CAPITAL STRUCTURE AND PERFORMANCE OF MANUFACTURING FIRMS IN NIGERIA

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BENIN CITY

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF BANKING AND FINANCE, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc) DEGREE IN BANKING AND FINANCE

APRIL, 2024

DECLARATION

I declare that:

This project work is based on a study undertaken by me in the Department of Banking and Finance, University of Benin under the supervision of Dr. E. Isibor. This work has not been previously submitted for award of a degree elsewhere.

All ideas and views are product of my personal research effort and all references to works of others have been duly acknowledged.

_____

Christopher OKOTIE-EBOH

Date:_____

CERTIFICATION

This is to certify that this research work has been submitted by **Christopher OKOTIE-EBOH** with the Matriculation Number **MGS1907985** to the Department of Banking and Finance, Faculty of Management Sciences, University of Benin, Benin City under the full supervision of **Dr. E. Isibor** and in accordance with the requirement of the Department of Banking and Finance, University of Benin, Benin City for the award of Bachelor of Science (B.Sc) Degree in Banking and Finance.

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DEDICATION

The project work is dedicated to God Almighty, my creator and maker for His divine favour, mercy, understanding and protection given to me all through my stay in the University of Benin.

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Firstly, I want to express my thanks and appreciation to God Almighty for the strength, grace, wisdom, knowledge and understanding throughout this work of mine.

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ABSTRACT

The study is set to investigate capital structure and performance of oil and gas companies in Nigeria, by employing various indicators such as return on equity (ROE) short-term debt ratio (STDR), long term debt ratio (LTDR), total debt ratio (TDR) and total debt to equity ratio (TDER). The data used for the study were sourced from the NSE fact book 2021 and annual financial reports of the purposefully selected quoted Manufacturing firms on Nigerian Exchange Limited (NGX) for the period 2014-2023 (10years). The study adopted the Panel Least Squares estimation technique for all the series employed. The findings of the study revealed that long term debt (LTDR), short term debt (STDR), and total debts (TDR) are positively related to financial performance (ROE) of manufacturing firms. Furthermore, long term debt ratio and total debt ratio (that is leverage) are significantly related to manufacturing firms' financial performance (ROE). In addition, short term debt ratio and total-debt equity ratio have no significant influence on manufacturing firms' financial performance. While, short debt has positive influence on manufacturing firms' financial performance, total debt-equity ratio has a negative influence on performance. Hence, long term debt rather than short term debt and debt-equity ratio is the significant determinant of financial performance (ROE) of manufacturing firms in Nigeria. The study recommends that the managers of the nation's manufacturing firms should strive to boost return to equity owners by increasing theirs use of debts, particularly long term debts in their capital structure in order to promote the growth of their corporate organizations. Also, reasonable use of long-term debts, as needed to finance expansion of manufacturing firms infrastructures and other investments, recommended in order to avoid the financial risk of default and possible bankruptcy.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The manufacturing sector makes a great contribution to economic and social development of Nigeria economy. Consequently, the growth of the manufacturing sector directly affects the performance of the nation. For businesses to survive, it should be able to operate successfully with environmental forces that are unstable and uncontrollable, which can greatly affect decision making process as it relates to capital structure. Debt ratio has being a grouping concern in all sector of human endeavour, debt ratio has being used by business organizations in terms of survival, sustainable growth and competitive advantage in the business environment and beyond (Abor, 2015).

The oil and gas industry is not left out in the uses of capital strategies to enhance their organizational strategy. Different forms of capital structure strategy has being applied by these manufacturing firms in Nigeria Stock Exchange, ranging from long term debt ratio, medium term debt ratio and short term debt ratio strategies which has actually not sustain the continuous growth of manufacturing firms financial performance as revealed from the annual financial statement from 2014 to 2023 for the various manufacturing firms under study. This study is envisioned to expand the body of knowledge in respect of the application of short term debt ratio strategy and financial performance to companies in

the manufacturing sector in Nigeria.

Investors, government and other external users of financial information often need to measure the performance of an organization. This is done in order to evaluate the success of the business, determine any weaknesses of the business, compare the current and past performance and compare the current performance with industry standard. A company can be recognized as performing effectively and efficiently if it can satisfy the interest of all its stakeholders (Ubesie, 2014). For instance managers are interested in their welfare and profit maximization, current and potential shareholders perceive performance as the company's ability to distribute dividends to their investment, commercial partners look for the solvency and stability of the company while the state seek a company to be efficient in paying its tax and help in creating new jobs. The ability of companies to carry out their stakeholders' needs is tightly related to capital structure (Ong & Teh, 2011).

The determination of a company's capital structure constitutes a difficult decision, one that involves several and opposed factors, such as rick and profitability. The decision becomes even more difficult, in times when the economic environment in which the company operates presents a high degree of instability. Capital structure is the various means in which a firm finances its operations which can either be through debt or equity capital or combination of both (Saad, 2010). Through this definition, we can deduce that if the company makes a weak decision related to capital structure, it may face a high risk, or higher cost of capital and this will lead to a decline in the overall performance of the

company.

There are many internal and external factors impacting the decision of choosing a suitable financing structure. These factors may include sensitivity of creditors due to high debt on a company and the nature of industry in terms of competition, growth, stability of sales and profit and the assets value. In both developed and developing economies, the primary purpose of taxation is mainly to generate revenue for settling government expenditure and for provision of social amenities and welfare of the populace (Kiabel and Nwoka, 2019).

Company income tax serves as a tool in achieving economic growth in any country and is accepted not only as a means of raising the required public revenue, but also as an essential fiscal instrument for managing the economy. The World Bank (1991) noted that of all the taxing systems, income tax plays a major role in generation of revenue and distribution of income in any country. However companies will only pay income tax if they generate profit at the end of the year. Therefore, this study evaluates the capital structure and performance of manufacturing firms in Nigeria.

The objectives of firms revolve round ensuring that they satisfy all the stakeholders involved in the business. The manager of a firm has to make both financing and investment decisions that will aid the realization of the firm's objective. In making financing decision, one of the priorities of the manager is to ensure that he selects the best financing mix or capital structure of the firm (Ogebe et al., 2013).

Capital structure can be viewed as a way in which a firm can finance its whole operations and growth through the utilization of various sources of funds. The capacity of companies to carry out the needs of their stakeholders is closely associated with capital structure (Ong & Teh, 2011).

The determination of the capital structure of a firm is challenging in reality. In deciding the optimal capital structure, a firm might have to issue various securities in a limitless mixture in order to have a combination that will maximize its overall value (San and Heng, 2011). There is a close relationship between capital structure and corporate performance (Tian and Zeitun, 2017).

The measurement of a firm's performance can be done through the utilization of variables which involves productivity, profitability, growth or customer's satisfaction. These measures have some sort of connections between them. Financial measurement has been found to be one of the tools which reveal the financial strengths, weaknesses, opportunities and threats. As stated by Barbosa and Louri (2015), the financial measurements are return on investment (ROI), residual income (RI), earning per share (EPS), return of asset (ROA), dividend yield, price earning yield, price earnings ratio, growth in sales, market capitalization etc.

