Effect of Financial Structure on Financial Performance of Listed Consumer
Goods Manufacturing Firms in Nigeria: 2001-2016

Major, Harvest Iheanyi
2007417003F

**A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE
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IN BANKING AND FINANCE**

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DECLARATION

I hereby declare that this work is the result of study carried out by myself. It has not been previously submitted to this University or any other Institution either in part of in full of which I am aware for the award of any certificate, diploma or degree.

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Major, Harvest Iheanyi

APPROVAL PAGE

We hereby certify that this dissertation titled "Effect of Financial Structure on Financial Performance of Listed Consumer Goods Manufacturing Firms in Nigeria: 20001-2016" by Major, Harvest Iheanyi with Registration Number 2007417003F, satisfied the standard in partial fulfillment of the requirements for the award of Doctor of Philosophy Degree (Ph.D.) in Banking and Finance.

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Prof. Steve N. Ibenta   Date
(Supervisor I)

------------------------------------   --------------------------------
Dr. P. K. Adigwe   Date
(Supervisor II)

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Dr. P. K. Adigwe   Date
(Head, Department of Banking and Finance)

--------------------------------------   --------------------------------
External Examiner   Date

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Prof. C. M. Ekwueme   Date

--------------------------------------   ------------------------------
Prof. Harris Ike Odumegwu   Date
(Dean, School of Postgraduate Studies)

DEDICATION

This work is dedicated to the memory of Late Prof. Okachi Fineface Okala who was used by the Almighty Jehovah to give me a new beginning.

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ABSTRACT

This study examined the relationship between Financial Structure and Financial Performance of Listed Consumer Goods Manufacturing Firms in Nigeria: 2001-2016. Specifically the study examined how financial structure of firms related with their financial performance. Twenty-one firms listed in the Stock Market during this period were identified for the study. The study was anchored on Pecking Order theory of financial structure. Ex-post facto research design was adopted and panel data obtained from the Nigerian Stock Exchange Fact-Book was used for the study. Ordinary Least Square (OLS) technique was adopted to estimate relationship between financial structure and financial performance of the firms using return on assets (ROA), return on equity (ROE) and earnings per share (EPS) as the financial indicators. Short-run regression was used in testing the hypotheses formulated for the study. The tests revealed that there exist significant relationship between financial structure and return on assets (ROA), return on equity (ROE) and earnings per share (EPS) of the firms. The study concludes that financial structure decision is relevant as it has significant influence on the financial performance of the firm. Recommendations include that attention should be paid to proper combination of equity and debt as a means of financing the firm's operations. Government should also assist in creating enabling environment for manufacturing activities to thrive. These should include assisting in reduction of cost of funds and to facilitate payment for imported manufacturing materials.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

In modern business organizations, there are cases of separation of ownership from management. Major management decisions involve directing and controlling the flow of business resources. The management plans the organization's funds flow, allocation of such funds to various users, sourcing and efficient utilization of the funds to maximize the indicated objectives of the business. The determination of the optimal financing mix or financial structure is one of the major functions of managers. As Brealey, Myers & Allen (2006) observed, financial structure decision involves determination of the proportion of equity and debt funds to be raised from the right source at the appropriate time and at the right cost.

Financial structure is one of the most important parameters used in the valuation and direction of economic enterprises. Changing business environment demands that rating companies, who also depend on firm's strategic planning in recommending credit facilities, should consider financial structure in selecting financial resources to achieve shareholders' objective of wealth maximization (Drobetz & Fix, 2003). In pursuit of this goal, managers face the task of determining the best combination of financial resources of the firm.

The decision on how to finance the firm's asset from stakeholders and how much debt and equity the firm will require to finance its asset is very crucial in the determination of corporate financial performance (Okafor, 2014). According to Modarres & Abdoallahzadeh (2008), since the company's cost of capital is seen as a function of its financial structure, choice of optimal financial structure or adequate and appropriate financing and investment reduce the company's cost of capital and increase its market value which also increase shareholders wealth.

The theory of financial structure has remained an area of interest for researchers of corporate finance over the years (Mumtaz, Raul, & Noreen, 2013). As Pandey (2005) observed, it is the most contentious area in the study of finance. Theoretically, most models discussing financial structure of firms identify tax savings, bankruptcy costs, transaction costs, adverse selection and agency costs et cetera as the dominant factors influencing a firm's choice of debt and also its impact on the firm's performance. In practice, different firms may pursue different goals but the core objective of any firm is to minimize its cost and maximize its revenue. The creditors and investors in the capital market are interested in the financing cost of funds of firms quoted in the stock market (Scott, 2004). This is, as Dogra, andGupta (2009) observed debt to equity ratio enables the creditors to predict the likelihood of default for varying levels of financial structure in firms. In the same vein, to know the expected returns on their risk bearing activities, investors and traders in the stock market are interested in the relative impact of debt on a firm's performance (Chen, Roll, & Ross, 2004). Both investors and traders examine the daily performance of firms listed on stock exchange markets and rank them accordingly. It is on the basis of this ranking and historical prices of stocks that they decide to invest their funds in relatively high performing firms (Mumtaz et al, 2013).

Theories relating to financial structure have their origin from the work of Modigliani & Miller (1958) whose proposition was that in a world of perfect capital market and no taxes, a firm's financial structure will not have any influence on its value. They argued that a firm's financial structure does not affect its value. This proposition submitted that firms in a given risk class would be unaffected by the financial structure (Weston & Copeland, 1998). Brigham & Gapanski (1996) argued that an optimal capital structure can be attained if there exist tax sheltering benefits. They suggest that managers of a firm should be able to identify when the optimal financial structure is attained and try to maintain it at that level. At this point, the financing cost and cost of capital are

minimized, thereby increasing the firm's value and performance (Osuji & Odita, 2012). The choice of a firm's financial structure is a function of its long-term goals and the amount of control management wish to maintain.

In Nigeria, as in some other places, most corporate finance decisions are dictated by managers. Equity issues are often favoured over debt even when debt is a cheaper source of fund. Where debts are employed, it is usually on the short term basis. This could be as a result of the manager's tendency to protect his undiversified human capital and avoid the performance pressure associated with debt commitment. More often, when debts are issued voluntarily, particularly long term debt, it is used as an anti-take-over device against the challenges of potential corporate rider (Ogebe, Ogebe, & Alewi, 2013).

The choice of financing mix not only depends on profitability performance, corporate tax and bankruptcy costs, but also on the firm's size which is measured by the total assets – the sum of current and non-current assets at the end of the firm's reporting years (Lawrence, Diewert & Fox, 2004). Whenever financial structure decision is taken by the management, the central goal is to maximize shareholders' wealth. In view of the foregoing, this study examined the effect of financial structure on financial performance of quoted consumer goods manufacturing firms in Nigeria. Financial structure (the entire financing of the firm) rather than Capital structure (equity and interest-bearing debt of the firm) is chosen as subject of this study.

