CAPITAL STRUCTURE AND PERFORMANCE OF LISTED MANUFACTURING COMPANIES IN NIGERIA ABIODUN OLUWOLE OGUNDARE

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Abstract

The study sought to examine the influence of Capital Structure on the Performance of Quoted Nigerian Manufacturing Firms with a view to establishing the relationship between of Capital Structure and Performance. Research design was ex-post facto while the study used a cross-sectional time series analysis. The population of the study was 84 (Eighty-Four) Nigerian Manufacturing Firms listed on the stock Exchange and the sample size was Forty –two manufacturing firms out of the 84 listed in the Nigerian Stock Exchange with complete data were selected using purposive sampling technique. Secondary data sourced for the study were obtained from the annual reports and factbook of the selected companies for the period of ten years (10) years from 2012 – 2022. Data were analyzed using descriptive and inferential statistics. The findings of the study revealed that there was a significant relationship between Capital structure and return on assets and return on investment of the selected manufacturing firms in Nigeria. Therefore, the null hypothesis was rejected which stated that Capital structure had no significant relationship with performance of quoted manufacturing companies in Nigeria.

1. Introduction

The state of condition of Nigerian's manufacturing sector in the last three decades has been a source of worry to every stakeholder because of its failure to perform as expected. Considering the roles perform by manufacturing sector in other developed economy such as creating jobs, wealth creation and poverty eradicator. However, these crucial and important roles have not been played robustly by manufacturing sector in Nigeria. The effect has been negative on the Nigerian economy. Imported goods have continued to dominate the Nigerian market because of the inability of the Nigerian manufacturers to meet domestic consumption. As a corollary to the ugly trend in the Nigerian Manufacturing sector, it was reported by the Manufacturers Association of Nigeria (MAN, 2020) that manufacturing firms in the country had been rapidly closing down thereby increasing job losses.

One of the problems bedeviling the Nigerian Manufacturing companies has been attributed to the inability of financial managers to strategically plan and control the working capital of their respective organizations. Poor management of capital structure in the face of global economic crisis, Nigerian businesses are daily recording loss of profit because of high bad debts, over/under stocking; illiquidity; problem in business expansion, financial losses; bankruptcy and insolvency (Nwankwo & Osho, 2010; Olaoye, Akinola, Soetan & Olusola, 2020). Capital structure problem, therefore, arises from determining the combination of sources of finance that will enhance return

to shareholders wealth with minimum risks (Akintoye, 2016; Gambo et al., 2016; Ajibola, Wisdom & Qudus, 2018; Michael, 2022).

Meanwhile, previous studies in Nigeria such as Ajibola, Wisdom and Qudus (2018); Akinrinola, Tomori and Audu (2023); Olaoye, Akinola, Soetan and Olusola (2020) and Oyedokun, Job-Olatunji and Sanyaolu (2018) sought to investigate the influence between capital structure and financial performance. The available studies that were done to look at firms' performance in the Nigerian manufacturing sector covered period before the global pandemic of 2019 that eroded the finances of major firms in the world and shook the global economy. Studies such as Adeoye, Enyi Nwaobia and Ogundajo (2021) used data between 1997 to 2017, Etale, Edoumiekumo, Kpolode and Nkak (2020) was done to cover year 2014 and 2019 while Lawal, Edwin, Monica, and Adisa (2014) took data between the period of 2003 and 2012.

Flowing from the above, it is obvious that the actual effect of capital structure on performance has been inadequately addressed in the literature and there is call for further investigation within the Nigerian context. In addition, majority of the previous studies did not adopt recent data in their studies and where researchers considered recent data, they did not include important variables such as dividend per share and market price per share. Therefore, the reviewed studies cannot be relied on; hence, this study. It is upon this premise that this study sought to investigate the influence of capital structure on the performance of manufacturing firms in Nigeria. Hence the study hypothesized that there was no significant relationship between capital structure and performance of manufacturing firms in Nigeria.