1.2 Statement of the Research Problem

Proper capital structure determination has long been used as a tool for transforming and revitalizing corporations, government agencies and nonprofit making organizations. The selected manufacturing firms of this study operate in a complex national and global environment. Despite widespread agreement about its benefits, effects of capital structure strategies on performance of these manufacturing firms, the debt ratio are not properly determined and utilized. Although the significance of capital structure on performance in manufacturing firms is still been misunderstood for various reasons, either there is little understanding of debt ratios of capital structure influence on return on equity and return on asset by mangers. The manufacturing firms in Nigeria are characterized by intense rivalry and competition. In order to compete effectively in the manufacturing environment it has become imperative to have an aggressive search and development strategies that provide competitive advantages as competitors step-up both offensive and defensive strategies to protect and enhance their market share. Operations functions often lack continuous improvement efforts targeting all inefficiencies and failure modes in actualization of their strategy.

1.3 Research Questions

The research question for this study includes;

i. To what extent does short-term debt ratio influence return on equity of manufacturing firms?
ii. How does Long-term debt ratio influence return on equity of manufacturing firms?
iii. What is the relationship between total debt ratio and return on equity of manufacturing firms?

1.4 Objectives of the Study

The overall objective of the study is to examine the extent in which capital structure influence financial performance of manufacturing firms in Nigeria. The specific objectives of the study are;

1. To ascertain the extent to which short-term debt ratio influences return on equity of manufacturing firms.

2. To determine the relationship between long-term debt ratio and return on equity of manufacturing firms.

3. To evaluate the relationship between total debt ratio and financial performance (that is ROE) of manufacturing firms in Nigeria.

1.5 Hypotheses of the Study

The hypotheses of this study are as follows:

H_{01}: Short-term debt ratio (STDR) has no significant influence on the financial performance (ROE) of manufacturing firms in Nigeria.

H_{02}: Long-term debt ratio (LTDR) has no significant influence on the financial performance (ROE) of manufacturing firms in Nigeria.

H_{03}: Total-debt equity ratio (TDER) has no significant influence on the financial performance (ROE) of manufacturing firms in Nigeria.

1.6 Significance of the Study

This study is considered timely and important on the ground that there has not been much exhausted work done on the area of the performance of manufacturing firms in Nigeria, most especially in the area of capital accumulation and formation for good productive base for the economy.

This research work traces the trend of manufacturing firms' performances on the Nigeria economy providing information to the various users in the manufacturing industries as well as researchers of various endeavour. It would also help in suggesting methods or steps the manufacturing firms in Nigeria can take to prepare it to face the problems and challenges of the future.

The study will be beneficial to the individual investors, business organizations and government by helping to educate the Nigeria entrepreneurs on the need and importance of the activities of manufacturing firms in Nigeria. Also, bringing public awareness to the contribution of the activities of the manufacturing firms towards the growth of private share ownership in the country.

1.7 Scope of the Study

The scope of the study is limited to the manufacturing firms in Nigeria, assessing the influence of capital structure on the financial performance of manufacturing firms in Nigeria. The study covers the period 2014 – 2023 (10 years).

1.8 Limitations of the Study

The methodological weakness in this study, which hinged on dearth of literature and the paucity of current and up to date research materials and information in my immediate vicinity. Thus, the literature review was more of materials from journals, the internet, library, amongst others, which are difficult to come by and even more difficult to analyze than textbooks.

1.9 Definition of Terms

1. **Capital:** Is a term for financial assets, such as funds held in deposit account and/or funds obtained from special financing sources.

2. **Capital Structure:** Is the particular combination of debt and equity used by a company to finance its overall operations and growth.

3. **Debts:** Involves borrowing money to be repaid, plus interest. Debt comes in the form of bond issues or loans.

4. **Equity:** Residual right of ownership over the assets. Equity may come in the form of common stock, preferred stock or retained earnings.

5. **Financing Mix:** Is a term used in the corporate world to define a mix of equity to debt in a firm. In other words, this term is used to describe the formula that defines how much capital is being raised by debt and how much is being raised by equity.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews some of the studies that have evolved over the past years on development of the subject matter. It presents the reviewed literature relevant to capital structure and its implications on the performance of manufacturing firms in Nigeria. It draws literature from empirical studies that have been done locally and globally. Particular emphasis is laid on dealing with capital structure theories and factors that influence the capital structure of a firm.

2.2 Conceptual Review

2.2.1 Concept of Capital Structure

Capital structure refers to the firm‘s financial frame work which consists of the debt and equity used to finance the firm. Capital structure is one of the popular topics among the scholars in finance field. The ability of companies to carry out their stakeholder‘s needs is tightly related to their debt-equity mix. Therefore, this derivation is an important fact that we cannot omit. Capital structure in financial term means the way a firm finances their assets through the combination of equity, debt, or hybrid securities (Saad, 2010). In short, capital structure is a mixture of a company‘s debts (long-term and short-term),

common equity and preferred equity. Capital structure is essential on how a firm finances its overall operations and growth by using different sources of funds. According to Myers (2011), there is no universal theory of the debt-equity choice and no reason to expect one. However, there are several useful conditional theories, each of which help to understand the capital structure that the firms choose.

Based on Ebaid (2019) research, capital structure has weak-to-no influence on the financial performance of listed firms in Egypt. By using three accounting-based measurements of financial performance which is Return On Assets (ROA), Return On Equity (ROE), and Gross Margin (GM), the empirical tests came out with the result that capital structure (particularly short-term debt and total debt) which is measured by ROA and GM have no significant impact on an organization‘s performance. Zeitun and Tian (2017) find out that firm‘s capital structure have a significant and negative impact on the firm‘s performance measures in both the accounting and market measures.

Capital structure is a mix of securities and financing sources used by corporations to finance real investments (Myers, 2011). The debt-equity mix is the mix of debt, preferred stock and common equity with which the firm tends to increase capital. The firm needs to make the investments in order to at least remain in business and also display some growth. The debt-equity mix of a firm is very important since it is related to the ability of the firm to meet the needs of its stakeholders, both debt and equity financing are important ways for business to obtain capital to fund their operations. Deciding which to

use or emphasize, depends on the long-term goal of the business and the amount of control managers wishes to maintain. Ideally, expert suggests that businesses use both debt and equity financing in a commercially acceptable ratio.

This ratio, known as the debt-to-equity ratio, is a key factor analysts use to determine whether managers are running a business in a sensible manner. Although debt-to-equity ratios vary greatly by industry and company, a general rule of thumb holds that a reasonable ratio should fall between 1:1 and 1:2.