1.2   Statement of the problem

As Jeheel, and Olayiwola (2017) observed that appropriate financial structure decision is critical for the survival of business organizations and to overcome some financial challenges faced by firms. According to Pandey (2010), there are a number of arguments bothering on combination of equity and debts by firms. One school of thought notes that given certain conditions, there should be less emphasis on the financing structure of a firm as this does not have any effect on the firm's financial performance. Another school of

thought emphasizes that financial structure affect the firms' financial performance. There exists another school of thought which struck a balance by maintaining that a given financial structure gives firms better returns on their operations.

Most studies on the relationship between financial structure and firm's financial performance used some financial indicators such as Return on Equity (ROE), Return on Asset (ROA), Earning per Share (EPS) and Market values of the firm as basis for the analysis. These were used to measure financial performance of firms with reference to profitability as measured by Profit before tax which represents a more comprehensive financial performance indicator. Most studies that tried to adopt profitability as measure of performance are of foreign origin (Abor, 2005) and (Enekwe, Agu, & Eziedo, (2014). These studies may have explained how financial structure affected profitability of quoted firms in their respective countries. It may not offer such explanation for profitability of quoted consumer goods manufacturing firms in Nigeria. It is also observed that those studies on financial structure and financial performance in Nigeria such as Babalola (2014); Akintoye, (2008) and Anyanwu, Oyefusi, Oaikhenan, & Dimowo, (1997)focused more on banking sector, manufacturing sector and agro-based sector of the Nigerian economy. These studies also employed data ranges of four (4), five (5) and six (6) years. This study therefore examined the relationship between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeria. These are the issues that made this study relevant to be undertaken. It will fill the gap existing in literatures in the area of studies on listed consumer goods manufacturing firms in Nigeria using Return on Equity (ROE), Return on Asset (ROA) and Earnings per Share (EPS) as measure for the analysis.

1.3 Objectives of the study

The main objective of this study is to examine the relationship between financial structure and financial performance of listed consumer goods

manufacturing firms in Nigeria. Specifically, the study pursued the following objectives:

i. To ascertain the relationship between financial structureand return on assets of listed consumer goods manufacturing firms in Nigeria;

ii. To determine the relationship between financial structure and return on equity of listed consumer goods manufacturing firms in Nigeria;

iii. To find out the relationship between financial structure and earning per share of quoted consumer goods manufacturing firms in Nigeria; and

iv. To ascertain the direction of the causality between financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria.

1.4 Research Questions

This study addressed the following research questions:

i. How does financial structure relate with return on assets of listed consumer goods manufacturing firms in Nigeria?

ii. What is the relationship between financial structure and return on equity of listed consumer goods manufacturing firms in Nigeria?

iii. How does financial structure relate withearnings per share of listed consumer goods manufacturing firms in Nigeria?

iv. What is the direction of the causality between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeria?

1.5 Research Hypotheses

The following hypotheses which are formulated in null form were tested:

Ho_1: There is no significant relationship between financial structure and return on assets of quoted consumer goods manufacturing firms in Nigeria.

Ho₂: There is no significant relationship between financial structure and return on equity of quoted consumer goods manufacturing firms in Nigeria.

Ho₃: There is no significant relationship between financial structure and earnings per share of quoted consumer goods manufacturing firms in Nigeria.

Ho₄: There is no significant direction of relationship between financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria.

1.6   Significance of the study

The need for a study on the effect of financial structure on financial performance of quoted consumer goods manufacturing firms in Nigeria is pertinent. This is because financial structure or financing mix decision of firms is a very important aspect of the functions of management. The study is significance to the following ways.

- Shareholders: This study will be of great use to shareholders. Sound corporate financial performance measured in profitability and liquidity of the operating firms depends to a great extent on correct combination of equity and debts as means of funding. Shareholders will require information on the firm's financial structure. The benefits accruing to firms give shareholdersgreat motivation. Shareholders enjoy dividend rewards and capital appreciation on their investment. This study will be of importance to them s it will enable the make good investment decision. They include investors, policy makers, managers, financial advisers and consultants, researchers etc.

- Management: Management need information s instrument for their decision making activities. People with extra funds to invest do not just put their resources into every business around. Care must be taken to

ensure recovery of such investments. A study on financial structure will surely be of interest to them.

- Financial advisers and consultants will also find the study relevant especially those interested in consumer goods manufacturing firms. The study will be of assistance to them.

- Financial analysts and commentators: It is also expected that financial analystsof firmsand commentators will derive some benefits from this study especially those involved in analysis of firms of similar activities.

- Researchers: Those who will carry out further research work in this areawill find this study very useful to them. This is because it adds to existing body of knowledge in accounting and finance literature.

Thus the study will be of great relevance to policy makers, managers of corporate organizations, and general public who may wish to gain knowledge of the dynamics of financial structure decisions. It is hoped that information gathered from this study will serve as a veritable tool for finance and investment decisions of both large and small firms in Nigeria.

1.7   Scope of the study

This study focuses on the effect of financial structure on financial performance of quoted consumer goods manufacturing firms in Nigeria. The study specifically covered all consumer goods manufacturing firms that are traded in the Nigerian Stock Exchange (NSE) market from 2001 to 2016.

Twenty-one (21) firms quoted in the Nigerian Stock Exchange during the period covered by the study were all considered for the study. The number was considered not to be too much; hence all were included in the study. Consumer goods manufacturing firms, a sub-sector of manufacturing firms, was chosen to examine effect of financial structure on their financial performance.

The financial performance indicators adopted for this study are return on assets, return on equity and earnings per share. Proxies for financial structure

are total equity and total debt. Total assets and total turnover served as controlled variables given that firms' business environment are both internal and external. The performance indicators were considered representative enough to test the hypothesis raised for the study.

CHAPTER TWO

Review of Related Literature

2.1   Conceptual Review

Capital has different meanings to different people. To the Accountant it refers to money used in starting a business. To some other people it is the long-term financing of the business. To a finance person it represents the entire left hand side of the Statement of Financial of Position of the firm. Capital may be provided by the owners of the business alone (ordinary shares) or it may be made up of owners funds (the entire equity) and debts. The owners' funds are fund made up of amount contributed by way of shares and earnings retained under various classifications by the firm. There are also different categories of debts incurred by the firm in the financing of their operation(Olowe, 1997).

The size of finance required by a firm depends on the nature and activity of the firm. A company manufacturing heavy duty equipment is likely going to require more finances than another that engages in medium size marketing business. The study covers the entire financing of the firm hence the study dealt with the financial structure of the firms. It is observed that some of the studies titled capital structure actually dealt with financial structure of the firms studied (Muritala, 2012).

