-1.55	0.124	1.15	0.871
STD	-0.116	-1.67	0.098	1.25	0.797
EFF	0.213	5.96	0.000	1.40	0.714
SZ	0.041	5.38	0.000	1.35	0.743
_Cons	-0.987	-5.20	0.000		
R-square =	0.3597				
Prob > f =	0.000				
F- value =	16.31				

Source: researcher's analysis 2016.

Table 4.3 present summary of the regression result obtained from the study model. The regression result reveals that the cumulative  $R^2$  (0.3597) which is the multiple coefficient of determination gives the proportion or percentage of the total variation in the dependent variable explained by the independent variables jointly. Hence it signifies about 36% of the total variation on financial performance of Nigerian

industrial goods companies is caused by their long term debt, short term debt, efficiency and firm size. Similarly, the result of the F- statistic (16.31) shows that the model is well fitted and the firm characteristics in this study are well selected and utilized as confirmed by the P-value (0.0000). From the result the coefficient of long term debt is -0.031 while the P- value is 0.124, this indicates a negative but insignificant relationship between ROA and long term debt. The negative relationship between long term debt and return on asset indicates that as the assets are continuously financed by the long term debt it may decrease the returns on asset. The coefficients of short term debt -0.116 with P- value 0.098; this indicates a negative and significant relationship between ROA and short term debt at 10 percent level of significance. The negative relationship between short term debt and return on asset indicates that as the assets are continuously financed by the short term debt it decreases the returns on asset. However coefficient of efficiency and firm size are 0.213 and 0.041 respectively with their respective p- values of 0.000 and 0.000, this indicates a positive and significant relationship between ROA and efficiency and firm size at 1 percent significance. This shows that the more efficiency of turnover and size of firm the higher the financial performance. This outcome is consistent with the findings of previous studies such as: Tajudeen (2014), Oladeji & Olokoyo (2015), Lawal, Edwin, Monica & Matthew (2014), among others. However it is contrary to the findings of Javed & Akhtar (2012), Aliu (2010), Julius, Barine & Oluwatosin (2015), Mohammed, Ahmed & Mohammed (2016), Pratomo & Ismail (2006), among others who found a positive relationship between leverage and financial performance. However the result of the study is consistent with agency cost theory which assumes a negative relation between debt and financial performance.

Hypothesis 1 predicts that there is no significant relationship between long term debt and ROA of listed Industrial Goods companies in Nigeria which is in line with the first objective of the study. Therefore this does not provide evidence for rejecting the null hypothesis and concludes that there is no significant relationship between long term debt and ROA of listed Industrial Goods Companies in Nigeria.

Hypothesis 2 predicts that there is no significant relationship between short term debt and ROA of listed Industrial Goods companies in Nigeria which is in line with the second objective of the study. From the result of the analysis the P-value is 0.098 which is significant at 10 percent level of significant. Therefore this provides evidence for rejecting the null hypothesis and concludes that there is significant relationship between short term debt and ROA of listed Industrial Goods Companies in Nigeria.

Multicollinearity test is to check whether there is a correlation between the independent variables which will mislead the result of the study. Table 4.2 above

present the matrix of the linear relationship among the continue independent variables. From observation, none of the correlation between the independent variables is up to 0.50. The highest are efficiency and STD (0.3326) then, firm size and ROA (0.3192). In addition, the low magnitude of the correlations amongst the exogenous variables indicates that multicollinearity should not be a problem for the sample of the study. To formally substantiate the lack of multicollinearity between the independent variables, collinearity diagnostics are observed and that the variance inflation factor (VIF) and tolerance values indicates absences of multicollinearity as both reveals less than 10 and 1 concurrently see table 4.3.

## **5. CONCLUSION AND RECOMMENDATIONS**

Emanating from the result obtained from the data collected and analyzed together with the hypotheses tests, long term debt and short-term debt gave a negative relationship with the return on asset. The study therefore concludes that the capital structure has significant negative impact on financial performance of Nigerian listed industrial goods companies.