2.2.1.1 Leverage (Debt Financing)

Leverage is the use of various financial instruments or borrowed capital, such as margin, to increase potential return on investments. It is also the amount of debt used to finance a firm‘s asset. A firm with significantly more debt than equity is considered to be highly leveraged. Debt financing is basically money that you borrow to run your business. Debt financing refers to the borrowing of funds in order to finance a purchase, acquisition or expansion. For business and corporation debt financing often involves the selling of notes, bonds, mortgages or other debt instruments. The individuals and financial institutions which provide the debt financing become creditors. Since debt financing involves borrowed funds, debt financing must be repaid, typically in installments and with interest. The interest that must be paid on debt financing is determined by the creditworthiness of the borrower, the intended use of the funds, and by the current financial climate. Businesses and corporations find debt financing attractive because the

interest paid is tax deductible.

You can think of debt financing as being divided into two categories based on the type of loan you are seeking, long term debt financing and short term debt financing.

Long Term Debt Financing usually applies to assets your business is purchasing, such as equipment, buildings, land, or machinery. With long term debt financing, the maturity period is normally beyond 5 years. Medium-term normally has a maturity period of 1-5 years.

Short Term Debt Financing usually applies to money needed for the day-to-day operation of the business, such as purchasing inventory, supplies, or paying the wages of employees. Short term financing is referred to as an operating loan or short term loan because scheduled repayment takes place in less than one year. A line of credit is an example of short term debt financing.

Loan capital may be obtained from bank or finance company as long-term loans, or from debt-equity investors in the form of debentures or preferred stock (preference shares), and is usually secured by a fixed and/or floating charge on the company‘s assets. Unlike debt capital, it does not include short-term loans (such as overdraft), also called borrowed capital.

There are many variables in a debt-equity mix choice and structure of debt maturity which will affect a company‘s option in investing. In the case of this, to examine the

impact of capital structure‘s variables base on company‘s performance will present prove for company‘s performance due to the effect of capital structure (Tian & Zeitun, 2017). A study had been done by Abor (2015) on the influence of capital structure on profitability of listed companies on the Ghana Stock Exchange during a five year period. He found out that there is significant positively interrelationship between short-term debt and ROE and shows that firms which earn a lot if they use more short-term debt to finance their business. In other words, short-term debt is essential source of financing in favour of Ghanaian companies, by representing 85% of total debt financing. Yet, the result showed the adverse relation between Debt and ROE which measure the relationship between total debt and profitability, this indicates that firms which earn a lot are depending on debt as their key financing option. The opposite of debt financing is equity financing.

2.2.1.2 Equity

Equity financing takes the form of money obtained from investors in exchange for an ownership share in the business. Such funds may come from friends and family members of the business owner. Wealthy angel investors or venture capital firms. An equity investment generally refers to the buying and holding of shares of stock on a stock market by individuals and firms in anticipation of income from dividends and capital gains, as the value of the stock rises. It may also refer to the acquisition of equity (ownership) participation in a private (unlisted) company or a startup company. When the investment is in infant companies, it is referred to as venture capital investing and is

generally understood to be a higher risk than investment in listed going concern situations. Equity Capital represents the personal investment of the owner(s) in the business. It is called risk capital because investors assume the risk of losing their money, if business fails the investors does not have to be repaid with interest like loan does. This means that an entrepreneur must give up some ownership in the company to outside investors. In accounting and finance, equity is the residual claim or interest of the most junior class of investors in assets, after all liabilities exceed assets, negative equity exists. In an accounting context, Shareholders equity (or stockholders equity, shareholders' funds, shareholders capital or similar terms) represents the remaining interest in assets of a company, spread among individual shareholders of common or preferred stock.

At the start of a business, owners put some funding into the business to finance operations. This creates a liability on the business in the shape of capital as the business is a separate entity from its owners. Business can be considered to be, for accounting purposes, the sum of liabilities and assets (A+L); is the accounting equation. After liabilities have been accounted for, the positive remainder is deemed the owners interest in the business. The owner‘s equity can be reduced to zero. Ownership equity is also known as risk capital or liable capital.

In financial accounting, equity capital is the owner‘s interest on the assets of the enterprise after deducting all its liabilities. It appears on the balance sheet/statement of financial position, one of the four primary financial statements of accounting listed under

ownership equity include but not limited to; Share capital (common stock), preferred stock, capital surplus, retained earnings, reserve.

2.2.2 Determinants of Capital Structure

2.2.2.1 Size of the Firm

Size is one of the major determinant of firm‘s capital structure. Large size companies tend to be more diversified, and hence their cash flows are less volatile. Size may then be inversely related to the probability of bankruptcy (Titman & Wessels, 2008; Rajan & Zingales, 2005). Ferri and Jones (2009) suggest that large firms have easier access to the markets and can borrow at better conditions. For small firms, the conflicts between creditors and shareholders are more severe because the managers of such firms tend to be large shareholders and are better able to switch from one investment project to another (Grinblatt & Titman, 2008). However, this problem may be mitigated with the use of short term debt, convertible bonds, as well as long term bank financing. Most empirical studies report a positive relationship between size and leverage (Rajan & Zingales, 2005; Frank & Goyal, 2012; Booth et al., 2011). Less conclusive results are reported by other authors (Kremp et al., 2009; Ozkan, 2011). Zeitun and Tian (2017) also come out with the result that firm size has a positive impact on a firm‘s performance, as large firms have low bankruptcy costs. In other words, bankruptcy costs increases when firm size decreases, therefore, bankruptcy costs have negative effect on firm‘s performance. Smaller firm‘s moves towards a lower debt ratio due to their costly asymmetric

information from lenders. Therefore, a positive relationship is expected between size and debt-equity mix of the quoted insurance companies under this study.

2.2.2.2 Tangibility

The tangibility of firms' asset also plays a major role in determining its debt-equity mix. Tangible assets are likely to have an impact on the borrowing decisions of a firm because they are less subject to informational asymmetries and usually they have a greater value than intangible assets in case of bankruptcy. Additionally, the moral hazard risks are reduced when the firm offers tangible assets as collateral, because this constitutes a positive signal to the creditors who can request the selling of these assets in the case of default. As such, tangible assets constitute a good collateral for loans. According to Scott (2007), a firm can increase the value of equity by issuing collateralized debt when the current creditors do not have such guarantee. Hence, firms have an incentive to do so, and one would expect a positive relation between the importance of tangible assets and the degree of leverage. Based on the agency problems between managers and shareholders, Harris and Raviv (2000) suggest that firms with more tangible assets should take more debt. This is due to the behaviour of managers who refuse to liquidate the firm even when the liquidation value is higher than the value of the firm as a going concern. Indeed, by increasing the leverage, the probability of default will increase which is to the benefit of the shareholders.

From a pecking order theory perspective, firms with few tangible assets are more

sensitive to informational asymmetries. These firms will thus issue debt rather than equity when they need external financing (Harris & Raviv, 2001), leading to an expected negative relationship between the importance of intangible assets and leverage. Most empirical studies conclude to a positive relation between collaterals and the level of debt (Rajan & Zingales, 2005; Frank & Goyal, 2012).

2.2.2.3 Profitability

One of the main theoretical controversies concerns the relationship between leverage and profitability of the firm. According to the pecking order theory, firms prefer using internal sources of financing first, then debt and finally external equity obtained by stock issues. All things being equal, the more profitable the firms are, the more internal financing they will have, and therefore we should expect a negative relationship between leverage and profitability. This relationship is one of the most systematic findings in the empirical literature (Harris & Raviv, 2001; Rajan & Zingales, 2005; Booth et al., 2011).