Another issue that needs to be clarified at this stage is the treatment of trade creditors and other accrued expenses in the Statement of Financial Position. These two categories of items that appear in this statement do not attract any known financial cost (interest or dividend) to the firm. They are omitted when capital structure is discussed. For us, a study on capital structure should be comprehensive enough to include the entire financing of the firm which should include all the financial resources that finance the firm activities must be included.

Given the above explanation, financial structure is defined as the different ways the operations of a firm are financed. It includes equity and debt instruments (Akeem, Edwin, Kiyanjui, & Kayode, 2014). Financial structure is defined as how companies finance its assets through combinations of equity and debts or hybrid securities (Van Horne, 2006). It is the make-up of the firms' liabilities and shareholders' funds: various sources of funds employed in financing the company's overall activities and growth. It could also be defined as composition of a firm's short-term debts, long-term debts, preference shares and common-equity. As Aftab, Ehsan, Naseer, and Awan, (2012) observed, financial structure explains how firms combine equity (owners' fund) with debts (borrowed funds) to finance their operations. This financing mix is made possible by existence of a good financial market in the economy(Afolabi, 2015; Backstrom, 2002 and Bahadur, & Neupane, 2006).

2.1.1 Concept of Financial Structure

Firms use different financing patterns to take care of the financial needs (Badar, & Saeed, 2013). As Barbosa and Lourie, (2005) observed, this involves equity and debts. Van Horne (2006) referred to Financial Structure as the mix of a firm's permanent long-term financing represented by debt, preferred stock and common stock equity. Firms use different financing mix such as shares, reserves or retained earnings, preferred stocks and debts; the basic division is between equity and debt financing. When a firm's total financing is intended the structure of financing is referred to as Financial Structure. Hence, financial structure is the mix or combination of equity and debt in financing an organization's operation (Murinde, Agung & Mullineux, 2004). Some authors have used capital structure when their explanations cover a firm's financial structure. For instance Muritala (2012), defined capital structure as the means by which an organization is financed. This no doubt must include the total financing of the firm. Financial Structure is the mix of total debt and equity maintained by a firm (Stickney, Brown & Wahlen, 2007). Hasan, Ahsan,

Rahaman and Alam (2014) while titling their study capital structure actually studied financial structure of the firms' performance. According to the authors, most studies on capital structure are restricted to equity and long-term debts, their study included other short-term funding of firms.

According to Ebrati, Farzad, Reza, and Ghorban, (2013),capital structure of a company shows the relationship which exist between the different classes of share capital, loan capital and current liabilities. Ezirim and Nwakanma (2004), noted that capital structure refers to the composition of long term sources of funds such as debentures, bonds, preference shares and equity capital (ordinary shares plus retained earnings).

Financial structure choice has been an issue of great interest in the corporate finance literature(Ross, Westerfield, & Jordan, 2003). This is because the mix of debt to equity funds (Leverage ratio) is believed to have effect on the cost and availability of capital and thus, firms' investment source(Mohamad, & Abdullah, 2012. As Sander and Lambert, (2007) observed, financial structure is one of the more important aspects of managing business. An appropriate financial structure is a critical decision for any business organization (Harris & Raviv, 1991). Unfortunately, as Gitman and Zutter (2010) observed, managers have not being provided with methodology of determining optimal financial structure of firms. The financial structure decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment.

The theory of financial structure is an important reference point in enterprise's financing policy (Saad, 2010). Whether or not an optimal financial structure exist is one of the most important and complex issues in corporate finance (Akinsulire, 2006). How an organization is financed is of paramount importance to both the managers of firms and providers of funds. This is because if a wrong mix of finance is employed, the performance and survival of the business enterprise may be seriously affected. Hence, some theories are also

reviewed to explain the extent of existence of optimal financial structure that would increase financial performance of firms more efficiently. According to Copeland and Weston (1992), the optimal financial structure in the real world can be explained by the trade-off between gains from debt and related costs like bankruptcy, financial distress and agency costs.

2.1.2 Forms of Financing

This section gives further explanations on how business operations are funded. It will explain more explicitly components of financial structure.

Financial structure implies existence of different financing sources employed by firms to finance their operation. As was stated earlier in this work, firms use both equity and debt instruments to finance their operations. Equity takes the form of funds obtained from investors in exchange for an ownership right of the business assets. Debts take the form of loan that must be repaid (Hillstrom, 2005). According to Doupnik and Perera (2012), major providers of financing for business enterprises are family members, banks, Government and shareholders.

Financial Structure decision deals with how firms arrive at the combination of equity and debt in the determination of financing of their operations. As Ross (2005) observed, there are several kinds of equity and debts employed in the financing of a firm.

Four ways are identified that funds could be raised by a typical firm. These are:

➢ Issue of shares;
➢ Retained earnings;
➢ Preference shares;
➢ Interest bearing debts instruments (debentures) and;
➢ Non – interest bearing debt obligations.

These sub-heads are briefly discussed below:

Issue of Shares

Shares are units of investment which represent ownership rights an investor has in a business organization. Shares are usually the first means of raising funds for a business (Aborode, 2005). There are different types of shares. They are broadly categorized into ordinary shares and preference shares. Each of these has different categories.

In the beginning life of a business, shares constitute major source of financing. This is because it will not be easy for the organization to raise money through debt instruments from its inception. As the firm begins to grow, other sources of financing begin to be attractive and available to it.

Retained Earnings

This is part of profit after tax that is kept within the firm. It is undistributed and unclassified part of earning remaining after all other expenses has being taken care of including provision for tax and dividend payment(Brigham, & Houston, 2007; Champion, 1999; &Hillier, Ross, Westerfield, Jaffe, &Jordan, 2010).

To some authors, Brealey, Myers and Allen (2006), depreciation is included as part of a firm's retained earnings. This is because depreciation does not involve depletion of funds. It is rather a transfer of funds from one head to another within the firm.

The authors opined that internal financing (retained earning plus depreciation) is more convenient to firms as a means of financing than issuing of shares and raising debts. Part of the reason is that it is less expensive and could be undertaken by management with less interference by outsiders. Sometimes issue of shares could send wrong signal to investors and borrowing may be impossible due to factors beyond the control of management. It would

be justified for them to resort to this form of financing. After all, as the reserve is growing, so is the value of the firm.

Preference shares

This is a class of share that qualifies the owner to receive a determined return (dividend) after other charges including tax have being deducted from the firm's earnings. In some literatures, preference share is referred to as hybrid securities or compound financing instrument (Stickney, Brown & Wahlen, 2007). Preference shares have superior right over ordinary shares in that they are repaid before ordinary shareholders in the event of business failure (Pandey, 2010). Though both earn dividend, preference shareholders have superior right of dividend payment. According to Stickney, BrownandWahlen (2007), security of this nature often has economic characteristics that make them appear like debt and equity.