Based on the findings obtained from the regression result, this study recommends that the financial managers of industrial goods companies in Nigeria should reduce the level of short- term debt and long-term debt in their capital structure so as to improve return on asset of their firms. Due to the negative relationship between debt and financial performance, efforts should be taken regarding legislative rules and policies to help firms in reducing the dependence on debt in their capital structures.

## REFERENCES

- Abdul, G. K. (2012). The Relationship of Capital Structure Decisions with Firm Performance: A Study of the Engineering Sector of Pakistan. *International Journal of Accounting and Financial Reporting*, (1), 2162-3082.
- Abeywardhana, D. K. Y. (2015). Impact of Capital Structure on Firm Performance, Evidence from Manufacturing Sector SMEs in UK, Proceedings of 32nd International Business Research Conference, 1-11.
- Abor, J. (2005). The Effect of Capital Structure on Profitability: Empirical Analysis of Listed Firms in Ghana, *Journal of Risk Finance*, 6(5), 438-450.
- Adekunle, A.O. & Sunday, O.K. (2010). Capital Structure and Firm Performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 25, 71-80
- Ahmad, Z., Abdullah, N. M. H. & Roslan, S. (2012). Capital Structure Effect on Firms Performance; Focusing on Consumers and Industrial Sectors on Malaysian Firms. *International Review of Business Research Papers*, 8(5), 137-155.
- Akhtar, S. (2005). The Determinants of Capital Structure for Australian Multinational and Domestic Corporations, *Australian Journal of Management*, 30, (2), 321-341.
- Akintoye, R. I. (2008). Effect of Capital Structure on Firms Performance: the Nigerian Experience. *European Journal of Economics, Finance and Administrative Sciences*, 10, 233- 243.
- Akinyomi, O. J. (2013). Effect of Capital Structure on Firms Performance: Evidence from Nigerian Manufacturing Company. *International Journal of Innovative Research and Studies*, 2, (9), 182-194.
- Aliu, N. O. (2010). Effect of Capital Structure on the Performance of Quoted Manufacturing Firms in Nigeria. *Msc thesis A.B.U Zaria, Nigeria*.
- Appah, E., Okoroafor, E. O. & Bariweni, B. (2013). Capital Structure and the Operating Performance of Quoted Firms in the Nigerian Stock Exchange, *Research Journal of Finance and Accounting Vol.4, (5)*, 6-22.

- Asrat, k. (2016). Capital Structure and Financial Performance, Evidence from Ethiopian Cement Companies, *Msc. Thesis, Addis Ababa University, Ethiopia*.
- Ata, T. & Jubiliy, N. (2015). Capital Structure and its Impact on Financial Performance of Indian Steel Industry, *International Journal of Management, Vol. 6, (6), 29-38*.
- Ausa, W. (2016). Capital Structure and Financial Performance of Listed Companies in Thailand Proceedings of the Fourth European Academic Research Conference on Global Business, Economics, Finance and Banking, 1-15.
- Dare, F. D. & Sola O. (2010). Capital Structure and Corporate Performance in Nigeria Petroleum Industry: Panel Data Analysis. *Journal of Mathematics and Statistics Vol. 6, (2), 168-173*.
- Dessi, R. & Robertson, D. (2003). Debt, Incentives and Performance: Evidence from UK Panel Data, *Economic Journal, Vol. 113, 903-919*.
- Eritotis, N.P., Frangouli, Z. & Neokosmides, V.Z. (2002). Profit Margin and Capital Structure: An Empirical Relationship, *Journal of Applied Business Research Vol. 18, (2) 85-88*.
- Ishaya, L. C. & Abduljeleel, B. O. (2014). Capital Structure and Profitability of Nigerian Quoted Firms: The Agency Cost Theory Perspective, *American International Journal of Social Science Vol. 3,(1), 139-159*.
- Javed, B. & Akhtar,S. (2012). Interrelationships between Capital Structure and Financial Performance, Firm Size and Growth: Comparison of Industrial Sector in KSE: *European Journal of Business and Management, Vol. 4, (15) 148-157*.
- Jensen, M. C. & Meckling, W. H. (1976). The Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure, *Journal of Financial Economics, Vol. 3, (4), 305-360*.
- Julius, B.A., Barine, M.N. & Oluwatosin, O.A. (2015). Capital Structure and Financial Performance in Nigeria, *International Journal of Business and Social Research, Vol. 5, (2), 21-31*.