2. Literature Review
Conceptual Review

Capital Structure has been given several definitions in the literature. According to Nirajini and Priya (2013), capital structure is explained as the way by which an organization combines long-term capital (ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and so on) and short-term liabilities such as a bank overdraft and trade creditors in its finances. As a rider to Nirajini and Priya (2013) definition, Lambe (2014), and Akinyomi and Olagunju (2013), argued that capital structure is the mix of different securities utilized by a company in financing its profitable ventures. As put by Ishaya and Abduljaleel (2014) capital structure was referred as a mix of different types of securities (long-term debt, common stock) that are issued by a firm to finance assets.

While Semiu and Collins (2011) referred to capital structure as the proportions of equity capital and debt capital, each with its own benefits and challenges. In summary, it can be deduced that capital structure is simply a firms' financial framework, composed of a firms retain earnings, debt financing and equity financing put together in financing its operations. Capital structure is essential to how a firm finance its overall operations and growth by using different sources of funds. The common feature among the various definitions is that capital structure reflects finance components from equity to debt that an organization uses in financing its operations. Generally, capital structure of a firm consists of debt and equity. Debt is further categorized into short and long term.

Accounting and finance literature explain these components as ratio of total assets and of equity. These components are explained as follows.

2.1 Total Debt to Total Assets

This measures the amount of the total funds made available by creditors relative to the total assets of a firm. As a practice, creditors prefer low ratios for all debts because lower ratio leads to greater margin of protection against creditors losses should there be liquidation. Total debt to total assets as a debt ratio defines the total amount of debt in relation to assets. This affords comparison of debt to be made across various firms. Total Debt to Total Assets represents a broad ratio that includes long term debt and short-term debt together with all tangible and intangible assets (Akinsulire, 2014). Also, Debt ratio is a solvency ratio measuring firms' total liabilities as a percentage of its total assets. Generally speaking, debt ratio discloses a firm's ability to off-set liabilities with its assets. This ratio equally measures the financial liability of a company. Firms with higher levels of liabilities compared with its assets are regarded as highly indebted and riskier for lenders. The debt ratio is determined using total assets to divide total liabilities. These numbers can be found in the balance sheet. A lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has an overall debt posture. Each industry has its own benchmarks for debt, but 0.5 is reasonable ratio (Ojo, 2012)

2.2. Total Debt to Total Equity

This measures the proportion of creditors fund relative to shareholders fund of a business capital structure. Creditors would prefer that this ratio is lower because the lower the ratio the higher the level a of company's financing provided by shareholders and the larger the protection against losses in the event of shrinking asset values or outright losses. Total Debt to Total Equity provides information of how much suppliers, lenders, creditors and obligors have committed to the company against what shareholders equity (Kurfi, 2003). The debt-to- equity ratio presents the percentage of a company's financing contributed by creditors and investors. A higher debt to equity ratio suggests that creditors funds (bank loans) is in surplus as against investors finances (shareholders). Companies with a higher debt to equity ratio are regarded more riskier to creditors and investors than companies with a lower ratio. Every industry has different debt to equity ratio proportion, as some industries prefer more debt financing than others. A debt ratio of 0.5 means that liabilities and equity are of equal proportion (Erasmus, 2008).

2.3 Short Term Debt to Total Assets

Short term debt to total assets ratio measures the financial leverage of a company. It discloses what percentage of a company's assets is financed by short term debt. It represents the percentage of company assets financed with loans and other financial undertakings within an accounting year Short term debt is debt due for repayment within an accounting year including creditors and accruals (Akinyomi, 2013). The shorter the debt the better the firm is in improving its performance; some scholars have argued. Short term debt to total assets ratio presents the financial position of a

firm's ability to meet its current financial obligations. These numbers are found in the balance sheet and they are calculated by dividing current liabilities with total assets. Meanwhile, a lower debt ratio suggests a more stable business with the potential of longevity.

Organizational Performance

The concept of the performance of a going concern is premised on the assumption that an organization is a voluntary undertaking of productive assets in order to achieve a shared purpose (Carton, 2004). It is settled that the primary purpose of performance is value creation. Value creation is the most important criteria of determining performance in any organization.