Interest Bearing Debt

These are external financing that carry with it the burden of periodic interest obligation and eventual retirement of the principal (Scott, 2004). It is a financing opportunity that firms must be careful in undertaking. The obligation to service the debt and eventual repayment of the sum borrowed expose firms to problem of liquidation.

Debt becomes a very good and common form of financing by firms as their operation expands. It could be easier to reverse than shares and entail less legal restricting requirement than shares.

There are three major classifications of such debts. They are:

- Short – term debt (within five years)
- Medium – term debt (between five and ten years)
- Long – term debt (above ten years)

There are divergent views on duration of the three categories. To some authors, short-term debt is a debt with maturity of one year or less; medium-term debt has five years or less to maturity and long-term debt is any debt above five years maturity period. We do not think this second categorization is more appropriate than the earlier one.

Non-Interest Bearing Debts

These are debts a firm contract that do not carry any interest obligation. There are no agreements that the firm incurring such a debt is required to pay any interest. The only known obligation is that of retirement of the debt.

It appears to be the cheapest means of financing since it does not attract any known cost and the easiest if carefully contracted. Non-interest bearing debtstake different forms such as credit purchases, accrued expenses, outstanding tax obligation etc. Of these the most common is credit purchases by firms which is labeled creditors in the firm's statement of financial position.

Credit purchase has become the most common form of debt financing by big firms that have high credit rating. All the firm need do is to issue local purchase order (LPO) to a willing suppliers and agree to pay the debt on a given date. It is the supplier that takes care of funding the transaction and waiting for maturity of such transaction.

A major disadvantage of this is that the cost of the transaction may be high as the supplier is expected to have built into the cost of the contract all charges including interest cost of anticipated delay in payment of the debt. The firm may also not benefit from cash discount due to failure to pay cash within a required period.

2.1.3 Patterns of Financial Structure

The above categorization will be collapsed into the following patterns of capital structure:

- Equity financing;
- Equity and Preference shares;
- Equity, Preference shares and debts;
- Equity and debts

Each of these combinations will be briefly discussed in the following section.

Equity only

One of the financing patterns of a firm is equity only. In this case, the firm is totally financed with equity. Equity is defined as Ordinary shares plus all undistributed earnings of the firm (Pandey, 2010). This situation rarely exists except in a newly formed firm. Shares are units of investment which represent ownership rights an investor has in a business organization (Scott, 2005). Shares are usually the first means of raising funds for a business. We have different classes of shares. These are broadly categorized into ordinary shares and preference shares. There are different classes of each of these broad categories.

For a newly formed firm, shares constitute first and major source of financing. As was stated earlier in this work, it may not be easy for the organization to raise funds through debt instruments at the early stage of their life. As the firm begins to grow and improve its activities, other sources of financing become attractive and available to it.

This is because as the firm continues in its operation there will be need to introduce some form of debts in its financing plan. This fact is also confirmed by the fact that there is hardly a statement of financial position that does not have either long-term or short-term (current) liabilities.

Equity and Preference shares

Another combination of capital structure is equity and preference share only. Preference shares are investments that enjoy an agreed and sometimes guaranteed income. Unlike Ordinary shares, preference shareholders are not part of the owners of the firm. Though Preference shares are often grouped as part of a firm's equity, they do not have the same characteristics of equity stock. For instance, Equity holders are the last people to receive their investment on the event of liquidation of the business. Preference shareholders are not so unlucky. This makes the ordinary shareholders the true owners of the business and should be so treated.

A firm could be financed with combination of equity and preference shares without any (other) form of debt financing. In practice, this form of financing may not easily be found except in new businesses. This is, as was observed in equity financing, due to the fact that firms include some form of debt in their operations.

Equity, Preference shares and debts

This type of financing used to be the vogue in those days when firms issued preference shares. Preference shares are no longer very popular among firms. Few firms that issue it will have equity and debts as a major source of financing their operation. It thus qualifies to be mentioned as a likely form of a firm's financial structure.

Equity and debt

Equity and debt are common combination of financing that firms apply in their operation (Stickney, Brown & Wahlen, 2007). While equity refers to owners funds, debt refers to all external financing other than preference shares. Debts include long-term and short-term external financing of a firm's assets (Scott, 2005).

2.1.4 Arguments for Equity Instead of Debt Financing

Arguments are advanced to support equity financing against debt capital. Ezirim and Nwakanma (2004) enumerated them as follows:

i. Equity instead of loan capital is obtained because it has less danger failing. When interest payable is very high as is the principal debt, the firm will be in danger of failing on event of lower sales or if a substantial proportion of the debts become uncollectible. Being conscious of this fact, management protects equity owners whose capital would be wiped out first if there were insufficient cash to pay debt.

ii. The management of the debtor may be free to make policies and decisions. There would be no restrictions or any outside supervision on the functioning of the firm and more particularly on the deployment of funds as sometimes would happen if debts are involved. Lenders may place some restrictions on the activities of the borrower.

iii. Since there is no legal obligation to pay return on the equity capital, the firm would be in a more safe position to take up new projects with more risks but with profit potentials if the equity base is large.

iv. Creditors would be inclined to lend their funds to a company only if the owners stake their own funds in significant amounts. If equity funds are more, naturally the credit rating would be high and in case of need, the firm could get the required loan funds more easily.

v. Interest and principal on debt have to be paid on due date and failure may mean liquidation of the firm unlike equity capital.

2.1.5 Arguments for Debt Instead Equity Financing

According to Hoffman, Raabe, Smith and Maloney (2007), major argument in favour of debt in financial structure is that interest payable on debt is deductible before tax charges. This makes interest payable lower than the negotiated figure.Other arguments in support of debt instead of equity as a form of financing firm's operation are that:

i. Firms may find that creditors will accept a rate of interest which is low in relation to return expected by suppliers of equity.

ii. Those who lend nearly always will advance funds without expecting to participate in the control of the business. Although banks may place a few restrictions, these lenders do not normally insist on any voting rights.

iii. Interest paid on loan capital is a deduction for purpose of income tax computation. Hence, the real incidence of interest is lower than the nominal rate of interest on loan capital.

iv. Obtaining and conducting business with debt capital is more convenient and less cumbersome. Some debts are incidental to business and no deliberate attempt is required to obtain them. One example is account payable arising out of credit purchases.

v. Funds raised from debt could be returned if no longer required for business operation.

vi. In event of inflation, the real value of money repaid is less than what is borrowed. Borrowed capital is preferred in case inflation is expected.