In a trade-off theory framework, an opposite conclusion is expected. When firms are profitable, they should prefer debt to benefit from the tax shield. In addition, if past profitability is a good proxy for future profitability, profitable firms can borrow more as the likelihood of paying back the loans is greater. Dynamic theoretical models based on the existence of a target debt-to-equity ratio show: that there are adjustment costs to raise the debt-to-equity ratio towards the target that debt can easily be reimbursed with excess cash provided by internal sources. This leads firms to have a pecking order behavior in

the short term, despite the fact that they aim at increasing their debt-to-equity ratio (Fischer et al., 2009; Leland, 2008).

2.2.2.4 Liquidity

According to Ezirim (2015), financial assets are important because they provide liquidity. Liquidity according to him is the ease with which assets can be converted into cash with little or no loss in value, time and convenience. (Ibenta, 2015) sees liquidity as the ability to realize value in cash which has two components as the conversion time of an assets, i.e. the time lag between deciding to sell an asset and receiving payment for it, and its conversion price. In the work of (Adaramola & Olarewaju, 2015), liquidity is seen as the blood flowing through the living system of any organization as insurance is also not in isolation. However, there has been a discrepancy in the link between liquidity and capital structure, while some find positive effect, other found a negative relationship. Following the tradeoff theory, liquid firms possess more equity and trade with less debt.

2.2.2.5 Risk

The risk level of a firm can never be overlooked in determining the examining the determinants of its Debt-equity mix. In this research work, the risk of insurance companies will be measured by the proportion of claims paid from the net premium earned per time. In the work of Abor and Biekpe (2015) and that of Adaramola and Olarewaju (2015), a positive relationship is expected to lie between risk level and

leverage of insurance companies and that of return on assets of insurance companies. Risk in ordinary term is looked upon as a concept that has close relationship with condition of uncertainty, unpredictability doubt, worry, chance of no loss, (Ezirim, 2015). Human life and all aspects thereof are continually faced with these inhibitions. Consequently, risk become evidence in any situation where people tend to be unable to foresee the future perfectly or to fully control it. For instant, carrying on a business, it is close to impossible for the businessman to guarantee perfectly that there will be positive returns on his investments instead of negative returns.

2.2.3 Performance

Performance is the accomplishment of a given task measured against a certain standards and considered as a fulfillment of an obligation. Performance also used to indicate the hard work and effort used to attain a particular goal. The attainments of goal include combination of human, fiscal and company resources. According to Nirmal (2014) Performance not only indicates demonstration of something but it also indicates the quality and effectiveness of result achieved by the management of enterprise. Almajali (2012) explained performance as an outcome achieved by an individual or a group in an organization related to the authority and responsibility given to achieve the goal legally, it is the ability of firm to gain and manage the resources of company in several ways to develop competitive advantage and achieve organizations objectives.

Performance measures how well a firm can use its resource to generate revenue, in other

words it measures the overall financial results over a given period of time and can be used to compare the result of similar firms in the same industry. The level of performance of a business over a given period of time is to be measured to identify the level of the accomplished result, evaluating the performance of a business allows decision makers to judge the result of the activities accomplished. Firm's performance can be measured against the plan and objective of the organization angle, bench mark or against the industry average.

The financial performance measures the financial strength and health of the organization in monetary terms and can be used to compare the profitability of different firms within any particular industry or between the industries. The financial performance of the insurance firms plays a pivotal role in the growth of the industry as a whole, which ultimately contributes to the success of an economy (Iswatia, & Anshoria, 2017). Good performance indicates the firm's ability to get sufficient return and achieved its objectives by the resource used in the operation of a business.

According to Chen and Wong (2014) performance of insurance companies normally expressed in terms of net premium earned profitability from underwriting activities, return on asset, annual turnover, returns on investment and return on equity. Indranarain (2019) these measures can be classified two categories as profit performance measures and investment performance measures. Profit performance includes the profits measured expressed as difference between the revenues and expenses. The profit performance of

insurance companies' influenced by firm specific, industry specific and macroeconomic variables. Investment performance can take two different forms. One the return on assets employed in the business other than cash and two the return on the investment operations of the surplus of cash at various levels earned on operations.

Malik (2011) the firm's financial performance can be estimated by measuring the firm's profitability. Unless insurers' is profitable, can't attract external investors' capital to meet its set goals in this ever changing and competitive globalized environment. Profit improves upon insurers' solvency state and also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms (Harrington & Wilson, 2009). Thus, one of the objectives of management of insurance companies is to increase the financial performance of firm to attain profit as an underlying requirement for conducting any insurance business.

Financial statements point out different indication of financial performance by financial ratios. Return on assets (ROA), return on equity (ROE) and earning per share are some the best measure of firms financial performance. Mostly financial analyst use ROA as measure of financial performance of insurance companies. An increase in the ratio of ROA reveals the positive financial performance of relative business and vice versa (Epps & Cereola, 2018).

2.2.3.1 Return on Equity (ROE)

ROE measure the ratio of net income (income available to common stockholders) to stockholders' equity. It is a measure of company performance from the viewpoint of the shareholders (Nasiru, Ibrahim, Yahya and Aliyu, 2011). Return on equity measures earnings (income) that are available to investors of the oil and gas companies (both ordinary shareholders and preferred shareholders) on the capital they invest in the company (Purnamasari, 2015).

ROE increases with more financial gearing, as long as the returns earned on the borrowed funds exceed the cost of the borrowings.

2.2.3.2 Return on Assets (ROA)

ROA measures the overall effectiveness of management in generating profits with available assets. Wilkinson (2013) noted that ROA reveals how much profit a company earned in comparison to its overall asset. Hargrave (2019) viewed ROA as an indicator of the success of the company for the management of wealth (assets) owned by the company, so that by increasing the ratio of ROA reflect the company's performance in managing assets held, so that it can generate profits or earnings. The total asset turnover is used to evaluate both the business performance and financial position (Zager et al., 2008 cited in Zhang, 2017). Furthermore, return on assets (ROA) and net profit margin are always considered together, because the net profit margin has a direct impact on return on asset

(Gibson, 2013). Return on assets (ROA) is most commonly calculated by dividing net income by average total assets

2.3 Theoretical Review

2.3.1 Capital Structure Theories

Corporate financing decisions are quite complex processes and existing theories can at best explain only certain facets of the diversity and complexity of financing choices. Since Modigliani and Miller published their seminar paper in 1958, capital structure has generated great interest among financial researchers.

2.3.1.1 Modigliani and Miller Theory

Modigliani and Miller were the first to theorize the issue of capital structure. In their seminar paper; The Cost of Capital, Corporation Finance and the Theory of Investment, American Economic Review, (June 1958), they stated their capital structure irrelevance proposition that capital structure has no predictable material effect on corporate market values in a perfect capital market. Modigliani-Miller provides the basis for modern thinking on capital structure and was for the first time introduces the concept of capital structure. Their theory states that without taxes, bankruptcy costs and systematic information and in an efficient market, the firm‘s value is not affected by the way the firm is financed.