Several measures in the literature have been adopted by firms to determine performance and consequent upon this, there is no consensus as to the measure or variable to use that would adequately capture firms' performance. Performance of any business organization could be measured using financial and non-financial indicators. The financial indicators comprise of profits, return on assets, return on investment and sales, while the non-financial measures include customer`s satisfaction, employees' turnover, delivery time, customer`s referral rates, and waiting for time. Among the measures that can be used in measuring performance in relation to capital structure by scholars include the return on asset, return on equity, and earnings per share. The measures are used to determine the contributions of the managers towards the growth and sustainability of the company. Profitability is commonly used to measure Performance. Profitability, according to Owolabi and Obida (2012) represents gains of a company from its operations. For any firm to generate profit, its revenue should be higher than the direct and indirect operational costs.

Review of Empirical Studies

Empirical review provides an appraisal of other related studies with the objective of identifying empirical gaps that could be filled. In accounting literature, capital structure has been dwelt on by scholars in Nigeria but majority of the reviewed studies paid attention to financial performance with few ones looking at both financial and non-financial performance. Where scholars considered the two measures, the age of the data used could not be relied on. The reviewed studies in Nigeria are given hereunder:

Ajibola, Wisdom and Qudus (2018) in a study investigated the influence of capital structure on financial performance of quoted Nigerian manufacturing firms covering the period of 2005-2014. Panel data analysis was used to analyze the relationship between capital structure and financial performance of selected Nigerian's firms. The findings of the study revealed that there was a positive significant relationship between long term debt ratio (LTD), total debt ratio (TD) and return on equity (ROE). It was also found that there existed a positive statistically insignificant relationship between ROE (return on equity) and STD (Short term debt ratio). Also, a negative insignificant relationship among all the measures of capital structure (LTD, STD and TD) and ROA in the study existed which makes ROE a better measure of performance. The study therefore

suggested that capital structure had a positive influence on financial performance and advised firms to employ more of long-term debts in their operations.

In a study by Akinrinola, Tomori and Audu (2023), it examined the relationship between capital structure and financial performance of quoted manufacturing firms in Nigeria. Secondary data sourced from financial statements between 2011 and 2020 of 14 sampled organizations was used in the study. Panel least square multiple regression was employed to analyze the data. The hypothesis of the study which said that there was no significant relationship between total-debt-to-total-equity and return on assets of manufacturing entities in Nigeria was accepted. Findings of the study rejected the second hypothesis that said there was no significant relationship between long-term-debt and total-assets. It therefore recommended that management of manufacturing firms already active on the stock market should improve their long-term-debt-to-total-assets so as to enhance their business operations and financial performance.

In an ex-post facto study conducted in 2021 by Adeoye, Enyi, Nwaobia and Ogundajo, ten (10) consumers and industrial goods manufacturing firms were selected to examine the relationship between capital structure and firms' performance in Nigeria. The sample size of the study was 210 selected firms. The study employed panel data covering the period of 1997 and 2017 using regression analysis. The study discovered that capital structure significantly influenced Tobin's Q; debt-equity ratio and short-term debt-total asset ratio positively. The study concluded that capital structure greatly influenced profitability and firms' value.

Olaoye, Akintola, Soetan and Olusola (2020) in a study evaluated the effect of capital structure on the financial performance of listed manufacturing firms in Nigeria. Ex post facto research design was used in the study. The population of the study consisted of 71 quoted manufacturing companies on the Nigerian stock exchange as of 31st December 2017. The sample size of the study was derived using convenience sampling method. Data obtained from the annual reports of the sampled companies were analyzed using descriptive and inferential statistics. The finding of the study showed that capital structure influenced the performance of the quoted manufacturing companies in Nigeria and the study thereby concluded that capital structure had a significant relationship with the financial performance of listed manufacturing companies in Nigeria.

Etale, Edoumiekumo, Kpolode and Nkak (2020) examined the relationship between capital structure and firm's performance of quoted Nigerian industrial goods. Five firms were selected for the study using secondary data covering six years between 2014-2019. The study's hypotheses were tested using multiple regression model. The independent variable of the study was measured by non-current debt to total assets (NCD), current debts to total assets (CD) and total debts to equity (TDE) while the dependent variable was measured by return on equity (ROE). Findings revealed that non-current debt to total assets and total debt to equity had a statistically significant relationship with Return on Equity. However, Total debt to equity had a negative relationship with ROE, while current debts to total assets had no statistical significance with performance.