2.1.6 Determinant of Financial Structure Decision

Harris and Raviv (1991) argued that there exists optimum financial structure which, as Zeitun and Tian (2007) stated, is closely linked to the financial performance of firms. Financial structure decision is thus one of the important assignments of management in the running of business organizations. It is expected that for the firm to benefit from the equity-debt funding structure it intend to adopt, the following factors must be given due consideration,

They are:

➢ Business risk;

➢ The company tax exposure;

➢ Existing debt level;

➢ Management style.

Others are:

- ➤ Growth rate;
- ➤ The stage in the life of the business; and
- ➤ Prevailing marketing condition

Brief explanation is given on each of these points to buttress the argument.

Business Risk

Parson andTitman (2008) posits that financial structure involves some form of risk. Business risk increases likelihood of such risk. The greater the business risk, the lower the optimal debt ratio of the firm. Business risks expose a firm to problems that could reduce their profitability level. Because of likely poor financial performance, it would be an error in judgment to expose the firm to high debt-equity ratio. Attracting more debt means incurring higher finance cost. According to HillandJones (1995), doing this when the firm is faced with likely low financial return, could at extreme situation, result into liquidation. Therefore, a firm's level of business risk will influence the financing pattern. When the situation improves, more debt could be attracted to fund their operations.

The company tax exposure

Tax is a kind of cost deducted from a firm's income before distribution is made to the shareholders. Tax is not a running cost as such is not a determinant of the firm's net profit. It is rather a charge on the firm's earnings after interest. It has the effect of making effective interest rate lower than normal rate of interest (Hoffman, Raabe, Smith & Maloney, 2007).

It is rightly stated that the higher a company's rate of tax, the more attractive debt will be for funding the firm's activities. This is because interest is a tax deductible expense.

Existing debt level

This is another important factor that a firm must take into account when considering their financial structure. What is the present level of debt in

terms of total financing of the organization? How does this affect the firm's level of return? If the present level of the firm's debt compared with its equity is very high, it will be wrong for them to go for more debt when considering further funding of their business (Hill 2007). Existing level of debt becomes an important factor in financial structure decision.

Management Style

The style of management could determine the firm's rate of profitability. As Hill & Jones (1995) observed aggressive management will desire that the firms grow very fast making more profit hence the desire to use more debt to finance the firm's operation. The higher a firm's profit level, the more attractive it would be for them to use more debt in financing their operation.

Growth Rate

Growth rate refer to the amount of increase a given variable gained within a stated period. Firms have different rate of growth. Those with higher rate of growth will prefer using more of debt in financing their activities. This is made possible by existence of enough revenue to take care of interest that will arise due to higher debt ratio (Hill & Jones, 1995). Growth rate is therefore another determining factor in financial structure decision.

The stage in the life of the business

Individual business experience different stages in their existence. While some may be at their growth stage other may be at their declining stage. Each stage in the life of the business has some level of influence in their financial performance (Hill & Jones, 1995). This also influences the firm's capital structure decision.

Market condition

The more prosperous the firm's market, the more the firm will use debt to finance its operation. This is because prosperity of the firm brings in more income which results in higher gross profit to the firm (Nickels, McHugh

&McHugh, 1999). Interest is a tax deductible cost to the firm hence effective interest rate becomes less than the interest rate quoted in the transaction. The difference becomes additional income to the equity holders as well as to the firm itself.

2.1.7Risks involved in Financial Structure Decisions

Nickels, McHughand McHugh (1999) posit that every decision made by management of any firm carries with it the possibility of failure. This is the consequence of the firm failing to realize the anticipated positive outcome(Bokpin, Aboagye, & Osei2010). For instance the decision to increase the debt ratio of the organization's financing may be due to the expected increase in the earning from their operation. The chance of realizing the level of return may be hampered by occurrence of any unforeseen event during the year (Hill & Jones, 1995). The firm had planned that all will be well but nature has decried otherwise. Certain risks are peculiar to firm's financing structure. Three of them will be discussed in this section of the study.

Insolvency Risk

Insolvency arises when a business organization was not able to meet its financial obligations to their creditors (Hill & Jones, 1995). Poor financial structure decision could give rise to difficulty in meeting financial obligation to different providers of funds. According to Nickels, McHugh and McHugh (1999), the challenge of sound financial management is to see that funds are available to meet daily cash needs of the firm without compromising their investment potential.

Management must ensure they have enough financial resources to meet all financial obligations anytime they fail due for payment. This way they will avoid any aggressive creditor dragging them to court of law.

Earning variation Risk

Earning is a stream of income that accrues to the business. Most firms base their financing decision on the anticipated level of income from their operation. Like most things in life, income flow sometimes does not happen as was predicted. As Dave (2012) rightly observed, profit are an opinion but cash is a fact. Such a variation on anticipated level of income would frustrate the success of the business. It may even affect working capital management (Ebaid, 2009). Possibility of overcoming variation on anticipated earnings may depend upon the pattern of the firm's financial structure.

Cost of Funds

Pike and Neale (2006) stated that costs of debt are normally cheaper than equity leading to a lower weighted average cost of capital. Notwithstanding this position, cost of funds still remains one of the risks faced by firms when financial structure is considered (Horngren, Datar, & Rajan, 2008). Different sources of funds for the business have different cost implication to the firm. They also differ in the obligation to providers of such funds. While interest on loan must be paid as when due and dividends on cumulative preference shares must be paid whenever the firm has funds to do so, dividend payable to equity holders is only payable when such dividend is declared by the director of the firm (Pandey, 2005). If the obligation to settle such costs arises when cash flow is poor, the firm will face difficulty of survival (Malik, 2011).

Another angle to look at problem of cost is what to do with such commitment when operation slows down. Such may be ideal if things will remain that way. But things may change abruptly. Again rate of borrowing may fall while the firm is carrying high interest rate fund they are obliged to maintain for a given period. All these constitute risks associated with financial structure decision.

Control

Control is one thing owner of business may not want to dispense with (Nickels, McHugh & McHugh, 1999). Financial structure decision brings with it risk of dilution in ownership control. Decision to finance a given operation by way of ordinary shares may be avoided because management does not want to change ownership structure of the business. They may abandon this option for more (probably) expensive debt financing.

2.1.8 Cost of Funds

Costs associated with revenues are expected to be recognized as expenses in the period that the firm recognize revenue (Fridson & Alvarez, 2002). Such cost includes cost of funds used in the acquisition of resources. According to Aborode (2005), the cost of capital is the amount which needs to be paid to a provider of finance for the use of his fund. The cost could be explicit like debt instrument or implicit as in the case of shares.

The rate of reward paid to the provider of funds is the bench mark to measure the acceptability of projects (Saeedi & Mahmood, 2011).A project is expected to realize a minimum of the expected cost of the fund committed into it. A project cost of capital is the minimum acceptable rate of return on fund committed to the project, (Heng, & Tze-San, 2011and Mrmor, & Crigol, 2009) and it is one of the difficult and disputed topics in finance theory (Singapurwoko, & El-Wahid, 2011).