They argued that in efficient markets the capital structure choice is irrelevant to the value of the firm and benefits of using debts will compensate with decrease of companies stock. Prior to MM theory, conventional perspective believed that using financial leverage increases company‘s value. In this respect, there is an optimized capital structure that minimizes capital costs. In a subsequent paper, Modigliani and Miller (1963) eased the conditions and showed that under capital market imperfection where interest expenses are tax deductible, firm value will increase with higher financial leverage. Models based on impact of tax, suggest that profitable companies should have more debts because these firms have more need for tax management in corporation‘s profit.

However, Increasing debt results in an increased probability of bankruptcy. Hence, the optimal capital structure represents a level of leverage that balances bankruptcy costs and benefits of debt finance.

2.3.1.2 Pecking Order Theory

This theory is based on the premise that companies have a preferred hierarchy for financing decisions and maximize value by systematically choosing to finance new investments using the cheapest available‘ source of fund. Managers therefore prefer internally generated funds (retained earnings) to external funding, and if necessary, prefer debt to equity because of lower information costs associated with debt issues. Myers (1984) in the Capital Structure Puzzle, Journal of Finance, suggests that companies would only issue equity as a last resort when their debt capacity has been exhausted.

Worth noting is that internal funds incur no floatation costs and require no additional disclosure of proprietary financial information that could lead to more severe market discipline and a possible loss of competitive advantage. If a firm must use external funds, the preference is to use the following order of financial sources: debt, convertible securities, preferred stock, and common stock (Myers, 1984). This order reflects the motivations of the financial manager to retain control of the firm (since only common stock has a voice in management), reduce the agency costs of equity, and avoid the seemingly inevitable negative market reaction to an announcement of a new equity issue (Hawawini & Viallet, 2009).

Managers in comparison to investors have more information about operations. Myers and Majluf (1984) believe that this causes the pricing of the stock with investors to be understated. In this condition that there is asymmetric information, companies prefer financing by internal sources to stock issuance and where there is no adequate internal source, they prefer to borrowing. Consequently asymmetric information is the base of choice pecking order theory of financing.

The main conclusion drawn from the asymmetric information theories is that there is a hierarchy of preferences with respect to the financing of their investments (Myers & Majluf, 1984). This hierarchy of preferences suggests that firms finance their investments first using internally available funds, followed by debt, and finally through external equity. Demitrov and Jain (2013) with operational performance of firms proposed

another theory. They argued that if manager have access to private information about becoming worse in future operational performance they will be increased in debt. Thus, increasing the leverage is a negative sign and demonstrates poor forward performance. Rajan and Zingales (2005) argue that larger firms tend to disclose more information to outside investors than smaller ones. Overall, larger firms with less asymmetric information problems should tend to have more equity than debt and thus have lower leverage. However, larger firms are often more diversified and have more stable cash flow; the probability of bankruptcy for large firms is smaller compared with smaller ones.

2.3.1.3 Static Trade-Off Theory

Jensen and Meckling (1976) suggest that the firm‘s optimal capital structure will involve the trade-off among the effect of corporate and personal taxes, bankruptcy costs and agency costs, etc. The trade-off theory defines the capital structure by showing how much debt and equity finance should be chosen by the company to use for balancing the cost and benefits (Frank & Goyal, 2009). The capital structure can also sometimes lead to the bankruptcy of a firm and has a negative and adverse effect on the performance of the firm if not properly utilized. A firm is the amalgamation of assets with one owner that link with other assets to produce and sell merchandise; if firm performance affects the choice of capital structure, then failure to take this reverse causality into account may result in regression of a firm performance on a measure of leverage may confound the effect of capital structure on performance.

A firm‘s capital structure refers to the mix of its financial liabilities. As financial capital is an uncertain but critical resource for all firms, suppliers of finance are able to exert control over firms (Rahul Kuchhar, fall 2007).

2.3.1.4 Agency Costs Theory

Agency costs rose from separation of ownership and control and conflicts of interest between categories of agents. One of the problems that causes conflict between managers and shareholders is free cash flow. Jensen (1988) defined debt as a disciplinary tool to ensure that managers give preference to wealth creation for the equity-holders. Thus, in the companies that have high cash flow and profitability, increasing debts can be used as a tool of reducing the scope for managers, so that resources of the company may not be wasted as a result of their individual purposes. Opinion of most researchers is that choices of capital structure may help mitigate the agency cost (Papa & Speciale, 2017, Richardson, 2015, Douglas, 2012). High leverage reduces agency cost by constraining or encouraging managers to act more responsibly in the interest of shareholders by reducing cash flows available for spending to managers. Therefore we expect high earnings where debt ratios are high.

The other conflicting problem is that managers may not receive all the benefit of their activities. This is seen when manager‘s share in ownership of company is low. When the manager‘s stock is high, this inefficiency decreases. Therefore, it is appropriate that by increasing debts instead of stock issuance managers are prevented from decreasing share

of ownership interest (Huang, Song, 2015). Stulz (2000) like Jensen believes that debts payment decreases cash flows available for managers. But, on the other hand, he states that this decrease will decrease the opportunities of profitable investing. Thus, companies with less debt, have more opportunities for investment and in comparison with other active firms in industry, have more liquidity. The contribution of agency cost theory is that leverage firms are better for shareholders as debt level can be used for monitoring the managers (Boodhoo, 2019). Thus high leverage is expected to lower agency cost, reduce inefficiency, and thereby lead to improvement in firm‘s performance (Akintoye, 2018).

2.3.2 Performance Related Theories

There is no universal theory on financial performance that gives as unifying framework for the study determinant of the insurance companies' financial performance. Because of this, the study tries to view some theories which are nearer to the concept of insurance companies' performance and its determinants. There are several useful conditional theories that attempt to approach the determination of performance, each from different aspect. This section discussed those theories.

2.3.2.1 Resource Based View Theory

The resource based view theory was introduced by Warnerdelt (2004) and the aims

explaining the advantage of proper management of resource of the organization. According to Mahoney and Pandian (2002) a resource based view of a firm explains its ability of a firm to build sustainable competitive advantage when resources are properly managed such that their outcomes cannot be imitated by competitors, which ultimately creates a competitive barrier. The theory describe that it is much more feasible to exploit external opportunities using existing resources in a new way rather than trying to acquire new skills for each different opportunity. The firm may able to attain the desired competitive advantage through proper management and utilization of the firm accessible resources.

According to Wanjugu (2014) Resource based view provides the understanding that certain unique existing strategic resources will result in superior performance and ultimately build a competitive advantage. Sustainability of such advantage will be determined by the ability of competitors by exploiting valuable, rare, inimitable and non-substitutable resources is instinctive and theoretically satisfying, it is essential to recognize that value, rare, inimitability and nonsubstitutable are not completely invariables. However, the existing resources of a firm may not be adequate to facilitate the future market requirement, due to volatility of the contemporary markets. There is a vital need to modify and develop resources in order to encounter the future market competition.