Lawal, Edwin, Monica, and Adisa in 2014 did examine the effect of capital structure on manufacturing firms' performance in Nigeria. The study used panel data covering 2003 to 2012. Secondary data were employed with a sample size of ten (10) companies. Data were analyzed

using descriptive and inferential statistics. regression research technique. From findings, it was observed that capital structure measured by total debt and debt to equity ratio negatively affected firm performance. It therefore recommended that firms should use more of equity than debt in financing their business activities.

Oyedokun, Job-Olatuji and Sanyaolu (2018) in a study sought to examine the effect of capital structure on the financial performance of firms in Nigerian manufacturing sector. The research design adopted was ex-post facto method and the population of the study comprised all the quoted manufacturing companies listed on the Nigerian Stock Exchange while the sample size was 10 listed companies selected. The study used balanced panel data of 100 observations from the 10 listed companies for the periods ranging from 2007 - 2016. Descriptive and regression statistics were used as tools of analysis. The study revealed that there existed significant effect between capital structure and performance of manufacturing firms in Nigeria.

In an attempt to investigate the relationship between capital structure and performance of Nigerian Manufacturing firms, Michael in year 2022 conducted a study to unravel that. The study used panel data analyzed using regression statistics. The analyses took into consideration a nonlinear approach and attempted to disaggregate the effect of capital structure across sub-sectors. The results of the study revealed that capital structure was a significant determinant of performance among big manufacturing firms. The findings argued that policy measures to change the poor performance of the Nigerian manufacturing sector should aim at manufacturing companies likely to operate through large leverage.

Dahiru (2016) investigated the effect of capital structure on financial performance of listed manufacturing firms in Nigeria. Secondary data were sought for the study using a panel data covering the period of 2009 to 2014. The study had four hypotheses that were formulated while a generalized least square multiple regression was used to analyze the data extracted from the annual reports and accounts of the selected 31 firms. The study discovered that total debt, long-term debt, and short-term debt had significant influence on the financial performance of listed manufacturing firms in Nigeria. Meanwhile, it was revealed in the study that total debt to total equity had no significant effect on the financial performance of the selected firms. Consequently, the management of quoted manufacturing firms in Nigeria should work very hard to increase the short-term debt to total assets component of their capital structure for having a positive effect on their financial performance. The selected firms were also argued to reduce the level of total debt to total assets and long-term debt to total assets in their capital structure components for having a negative effect on financial performance.

Theoretical Review

2.2.1 Modigiliani and Miller Theory

In 1958, Modigliani and Miller (MM), submitted that under some critical assumptions, firm's value is not determined by its capital structure. Capital market was assumed to be perfect in Modigliani and Miller's argument where free entry and exit are available to insiders and outsiders to access information; zero transaction cost, bankruptcy cost and no taxation in existence. In this

circumstance, equity and debt choice ratio become irrelevant and internal and external funds perfectly substituted. The M-M theory (1958) argues that the value of a firm should not be a function of its capital structure. The theory further suggested that a firm should have similar market value and common Weighted Average Cost of Capital (WACC) at all capital structure levels because the value of a company should be a product of its return and risks connected with its operation and not necessarily the manner it finances those operations. However, this theory has been criticized on the premise that perfect market situation is very far from a real-life situation.

Agency Cost Theory

This provides that a firm can be seen as a nexus of contracts between principal and its agents. An agency relationship exists when an individual, called principal hire one or more other individuals, called agents, to carry out some service on his/her behalf by delegating decision- making authority to the agents. Agency theory was initially developed by Berle and Means in 1932, who explained that because of a continuous dilution of equity ownership of large organizations, ownership and control become more separated. This situation allows professional managers an ample chance pursue personal interest rather than that of shareholders. Therefore, Jensen and Meckling (1976) suggested that, for an optimal debt level in capital structure, agency costs coming from divided interest of managers with shareholders be minimized. Jensen and Meckling further argued that either ownership of the managers in the firm should be increased or firm's debt profile be increased to control managers likelihood for excessive extra consumptions. Therefore, companies which are mostly financed by debt give managers less decision power when compared with those financed mostly by equity. Consequently, considering the relevance of agency theory, this theory was used to anchor this study. Therefore, agency theory was used to underpin this study.