According to Modarres and Abdoallahzadeh (2008), cost of capital is a very important issue in financial structure decision. Decision on a company's funding is influenced by the cost of various categories of funds and the expected rate of return from the investment. A good financial manager will always look for financial instrument that attract cost that is less than or at worst equivalent to the expected project rate of return.

The cost of capital of a firm vis-à-vis a project acceptable rate of return is a function of the investor's level of risk preference (Scott, 2004). The lower the difference between the two figures the higher the firm's risk preference. A firm that is risk averse would prefer higher rate of return than the cost of the project. This is because the difference between the two rates determines the level of income deterioration before the organization would record a negative return.

Level of risk associated with an investment is dependent upon the degree of uncertainty of its return, (Levy, 1996). The more certain the receipt of a level of return from a project, the less risk is associated with that project. It is this uncertainty that is compensated with higher return. It need be stated that the uncertainty of outcome from a project or investment is often reduced if the degree of probability associated with the given return expected from the project is known. The higher the probability of favourable return the less the risk associated with the project (Okafor, 1983). Investors who accept higher risk projects do so because of the higher return anticipated from the project. These types of investors are the risk-preferred ones.

Those who shy away from risky investments are the risk-averters. The risk neutral settle for any investments that promises better return not minding the probability of failure. After all, as Levy (1996) observed, the true probability of return from investments are rarely known.

Finally it should be noted that the cost of capital represents a financial standard for allocation of a firm's finances to various projects in a most profitable manner and it is a very important issue in financial structure decision, (Pandy, 2005). The cheapest rate of return is the free risk rate. The investment that is nearest to it is the Government issued bond. They attract the lowest rate of return. This is because they also attract the least risk of default. The riskiest investment is the ordinary shares (Scott, 2005). While other financial investments attract a given rate of return, the ordinary shares have none. The

return on ordinary shares depends on the profitability of the investment and the willingness of the directors to pay any dividend to them. They attract higher returns in the event of better performance by the firm because of the higher degree of risk associated with them.

Cost of debt is simple to compute as the rate is already known from the beginning of the project. The rate is determined using the formula (Rf + credit risk rate). Where Rf represent risk free rate.

2.1.9 Financial Performance Indicators

There are a number of indicators that are used in measuring financial performance of firms. According to Aborode, (2005) and Akeem, Edwin, Kiyanjui and Kayode (2014),these include some accounting based measure of performance indicators calculated from financial statements of organizations such as: return on owners' equity (ROE), return on asset (ROA), earnings per share (EPS) and net profit margin (NPM). Stock market return and volatility in returns are also used as performance indicators of firms (Okodua, & Ewetan, 2013).

According to Stancuand Armeanu (2007), corporate finance theory established two major relative measures of profitability which are return on assets and return on equity.

There are still many other ratios that could be computed for the purpose of determining firms' performance. As Bondoc and Taicu (2013) observed, only a small part of these ratios are really useful in the financial diagnosis of a company. Use of ratios in analyzing financial performance of firms is referred to as fundamental analysis method (Saeed, Gull & Rasheed, 2013). One argument against it is that management sometimes intentionally misleads the statement users (Fridson & Alvarez, 2002). Profitability and liquidity ratios are used as measures for financial performance of firms. Profitability ratio, among

others, measures the ratio of profit before tax to total asset of the firm concerned. On the other hand, liquidity ratio measures the ratio of current assets to current liabilities. This ratio measure the adequacy or otherwise of an organization's liquid resources to meet its short term liabilities. It is a measure of a firm's level of solvency (Hoffman, Raabe, Smith, & Maloney, 2007). The profitability ratio indicates how efficiently a firm has operated during a given period of time. It measures the overall effectiveness and efficiency of an organization's management in the utilization of the firm's human and material resources.

Financial analysis is the process of identifying the financial strength and weakness of business organizations by properly establishing relationship between the relevant items of the balance sheet and the profit and loss account (Dave, 2012; Hill, 2007 & Gujarati, 2004). Pandey (2010), Chandra (2008) and Thukaram-Rao (2009) considered financial ratio analysis as a process of determining and interpreting numerical relationship based on financial statements between periods or firms with a view to identifying the financial strengths and weaknesses of firms. Financial ratios are tools of financial analysis (Sayeda, 2012). It is defined as the relationship between two accounting figures which are expressed mathematically. Financial ratios enable the interested parties to make qualitative judgments about the firm's financial position and performance (Vasile, 2006; Salawu, 2007; Bekaert, Harvey &Lundblad, 2006). Financial ratio analysis is an attempt to thoroughly examine an organization's reported financial statements in order to ascertain the entity's financial strengths and weaknesses (Brealey & Myers, 2008).

Financial ratio analysis does not only help the firms to determine their financial strengths and weaknesses, but also enable them to carry out trend analysis by comparing current performance with past ones (Ebaide, 2009; Lazardis, &Tryfonidis, 2006 and Raheman & Nsar, 2007). It is also useful for

inter-industry comparison (Chowdhury &Chowdhury, 2010; Eritotis, Frangouli & Neokosmides, 2002). Some of the financial ratio used to determine the financial position and performance of firms are discussed in the following section.

2.1.10   Profitability Indicators

A firm's performance could be measured usingsome financial ratios. The ratios are computed using financial information from the firm's Statement of Financial Position(Eritotis, Frangouli & Neokosmides 2002). These ratios show how efficient the firm has operated during a given period of time. Thus, with the profitability ratios, we can measure the overall effectiveness and efficiency of an organization's management in the utilization of the firm's human and other resources (Sule & Momoh, 2009). According to Ezirim and Nwakamnma (2004), two types of profitability ratios are often calculated. These are:

A. Profitability in relation to sales; for example, gross and net profit margins.

  i. **Gross Profit margin:** This ratio measures efficiency of management in the utilization of resources at their disposal. It is also seen as a measure of the efficiency of a firm's sales operation with respect to the cost of goods sold (Niresh, 2012; Philips & Sipahioglu, 2004). Van-Horn (2006) considered ratio as a measure of the overall effectiveness of the firm in generating profit with available assets. This is shown mathematically as

  GPM = Sales – Cost of goods sold

  　　　　　　Total sales

  Where GPM = Gross Profit Margin

  This measure acts as an indicator of how products are priced as well as efficiency of operations of the firm.

ii. **Net Profit Margin:** According to Enekwe, Okwo and Ordu (2013), profitability may not be taken as synonymous to efficiency. Rather they see profitability as an index of efficiency and is regarded as a measure of efficiency and management guide to greater efficiency. The Net Profit Margin as efficiency measure is the ratio of net profit after tax to sales during the period under consideration. Net profit margin is calculated as

NPM = <u>Net profit after tax</u>

        Sales

Where NPM = Net Profit Margin

The Net Profit Margin is used to measure the relative efficiency of firms after taking all expenses and taxes into consideration. Ross, Westerfield, and Jordan (2003). Notes that whenever the net profit margin is inadequate, the firm will not be able to achieve a satisfactory return on owners' equity, but an adequate net profit margin is an indicator of the firm's capacity to withstand adverse economic conditions such as falling prices, rising cost of production as well as fall in demand for the firm's product.