According to Madbani (2010), The Resource Based View examines and understands

internal resources of the organizations and stresses resources and capabilities in formulating strategy to achieve sustainable competitive advantages. Resources may be considered and used as inputs that enable firms to carry out their activities in order to achieve firm long term objectives. The organizations should have to develop the way to maintain sustainable competitive advantages for sustained superior performance, firms must be unique and core competencies and resources that are valuable, rare, imperfectly imitable and non-substitutable as well as visualize of value- creating ways to exploit them. Intangible resources such as intellectual, technological resources are more appropriate than tangible resources which are human, financial resources to generate competitive advantage. Firm's abilities also allow some firms to add value in customer value chain, develop new products or expand in new marketplace. The RBV draws upon the resources and capabilities that exist within the organization in order to develop sustainable competitive advantages.

A resource based view of a firm explains, firms ability to develop and maintain competitive advantage when resources are managed such that their outcomes cannot be imitated by its competitors, which ultimately creates a competitive barrier (Mahoney & Pandian, 2002). The theory suggestion to the study is that the available resources at the insurance companies are an enormous determinant on how they perform. In fact, facing of fundamental, volatile changes in the environment, value, rare, inimitability and non-substitutability are very considerably over time. In other words, RBV state have their fall

like in the valuable attribute, the need for planning and investment to develop such resources are external factors, which means the RBV may overstate the profitability of firms by exploiting these resources, because the cost of acquisition and accumulation had been avoided. As such, the managers at the insurance companies should ensure full maximization of their available resources, for them to perform financially. They should also ensure that they possess resources which are unique to them which are not easily imitated by their competitors in the insurance sector (Kollie, 2017).

2.3.2.2 Dynamic Capability Theory

The theory was initially proposed and developed by Teece (2007). The theory insight the ability of a firm to integrate, build and reconfigure internal and external competences to address rapidly changing environments. These give the firm's to remain dominant and gaining competitive advantages to achieve the organization objective. Organizations and their employees need capability to learn quickly and to build strategic assets in this ever changing economy. New strategic assets such as capability, technology, equipment, highly qualified staff, and customer feedback have to be integrated within the company. Dynamic capability is essentially the learning of an organization, development of new assets and the transformation of existing assets.

Teece (2019) three dynamic capabilities are necessary in order to meet new challenges. Organizations and their employees need the capability to learn quickly and to build strategic assets to overcome the problem they face. New strategic assets such as

capability, technology, and customer feedback have to be integrated within the company. Existing strategic assets have to be transformed or reconfigured. Over time a firm's assets may become co-specialized, meaning when the physical assets, human resources and the intellectual property of a company provide synergistic combination of complementary assets. Such co-specialized assets are more valuable in combination than in isolation. The combination different categories of asset give a firm a more sustainable competitive advantage.

Grant (2006) and Pisano (2004) while seeing dynamic capabilities are the predecessor organizational and strategic routines by which managers alter their resource base, acquire and shed resources, integrate them together and recombine them to generate new value creating strategies. They say that dynamic capabilities comprise of identifiable and specific routines with some integrating and combination of resources for example product design and development routines by which managers combine their special skills and functional backgrounds to create revenue generating products and services. Hansen (2009) also indicates the transfer processes which include routines for replication and brokering are used by managers to copy, transfer and recombine resources, especially of measures. Another potential problem with this is that measures remain loose and their relationships with each other are not understood (Malmi, 2015).

According to Kollie (2017), the theory makes the assumption that it is impossible for different organizations to have similar capabilities and this result leads to towards

difference in their financial performance firms. The theory's proposition to the study is the changing external environment causes a difference in the dynamic capabilities of the organizations. Quality performance is driven by special organizational routines for gathering and processing information, linking customer experiences with business design choices and also competitive advantage also requires the integration of external activities and technologies: for example, in the form of alliances and the virtual corporation. Therefore, the companies which are advantageous in terms of their internal capabilities are more likely to perform better. This implies that the performance is determine mainly by how well the insurance companies are able to acquire, align and integrate their capabilities in gaining competitive advantage.

2.4 Empirical Review

Yinusa, Ismail, Yulia and Olawale (2019) research paper examined the impact of capital structure on firm performance in Nigeria. The study used dynamic panel model on panel data of 115 listed non-financial firms in Nigeria. The paper used two step generalized method of moment estimation that recognizes the persistence of dependent variable by using its lag value as an explanatory variable in the regression model. The main findings indicate statistical significant relationship exist between capital structure and firm performance particularly when debt financing is moderately employed.

Duarte, Brito, Serio and Martins (2011) explored the effect of operational practices on financial performance. They tested the relationship between selected operational practices

(just in time, quality management, services outsourcing and ISO certification) on financial performance, using multiple regression analysis. A sample of 1,200 companies, operating in São Paulo, Brazil, was used. A negative relationship of outsourcing, profitability and growth was found, supporting outsourcing practice. A weaker negative relationship between ISO certification and growth was also found. The interactions between practices and industries were also significant, with mixed results, indicating that the effect of operational practices on performance might be situational.

Ajibola, Wisdom and Qudus (2018) studied the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied. The findings of the panel ordinary least square reveled a positive significant relationship existing between long term debt ratio, total debt ratio and return on equity, while an insignificant relationship between return on equity and short term debt ratio. There was also an insignificant relationship between all the proxies of capital structure (STD, LTD and TD) and ROA which makes ROE a better measure of performance.

Nassar (2016) examined the impact of capital structure on financial performance of firms in Turkey. The study covers 136 industrial companies annual financial statement listed on Istanbul Stock Exchange from 2005 – 2012. A multivariate regression analyses was employed to test the relationship between the variables of debt ratio to ROE, ROA and

EPS. The result revealed that there is a negative significant relationship between capital structure and firm performance.

Abor (2015) carried out a study on the influence of capital structure on profitability of listed companies on the Ghana Stock Exchange during a five years period. The study established that there is significant positively between short-term debt and ROE and reveals that firms will earn more from using short-term debt to finance their business.

Ebaid (2019) examined the relationship between debt level and financial performance of 64 listed non-financial Egyptian companies. The study revealed a negative significant relationship existing between short term debt, total debt and financial performance measured by ROA, but the relationship between financial leverage and ROA was insignificant when long-term debt was used as measure of financial leverage. The study also found out that short-term debt, long-term debt and total debt have no significant influence on financial performance when measured by ROE and Gross Margin. Generally, the results revealed that weak relationship between capital structure choice and firm's performance in Egypt.

Akinyomi (2013) examined the effect of capital structure on firm performance in Nigeria. Data were obtained from financial reports of companies from 2007-2011. Correlation analysis was used in data analysis. The findings revealed that there was a significant relationship between capital structure and financial performance using ROA and ROE.

Magara (2012) did a study on capital structure and its determinants at the Nairobi Securities Exchange. The study sought to find out the major determinants of capital structure. It was established that from the period 2007 to 2011, there was a positive significant relationship between the firm size, tangibility and growth rate and the degree of leverage of the firm. The study did not take into consideration macro- economic factors like inflation and interest rates.