Methodology

This study made use of ex-post facto research design with a population of 84 (Eighty-Four) Manufacturing Firms quoted on the Nigeria Stock Exchange Market as of December 31, 2022. Secondary data were sourced for the study. The study is a cross-sectional time series analysis as it allows the researcher to study the behaviour of the selected firms across one another over a long period of time. The data were obtained from the annual reports and factbook of the selected companies for the period of ten years (10) years from 2012 – 2022. Forty –two manufacturing firms out of the 84 listed in the Nigerian Stock Exchange with complete data were selected using purposive sampling technique. Data were analyzed using E-views version 9 in which a summary of descriptive and inferential statistics results were obtained and analyzed to examine the influence of capital structure on firms' performance of the listed Nigerian companies. Concerning the variables of his study, two sets of variables were involved - dependent and independent variables. The dependent variables were return on asset and return on investment while the independent variables were Debt – equity ratio, long term debt to capital employed and total debt ratio. Data collected were analyzed using simple percentages, frequencies distribution, mean and median, and chi-square and regression analyses.

Model Speciation

Arising from the theoretical and literature review, the models for this study are specified below:

$ROA_{it} = \beta_0 + \beta_1 DE_{it} + \beta_2 LDCE_{it} + \beta_3 TD_{it} + \varepsilon_{it}$ ------------------------------- (eq 3.1)

$ROI_{it} = \beta_0 + \beta_1 DE_{it} + \beta_2 LDCE_{it} + \beta_3 TD_{it} + \varepsilon_{it}$ ------------------------------- (eq 3.2)

Where:

ROA = Return on Asset of Firm i in period t, Return on Investment of Firm i in period t,

DE_{it} = Debt – equity ratio *of Firm i in period t,*, $LDCE_{it}$ = long term debt to capital employed and

TD_{it} = total debt ratio, *εt = the error term,* $\beta 1 – \beta 3$ = Coefficients of the independent variable

The models in equations 3.1 and 3.2 were in line with the models of (Lawal et al., 2014; Olaoye et al., 2020)

4.0 Data Presentation, Analysis, and Interpretation

4.1. Descriptive Statistics

From Table 4.1, the results of the descriptive statistics were obtained using the mean, standard deviations, skewness, Jarque- Bera and kurtosis. This section provides an overview of the data while explanations were given to disclose the patterns of the data. The summary of the statistics of the pooled series of Return on assets (ROA) and Return on Investment (ROI), on Debt-Equity ratio (DE), Long term debts to Capital Employed (LDCE) and Total Debts (TD) are provided. (see Table 4.1).

From Table 4.1, the variable (ROA and ROI) had their mean values smaller than their respective standard deviations suggesting that the coefficients of variations were large. Similarly, the coefficients of variations of the independent variable proxies (DE, LDCE and TD) had means greater than their respective standard deviation indication a possibility of a small coefficient of variations. The mean is a measure of location while the standard deviation shows the variation in the data. As a rule of decision criteria, when the mean value is greater than the standard deviation, it shows a possibility of a small coefficient of variation in the data. Similarly, when the mean value is less than the standard deviation, the coefficient of variation is a large

In respect of the skewness, from Table 4.1, the values of all the variables ROA (-7.01791), ROI (-0.335726), DE (-1.29782), LDCE (-1.54683) and TD (-1.1687) had long left tails. Meanwhile, in a normal distribution, the value of skewness is zero. A positive skewness shows that the distribution has a long right tail while a negative skewness reveals that the distribution has a long-left tail. As for the kurtosis of the study, from Table 4.1, all the variables ROA (2.56926), ROI (99.0022), DE (16.20256), LDCE (6.41045), TD (4.421384) had kurtosis values greater than 3. As a rule, when kurtosis is greater than 3, the distribution of the data is peaked (leptokurtic) in relation to normal distribution; if the value of the kurtosis is below 3, the distribution of the data is flat. (platykurtic) relation to the normal distribution. Therefore, all the variables in this study are peaked.