B. Profitability in relation to assets and equity investments. For example, return on assets and return on equity.

iii. **Return on Asset**: This is defined as the ratio of net profit before tax to total assets. It is suggested that ROA reflects a firm's financial performance in terms of using assets to create income. The ratio is used to measure the operational profitability of the firm in relation to total assets. According to Brealey, Myers andAllen (2006), the return on asset is computed as:

ROA = <u>Net profit before taxes</u>

        Total Assets

Where ROA = Return on Assets

Opinions differ on the form of assets to use for this calculation. Helfert, (2001) suggest use of average assets obtained from the opening and closing asset figures, while Stancu (2007) opine that asset value at the end of the accounting period be used.

iv. **Return on Equity**: According to Brigham andEhrhardt (2005), this is the ratio of net profit after taxes to shareholders fund. Stancu (2007) andFuso (2013) propose the importance ofdetermining the return on equity as the ratio between the net result for the financial year and equities of the company at the end of previous year. The popular opinion is to calculate this ratio using the same financial statement.

Thus return on equity is calculated:

ROE = $\underline{\text{Net profit after taxes}}$

Shareholders fund

Where ROE = Return on Equity

2.1.11   Liquidity Ratios

These ratios measure the adequacy of an organization's liquid resources to meet its short term liabilities. They measure the ability of the firm to meet its current obligations (Pandey, 2005). A number of ratios are used to measure the firm's solvency or liquidity position. For example

i. **Current Ratio**: This is defined as the ratio of current assets to current liabilities. It is an indicator of a firm's short term financial strength and measures its debt paying ability. According to Ezirim and Nwakanma (2004), a relatively high current ratio shows that the firm is liquid and can discharge its bills as at when required. Conversely, a low current ratio illustrates inherent difficulty in settling bills.

However, conventionally and ideally, a current ratio of 2:1 is considered satisfactory. Current ratio is calculated thus:

CRR = <u>Current Assets</u>

   Current Liabilities

Where CRR = Current Ratio.

ii. **Acid Test or Quick Ratio:** This is defined as the ratio of liquid assets to current liabilities (Wilkinson, 2007). A ratio of 1:1 is considered satisfactory. High quick ratio does not necessary imply sound liquidity management. Also, a lower quick ratio does not mean that the firm is in bad position. It will depend on a number of factors which will include the firm's size and nature of its operation

Acid Test or Quick Ratio is calculated thus:

ATR = <u>Current Assets - Stock</u>

         Current Liabilities

Where ATR = Acid Test Ratio

2.1.12   Financial Market Ratios

Financial market ratios are different from other categories of ratios since they are based on information that are not directly supplied in the traditional financial statement of the firm (Ezirim & Nwakanma, 2004). The major ratios of interest in the financial market are the earnings per share (EPS), the price/earnings ratio (PE) and market to book value ratio (Tian & Zeitun, 2007).

A firm's earnings are vital items in the determination of the firm's market value. As Penman and Sougiannis (1998) observed, Earnings-based valuation approach focuses on the firm's wealth creation for shareholders, the cash-flow-based approach focuses on dividend-paying ability and the dividends approach focuses on wealth distribution to shareholders.

i. **Earnings per share (EPS)**: This ratio indicates the net income per share of stock (Wilkinson, 2007). It assists investors to adjust for additional stock issues when reviewing performance of the company concerned.

A major criticisms of this ratio is that two firms with the same earnings or EPS are not equally profitable if one firm requires twice the amount of assets or capital to generate those earnings as does the other firm (Stickney, Brown & Wahlen, 2007).

The earning per share is computed thus:

EPS = $\dfrac{\text{Net Income}}{\text{Number of shares outstanding}}$

Where EPS = Earnings per share.

ii. **Price/Earnings ratio (PE):** This ratio provides clues on what other investors in the market are projecting about the firm's future. A high price earnings ratio will imply that the market is projecting that future earnings may increase. When earnings eventually increase relative to price, the value would fall back to a normal level. If earnings fall, the PE may rise and become high. The price earnings ratio will also be used to show how much investors are willing to pay for each naira of earnings. The ratio is believed to be a reliable predictor of future book value and future ROCE (Penman, 1996) and very useful in selecting comparable firms in multiples-based valuation (Bhorjraj & Lee, 2002).

The PE is calculated as:

PE = $\dfrac{\text{Market price of common stock}}{\text{Earnings per share}}$

Where PE = Price earnings ratio.

iii. **Market to Book Ratio:** This also measures the market values of the firm. A ratio of greater than 1 means that the market values the firm at a premium over the acquisition price of its assets, when a ratio is less than 1, then the reverse is the case. It is measured as:

MBR = <u>Market value per share</u>

        Book value per share

Where MBR = Market to Book ratio.

The Book value per share is computed by dividing total equity by number of shares outstanding.

2.1.13   Coverage Ratios

These ratios indicate the ability of the firm to pay interest charges on its long term debts (Pandey, 2010). It is used to test the firm's debt servicing potentials. One example of coverage ratio is the interest cover which indicates to a long term lender the security of its interest payments. Interest coverage is computed as:

Interest Coverage = <u>Earnings before interest and tax (EBIT)</u>

                      Interest charges

Asset Utilization or Activity Ratio

These ratios measure the way assets are utilized in an organization as it has been recognized that the way organization's asset are used affect firm's profitability. These ratios include:

i.**Asset Turnover Ratio**: This is defined as the ratio of sales to capital employed. Ezeamama (2010) defined it as expression of number of times the value of assets utilized by the firm has been generated into sales. It measures the volume of business undertaking by a firm relative to its total investment. A low asset turnover ratio shows that the company is not generating significant value of business for the size of the asset invested. On the other hand, a high asset turnover ratio means that the company is generating the required and sufficient volume of business for the size of the asset invested. According to Listiadi (2007) asset turnover ratio gives direct impact on return on equity. Brigham and

Ehrhardt, (2005) stated that the ratio also indicates the operational decision made by the management. This is calculated as:

$$ATR = \frac{Sales}{Capital\ employed}$$

Where, ATR = Asset turnover ratio.

ii. **Debtor turnover ratio**: This is defined as the ratio of credit sales to average debtors. It shows the number of times on the average that debtors are turned over each year. It also helps users of financial statement to measure a firm's financial performance (Leahy, 2012). The higher the value of debtors' turnover ratio, the more efficient is the management of the firm's assets. Debtors' turnover ratio is calculated thus:

$$DBTR = \frac{Credit\ sales}{Average\ Debtors}$$

Where, DBTR = Debtors turnover ratio.