Mwangi (2010) did a study on capital structure on firms listed at the Nairobi Stock Exchange also tried to look on the relationship between capital structure and financial performance. Data was collected using structured questionnaires. The study identified that a strong positive relationship between leverage and return on equity, liquidity, and return on investment existed.

Oyedokun, Job-Olatunji and Sanyaolu (2018) examined the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied to analyse the impact of capital structure on financial performance of manufacturing firms quoted in Nigeria stock exchange. Ex-post facto Descriptive statistics and regression were used for data analysis. The study reveals that there are statistically significant and non-significant impacts of capital structure on performance variables.

Abbadi and Abu-Rub (2012) examined the effect of capital structure on the performance of Palestinian financial institutions. Using the multiple linear regression models, they

utilised the data of 8 banks listed on the Palestine Securities Exchange. They found that a positive relationship exists between leverage and market efficiency.

In a related research, Ali et al (2012) analysed the impact of capital structure on the profitability of petroleum sector of Pakistan while controlling the size of the company. They carried out a regression analysis on the data of 12 randomly selected companies for a period of 10years. They found that in overall analysis, there is a significant and positive impact of capital structure on the profitability of the petroleum sector whereas in individual analysis the analysis has no significance because every company has their own capital structure.

David and Olorunfemi (2010) used panel data analysis to analyse capital structure and corporate performance in Nigeria petroleum industry. They found that a positive relationship exist between earning per share and leverage ratio on one hand and positive relationship between dividend per share and leverage ratio on the other hand.

However, in a similar study carried out by Khan (2012) on 36 engineering sector firms in Pakistan, he was able to establish that financial leverage has an insignificant negative relationship with firm performance. He noted that firms in the engineering sector of Pakistan are mainly dependent on short term debt.

In another research, Ogebe et al. (2013) investigated the impact of capital structure on firm performance in Nigeria for a period of 10years.They used the fixed effect regression

estimation model to confirm that a negative relationship exists between performance and leverage of the firms. They also affirmed that the traditional capital structure theory is valid. Salawu (2017) carried out an empirical analysis of the capital structure of selected quoted companies in Nigeria between 1990 and 2004.Using panel data analysis; the author found that leverage is negatively related to profitability. He also confirmed tangibility is positively associated with total debts and long term debt though negative related to short term debt. He also opined that collateral has influence on all bank borrowing in Nigeria whether short term or long term. Furthermore, growth opportunity was found to be positively related to both total debts and short term debts.

Olokoyo (2013) examined the impact of leverage on firm's performance in Nigeria using fixed-effect estimation, random-effect estimation and a pooled regression model. The author found that all the leverage measures have a positive and highly significant relationship with the market performance measure (Tobin's Q). The study further revealed an important fact that Nigerian firms are either majorly financed by equity capital or a mix of equity capital or short-term financing. The study recommended that Nigerian firms should endeavour to match their high market performance with real activities that is potent enough to make the market performance reflect on their internal growth and accounting performance.

Following the review of empirical literature, the optimal capital structure of a firm is very paramount to its successful operation though these decisions differ from one firm to

another. Some authors are of the view that a positive relationship exists between capital structure and the firm performance while some believes that there is a negative relationship. The need to carry out a study that focuses on the manufacturing firms in Nigeria is fuelled by dearth of literature on this area.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The purpose of this study is to investigate the impact of capital structure on the performance of manufacturing firms in Nigeria. This chapter deals with the research design, the population and sample of the study, sources of data, theoretical framework and model specification as well as method of data analysis.

3.2 Research Design

The research design adopted in this study is the Ex-Post-facto research design, which is very applicable in the management and social sciences. In an Ex-Post-facto research which involves secondary data in which responses in the nature of a factor and its effects on individuals are being studied, the researcher does not have the ability or opportunity to vary or manipulate the independent variables. This inability to manipulate the independent variables stern from the fact that the variables are inherently non-manipulable or because their manifestations have already occurred (Agbonifoh & Yomere, 2009).

3.3 The Population and Sample of the Study

The population consists of all measurement and numbers of the observation relating to

each of the variables of the study. Therefore, all the manufacturing firms operating in Nigeria constitute the population.

The sample of the study comprises of manufacturing firms quoted on the Nigerian Exchange Limited that have debts in their capital structure within the period of 2014-2023 (10 years).

3.4 Sources of Data

The time based data adopted is secondary data since they are obtained from already existing publications which constitutes secondary source of information. However, the sources of this research are from the NSE fact book 2023 and annual financial reports of the purposefully selected quoted manufacturing firms on Nigerian Exchange Limited (NGX).

3.5 Theoretical Framework and Model Specification

The theoretical framework of the model will be based on the pecking order theory which postulates that, growing firms usually search out for funds to maintain the growth, because as they are expanding, there is the tendency for them to exhaust all their internal generated funds.

In specifying the model, we shall have thus:

ROE = f(STDR, LTDR, TDR, TDER)

The function above is expressed in the form below;

$$ROE = \beta_0 + \beta_1 STDR + \beta_2 LTDR + \beta_3 TDR + \beta_4 TDER + Ui$$

Where;

ROE = Return on equity

STDR = Short term debt ratio

LTDR = Long term debt ratio

TDR= Total debt ratio

TDER=Total debt to equity ratio

β_0, β_1, β_2, β_3, and β_4, are Parameters to be estimated.

U_i = Error term

3.6 Method of Data Analysis

In analyzing the impact of capital structure on the performance of manufacturing firms in Nigeria, the panel data regression analysis was adopted. This is because the study combined both time series and cross sectional data.

However, based on variations in the debt-equity mix of the manufacturing firms under review, the intercept of each firm is said to be a random component. Therefore, the

random effect model of the panel data regression analysis will be adopted in estimating the impact of capital structure on the performance of manufacturing firms in Nigeria. The Random Effect technique is suitable in cases where the (random) intercept of each cross-sectional unit is uncorrelated with the regressors.

CHAPTER FOUR

DATA PRESENTATION, ANALYSES AND DISCUSSION OF FINDINGS

4.1 Introduction

This section presents the primary data on capital structure of oil and gas firms' financial performance, conducts the panel least squares (PLS) multiple regression analysis, interprets the results and discuss the findings.

4.2 Data Presentation and Analysis

This study examines the impact of capital structure variables on the financial performance of manufacturing firms in Nigeria. To achieve the objectives of the study, it employed a long period panel of ten (10) years (2014 – 2023) and a relatively longer cross sectional unit panel of manufacturing firms quoted on the Nigerian Exchange Limited (NGX).

The variables of interest and for which data were obtained from the companies were: return on equity (ROE) (the proxy for financial performance- the dependent variable of the study), short term debt ratio (STDR) (defined as short term debts divided by total liabilities), long term debt ratio (LTDR) (defined as long term debts divided by total liabilities), total debt ratio (TDR) (sum of short term and long term debts divided by capital employed), total debts to equity ratio (TDER) (total debts divided by owners'

equity). Return on equity (ROE) (defined as profit after tax divided by owners' equity) is the proxy for bank financial performance and the dependent variable of the study. All other variables are exogenous or explanatory.