- Kaumbuthu, A. J. (2011). The Relationship between Capital Structure and Financial Performance: a Study of Firms Listed Under Industrial and Allied Sector at the NSE, *MBA Thesis*, University of Nairobi ,Kenya.
- Lawal, B. A., Edwin, T. K., Monica, W. K. & Adisa, M. K. (2014). Effects of Capital Structure on Firm's Performance: Empirical Study of Manufacturing Companies in Nigeria, *Journal of Finance and Investment Analysis, Vol. 3,(4)*, 39-57.
- Myers, S. C. & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *The Journal of Financial Economics, 13*, 187- 221.
- Modigliani, F. & M. Miller. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review, Vol. 53, (3)*, 433-443.
- Modigliani, F. & Miller, M. (1958). The Cost of Capital, Corporation Finance, and the Theory of Investment. *American Economic Review, Vol. 48, (3)*, 261–297.
- Kakanda, M. M., Bello, A. B. & Abba, M. (2016), Effect of Capital Structure on performance of Listed Consumer Goods Companies in Nigeria, *Research Journal of Finance and Accounting, Vol. 7, (8)*, 211-219.
- Nirajini, A. & Priya, K. B. (2013). Impact of capital structure on financial performance of the listed trading companies in Sri Lanka, *International Journal of Scientific Research Publications, Vol 3, (5)*, 1-9.
- Oladeji, T., Ikpefan, A.O. & Olokoyo, F.O. (2015). An Empirical Analysis of Capital Structure on Performance of Firms in the Petroleum Industry in Nigeria, *Journal of Accounting and Auditing: Research & Practice*, 1-9.
- Osuji, C.C. & Odita A. (2012). Impact of Capital Structure on the Financial Performance of Nigerian Firms, *Arabian Journal of Business and Management Review, Vol. 1, (12)*, 43-61
- Pratomo, W.A. & Ismail A.G. (2006). Islamic Bank Performance and Capital Structure MPRA paper University Library of Munich, Germany.
- Ramachandran, K. K. & Madhumathy, M. (2016). A Study on Capital Structure and Financial Performance of Indian Textile Industry, *International Journal of Management, Vol. 7, (3)*, 313–322.

- Saeed, M. M., Gull, A. A. & Rasheed, M. Y. (2013). Impact of capital structure on banking performance: a case study of Pakistan, *Interdisciplinary Journal of Contemporary Research in Business*, Vol 4, (10), 393- 403.
- Samson, M. M. (2015). Impact of Capital Structure on Financial Performance; Evidence from Non-Financial Firms Quoted at the Nairobi Securities Exchange in Kenya, *International Journal of Scientific and Research Publications*, Vol. 5, (12), 173-175
- Siddiqui, M. & Shoaib, A. (2011). Measuring Performance through Capital Structure: Evidence from Banking Sector of Pakistan, *African Journal of Business Management*, Vol. 5,(5) 1871-1879.
- Sunday, I. (2015). Another Look at Capital Structure and Corporate Performance in Emerging Markets: The Case of Nigeria, *Asian Journal of Business Management* Vol. 7 (1), 1-12.
- Tajudeen, L. (2014). Capital Structure and Performance of Quoted Conglomerates Firms in Nigeria. *Msc thesis*, A.B.U Zaria, Nigeria.
- Ubesie, M. C. (2016). The Effect of Capital Structure on the Financial Performance of Nigerian Quoted Conglomerates, *European Journal of Accounting, Auditing and Finance Research* Vol.4, (6), 61-69.
- Weill, L. (2008). Leverage and Corporate Performance: Does Institutional Environment Matter?, *Small Business Economics* , 30, 251–265.