The test of the null hypothesis was carried out. In a normal distribution, the Jarque-Bera statistic is distributed as with χ^2 degrees of freedom. From Table 4.1, the reported Probability showed that

Jarque-Bera statistic exceeded (in absolute value) the observed value when hypothesis is stated in a null form. A probability value below 0.05 value suggests a rejection of the null hypothesis in a normal distribution. In this study, all variables ROA (0.00000), ROI (0.00000), ED (0.000000), LDCE (0.000000) and TD (0.000000) had their *p-values* less than 0.05, therefore, the null hypothesis indicating that the variables were not normally distributed was rejected.

Table 4.1 Descriptive Statistics Estimate

	ROA	ROI	DE	LDCE	TD
Mean	4.20588	834.93	5.03733	7.9226	8.17447
Median	3.79442	9.13153	4.077018	8.32886	7.59675
Standard Dev.	4.970556	11653.67	17.37143	1.978449	1.96923
Skewness	-7.01791	-0.335726	-1.29782	-1.54683	-1.1687
Kurtosis	2.56926	99.0022	16.20256	6.41045	4.421384
Jarque-Bera	26.5692	161728.15	3.715.0	561.385	233.299
Probability	0.0000	0.0000	0.0000	0.0000	0.0000
Observation	160	160	160	160	160

Source: Field Survey, 2023

The effect of Capital Structure on Performance of Manufacturing Firms in Nigeria

4.2 The effect of Capital Structure on Performance of Manufacturing Firms in Nigeria

Table 4.2 shows the inferential (regression analysis) used to test the hypothesis of the study: there is no significant relationship between capital structure and performance of Manufacturing Firms in Nigeria. Performance indicators examined in this study were Return on Assets and Return on Investment. On Return on Assets performance of the selected manufacturing firms in Nigeria, the results revealed that the predictor variables (Debt to Equity, Long Term Debt to Capital Employed and Total Debt) were individually statistically significant to return on asset of Nigerian Manufacturing Firms. The regression results in Table 4.2 established that holding Debt to Equity, Long Term Debt to Capital Employed and Total Debt constant the return on asset performance would be at 8.3587.

In estimating the contribution of each proxy of Capital Structure it was established that they were significant to variance of return on asset performance at significance level 0.05. From Table 4.2, a unit increase in debt to equity explained 31.9% of the variance in return on asset performance of the selected Nigerian manufacturing firms, a unit increase in long-term debt to capital employed would lead to an increase by 16.9% of the variance in return on asset. Also, a unit increase in total debt explained 30.8% of the variance in the return on asset performance of manufacturing firms.

As a further analysis of the individual proxy's contribution to return on asset , two proxies of capital structure specifically contributed to return on asset of the selected Manufacturing firms in Nigerian and were statistically significant as indicated by its t and p values shown in parenthesis: Debt to Equity (t = 3.346; sig = 0.000, P < 0.05); long term debt to capital employed (t = 2.8035;

sig = 0.001, P < 0.05). However, Total debt was statistically not significant to return on asset of the selected public Manufacturing firms in Nigeria as shown in parenthesis: Total Debt (t = 1.243; P > 0.05).

Essentially, Table 4.2 reports that the model of performance with the coefficient of determination R = 0.17539 and R^2 = 0.03862 at 0.05 was significant. The coefficient of determination indicates that 3.8% of the variation in performance (return on asset) of manufacturing firms in Nigeria could be explained by debt to equity, long term debt to capital employed and total debt. This suggests that there is a significant relationship between Capital structure and return on assets of the selected manufacturing firms in Nigeria. Therefore, the null hypothesis is rejected that Capital structure has no significant relationship with return on assets of quoted manufacturing companies in Nigeria. The results of this study was in agreement with the studies of Ajibola. Wisdom and Qudus (2018); Akinrinola, Tomori and Audu (2023; Olaoye, Akinola, Soetan and Olusola (2020)