The study uses the panel least squares (PLS) multiple regression analysis to exploit the cross sectional effects of the data set.

4.2 Panel Equation and Analysis of Data

Our simple panel equation of the study predicting ROE from the independent variables is given by equation 4.1 below:

$$ROE_{it} = \beta o + \beta_1 STDR_{it} + \beta_2 LTDR_{it} + \beta_3 TDR_{it} + \beta_4 TDER_{it} + V_{it} \ldots\ldots\ldots\ldots\ldots\ldots 4.1$$

Where, i = the number of quoted manufacturing firms, the cross-sectional dimension;

T=1, …10, with 10, the number of years, the temporal dimension; 2014 to 2023 in this project work.

V_{it}= the error terms.

For example, ROE_{it} can be interpreted as 'the ROE of firm i in year t'.

To analyze the relationships between financial performance (proxied by return on equity, ROE) and the exogenous corporate structure decision variables among the quoted manufacturing firms in Nigeria, we regressed the dependent variable (ROE) on the

independent variables – short term debt ratio (STDR), long term debt ratio (LTDR), total debt ratio (TDR), and total debt to equity ratio (TDER) in a panel least squares regression analysis using the random effect (FE) estimator.

The results are contained on Table 4.1 below:

Table 4.1: Panel Least Squares (Cross-section Random Effects) Estimation

Dependent Variable ROE	**Variables**	**Coefficient**	**t-statistic**	**Probability**
	C	15.7452	183.2933	0.0000
	LTDR	0.1433	3.0806	0.0026*
	STDR	0.0016	1.2113	0.2283
	TDR	0.1252	2.5962	0.0107*
	TDER	-0.0061	-0.0291	0.9768
R^2	0.83			
Adj. R^2	0.81			
F-statistic	35.4563			
Pro (F-statistic)	0.000000			
Durbin-Watson stat	1.95895			

KEY: * Statistically significant at 1% level.
Source: Data analysis by Student using EViews 8.0, February, 2024.

From table 4.1 above, it can be seen that the R^2 statistic is 0.83 while the adjusted R^2 statistic is 0.81. This is an indication that 81% of systematic variation in return on equity (ROE) is explained by changes in the explanatory variables of the model. Similarly, the F-statistic, 35.46 is greater than the theoretical value of 1.0 and has a probability value of 0.0000. These statistics indicate that our model satisfies the overall goodness of fit

statistical test and that a linear relationship exists between the dependent and independent variables of the model.

The Durbin-Watson statistic of 1.96 which is approximately 2.0 is an indication of the absence of serial correlation among the independent variables of the model. Thus, the regression is non-spurious and the results are reliable. Also, the t-values are generally of very low values while the R^2 statistic is not too high. These suggest that there is no problem of heteroskedasticity in the model; whose presence destroys t-values and R^2. Thus, our econometric model meets both statistical and diagnostic criteria and represents a good and consistent estimator and can be useful for policy purpose.

Thus, the panel least squares (PLS) regression equation in an eight-year range, 2014-2023, for cross sections of manufacturing in a balanced panel observations of 120 is as specified below:

$$ROE = 15.7452 + \underset{(3.0806)}{0.1433\, LTDR} + \underset{(1.2113)}{0.0016\, STDR} + \underset{(2.5962)}{0.1252\, TDR} - \underset{(-0.0291)}{0.0061\, TDER} + \upsilon;$$

4.3 Interpretation of Results and Discussion of Findings

The regression analysis shows that long term debt ratio (LTDR), short term debt ratio (STDR) and total debt ratio (TDR) are positively related to return on equity (ROE) in accordance with theoretical expectations. However, total debt-equity ratio (TDER) is negatively related to return on equity.

The above directional relationships suggest that the higher the long term debt ratio (LTDR), short term debt ratio (STDR) and total debt ratio (TDR), the higher is the financial performance of the manufacturing firms as indicated by ROE. Thus, a unit increase in each of LTDR, STDR and TDR is expected to lead to about 14%, 2% and 13% increase respectively in manufacturing firms' financial performance (ROE). Contrariwise, the higher is total debt-equity ratio (TDER), the lower is financial performance of the manufacturing firms. Therefore, a unit increase in TDER will lead to 6% decrease in their financial performance.

More importantly, as the analysis also shows, the relationship between long term debt ratio (LTDR) and financial performance (ROE) is statistically significant (t-value is 3.08 while p-value is 0.0026). This is an indication that long term debts in the capital structure of manufacturing firms are huge enough to have significant effect on their financial performance. Similarly, the relationship between total debt ratio (TDR) and financial performance is statistically significant at the 1% level of significance. Hence, these two variables have positive and significant impact on manufacturing firms' financial performance during the period of study. However, the relationships between short term debt ratio (STDR), total debt-equity ratio (TDER) and financial performance are not statistically significant (t-values are +1.21 and -0.03 while p-values are 0.2283 and 0.9768). Hence, short term debt ratio (STDR) and total debt-equity ratio, are not significant determinants of financial performance.

In conclusion, therefore, the study shows that long term debt is the single most important capital structure variable that has significant influence on the financial performance (ROE) of manufacturing firms in Nigeria, at least within the period under study. These findings are in accordance with theory and previous studies.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This work examined the influence of capital structure and financial performance of manufacturing firms in Nigeria. The study finds that:

1. Long term debt (LTDR), short term debt (STDR), and total debts (TDR) are positively related to financial performance of manufacturing firms (return on equity (ROE)).
2. Long term debt ratio and total debt ratio (that is leverage) is statistically related to manufacturing firms' financial performance (ROE). This is an indication that manufacturing firms are highly leveraged and hence long term debt is the major capital structure variable that has significant influence on their financial performance.
3. In addition, short term debt ratio and total-debt equity ratio have no significant influence on manufacturing firms' financial performance.
4. While, short debt has positive influence on manufacturing firms' financial performance, total debt-equity ratio has a negative influence on performance. Hence, long term debt rather than short term debt and debt-equity ratio is the significant determinant of financial performance (ROE) of manufacturing firms in Nigeria.

5.2 Conclusion

The study concludes that long term debt or leverage in the capital structure of manufacturing firms is a significant determinant of financial performance (ROE). This is mainly because, manufacturing firms unlike financial institutions, such as banks, are highly leveraged; hence capital structure has significant positive effect on their financial performance in Nigeria.

5.3 Recommendations

Based on the findings of this study, the following policy recommendations are made:

The managers of the nation's manufacturing firms should strive to boost return to equity owners by increasing their use of debts, particularly long term debts in their capital structure in order to promote the growth of their corporate organizations.

Therefore, reasonable use of long-term debts, as needed to finance expansion of manufacturing firms infrastructures and other investments, that guarantee higher prospects of future growth; and minimize the financial risk of default and possible bankruptcy is highly recommended.

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