Regarding Return on investment of the selected manufacturing firms in Nigeria, the results revealed that the predictor variables (Debt to Equity, Long Term Debt to Capital Employed and Total Debt) were individually statistically significant to return on investment of Nigerian Manufacturing Firms. The regression results in Table 4.2 established that holding Debt to Equity, Long Term Debt to Capital Employed and Total Debt constant the return on investment performance would be at 13.297

In estimating the contribution of each proxy of Capital Structure it was established that they were significant to variance of return-on-investment performance at significance level 0.05. From Table 4.2, a unit increase in debt to equity explained 21.1% of the variance in return-on-investment performance of the selected Nigerian manufacturing firms, a unit increase in long-term debt to capital employed would lead to an increase by 12.9% of the variance in return on investment. Also, a unit increase in total debt explained 17.3% of the variance in the return-on-investment performance of manufacturing firms.

As a further analysis of the individual proxy's contribution to return on investment , two proxies of capital structure specifically contributed to return on investment of the selected Manufacturing firms in Nigerian and were statistically significant as indicated by its t and p values shown in parenthesis: Debt to Equity (t = 3.368; sig = 0.000, P < 0.05); total debt (t = 2.840; sig = 0.001, P < 0.05). However, Long term debt to capital employed was statistically not significant to return on investment of the selected public Manufacturing firms in Nigeria as shown in parenthesis: (t = 1.699; P > 0.05).

Essentially, Table 4.2 reports that the model of performance with the coefficient of determination R = 0.234 and R^2 = 0.0543 at 0.05 was significant. The coefficient of determination indicates that 5.4% of the variation in performance (return on investment) of manufacturing firms in Nigeria could be explained by debt to equity, long term debt to capital employed and total debt. This suggests that there is a significant relationship between Capital structure and return on investment of the selected manufacturing firms in Nigeria. Therefore, the null hypothesis is rejected that Capital structure has no significant relationship with performance (return on investment) of quoted

manufacturing companies in Nigeria. This finding was in tandem with the studies of Adeoye, Enyi, Nwaobia and Ogundayo (2021); Etale, Edoumiekum, Kpolode and Nkak (2020)

Table 4.2: The effect of Capital Structure on Performance of Manufacturing Firms in Nigeria

Explanatory Variables Model 1	ROA			ROI		
	Coef B	t-stat	Prob	Coef B	t-stat	Prob
Constant	8.3587	2.438236	0.000	13.297	15.535	0.000
DE	0.319291	3.346773	0.000	.211	3.368	0.001
LCDE	0.16958	2.80350	0.081	.129	1.699	0.091
TD	0.3081	1.243567	0.2854	-.173	-2.840	0,005
F- statistics	5.800055		0.000	25.928		0.000
R	0.1753905			0.234		
R^2	0.030762			0.054756		
Adjusted R^2	0.0262			0.043765		
Probability	0.00000			0.000000		
Observations	160			160		
Breausch-Pagan LH Serial Correlation	35.69196			27.456		
Std Error of the estimate	1.42581			1.19943		
Heteroskedasticity	8.28965 (0.00000)			6.34261 (0.0000)		
Normality Test (Jarquerbera)	11.854975 (0.000)			10.5647		
Hausman Test	9.1729555			8.2354		

Dependent Variable: ROA significance at 5%
Source: Field Survey, 2023 (E-Views 9)

5. Conclusion and Recommendations

This study examined the influence of capital structure on the performance of listed Manufacturing firms in Nigeria. The study opined that capital structure had a significant relationship with the performance of quoted manufacturing firms in Nigeria. Consequent upon the findings obtained from this study, the following recommendations were put forward.

i. Management must see that capital structure in improved upon in terms of management and sources so that performance in terms of return on asset and return on investment could be enhanced.

ii. Also, it is essential that management of listed firms encourage investment in equity to debt and long-term debts to capital employed in order to increase performance in terms of return to asset while the listed firms must encourage investment in equity to debt and total debt in order to increase performance in terms of return to asset.

iii. It is recommended that total debt and long-term debt to capital employed were discouraged in order to avoid performance erosion in terms of return on asset and return on investment respectively

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