2.2   Theoretical Framework

There are a number of theories that explain the relationship between financial structure and corporate financial performance of firms. Capital structure debate began from two extreme views. Later a middle position was added. According to Durand (1959) in Pandey (2005) the three approaches are:

i. Net income approach. This approach states that a firm's financial structure affects its value. This results from benefit arising from decrease in weighted average cost of capital (WACC) of funds used in the business.

ii. Net operating income approach. This approach states that financial structure of the firm does not affect its value. This is based on the assumption that WACC remains constant.

iii. The traditional approach. This approach states that cost of capital declines and value of the firm increase with leverage up to a prudent debt level. After reaching the optimum point leverage causes the cost of fund to increase and value of the firm to decline.

This study considered the effect of a structure of financing on financial performance of quoted consumer goods manufacturing firms in Nigeria. Financial structure theories are reviewed in the following sub-heads

2.2.1 The Traditional Theory of Financial Structure

This approach holds the position that the cost of capital and an organization's total valuation are not independent of their financial structure. It maintains that there is an optimal capital structure and that the firm can increase its total value and reduce its cost of capital through judicious use of funds. There is an efficient combination of equity and debt financing which could bring about better financial performance by firms (Pandey, 2010). In the traditional view, the cost of capital decreases within some reasonable limits of debt and then increases if more debt is employed.

The main point of the traditional theory is that, if the cost of equity is higher than the cost of debt, then the more highly leveraged a company becomes, the lower will be its cost of capital. However, at some point, the proportion of debt will become sufficiently large for the firm to become very risky to lend more to its business (Van Horne, 2006). This therefore raises the risk level for equity holders.

This theory is criticized on the ground of the assumption that the cost of equity remains unaffected by use of debt up to some reasonable point is not true. It is also believed that the value of the firm depends on its net operating income and the risk attached to it. The form of financing can neither change the net operating income nor the risk it carries. It can only change their distribution between equity and debt holders.

The theory has the credit of recognizing that an optimum capital structure exists. This is supported by the existence of market imperfections and tax deductibility of interest charges on debt which reduces the actual cost of debt to the firm.

2.2.2 Modern Theories of Financial Structure

Like other areas of study, financial structure has continued to be investigated by different authors over the years. Some of these studies have resulted in other theories some of which are discussed below.

The Modigliani – Miller (MM) Theory

This theory draws heavily from work of Modigliani and Miller (1958). The theory holds a contrary view and maintained that financial structure has no effect on the overall value of the firm and on its cost of capital. That is, under certain assumptions, a firm's market value and the cost of capital remain invariant to its capital structure. The firm depends on its expected performance and on variations in its stream of returns.

According to Brealey and Myers (2008), the Modigliani andMiller (1958) theory is built under the following assumptions.

i. That capital markets are perfect – this means that information is costless and readily available to investors; there is no transaction costs, all securities are infinitely divisible and investors are assumed to be rational and do behave so;

ii. Investors are assumed to have homogenous expectations about expected future corporate earnings and riskiness of these earnings;

iii. Firms are easily categorized into "equivalent risk and returns" classes. All firms within a class have the same degree of business risk;

iv. There is absence of corporate income taxes;

v. Firms distribute or pay out all earnings to shareholders, that is, no retained income or retained earnings.

Thus based on the above assumptions, the MM theory maintains that the value of a firm or its cost of capital is independent of the way the firm is financed (Brigham, & Ehrhardt, 2005). According to this assumption, if any change in the value of a firm occurs following a change in its capital structure, a disequilibrium will occur which will be corrected by investors manipulating the market via the arbitrage process.

The MM theory was criticized on the ground that the perfect market does not exist in real world. Attempt to relax these assumptions particularly the no bankruptcy cost and no taxation led to the static trade off theory.

The Static trade-off Theory

Myers (1984) proposed the static trade-off theory to support relevance of financial structure decision. This theory suggests that firms have optimal financial structure and that they move towards the target. It further argued that firms are faced with the challenges of tax benefit and bankruptcy cost, thus the need for trade-off between the two.

According to Muritala (2012) the trade-off theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. It states that there is an advantage to financing with debt (namely, the tax benefit) and that there is a cost of financing with debt (the bankruptcy costs and the financial distress cost of debt). The marginal benefits of tax further increases with increase in debt but declines as debt increases: while the marginal cost increases with decrease in debt. Therefore, a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing (Van Horne, 2006).

The static trade-off theory holds that the firms with high growth opportunities should borrow less because it is more likely to lose value in financial distress. This is because trade-off theory predicts that safe firms (i.e. firms with more tangible asset and more taxable income to shield) should have

high debt ratios. While a risky firm, that is firm with more intangible assets that the value will disappear in case of liquidation, ought to rely more on equity financing. In terms of profitability, trade-off theory predicts that more profitable firms should mean more debts servicing capacity and more taxable income to shield; therefore a higher debt ratio will be anticipated (Chandra, 2008).

The Pecking Order Theory

Pecking order is a financial theory that emanates from the assumption that managers of firms have privileged information about the firm than investors (Fama, & French, 2002). It states that management know more about the firm's prospects for growth, present and future risks and other information that affect the value of the firm than others. This is often demonstrated by investor's response to decisions and actions of management. Such privileged information is referred to as 'Asymmetric Information', (Brealey, Myers & Allen, 2006).

The theory of Pecking Order was suggested by Donaldson in 1961 and was modified by Myers and Majluf (1984). It states that companies prioritize their sources of financing (from internal to external) according to the principle of least effort, or of least resistance preferring to raise equity as a financing means of last resort. Hence, internal funds are used first, and when that is depleted, debt is issued, and when it is not sensible to issue anymore debt, shares is issued.

Pecking Order theory tried to capture the costs of asymmetric information. The theory maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available, and that debt is preferred over equity if external financing is required. After debt financing, management would prefer preference shares. This is followed by hybrid securities such as convertible bonds. When all these are exhausted the firm would resort to ordinary shares as the last choice (Van Horne, 2006). Thus, the form of debt a firm chooses can act as a signal of its need for external finance.

Myers (1984) cited in Brealey, Myers and Allen (2006) argued that equity is a less preferred means to raise capital because when managers issue new equity, investors may believe that managers think that the firm is over-valued and managers are taking advantage of this over-valuation. Because of this, investors will place a lower value to the new equity issued.

It is argued that asymmetric information influence management choice of structure of financing their activities. The choice between internal and external sources of fund is said to be influenced by asymmetric information. Because management have privilege information, they know not just when to raise new funds, they also know the type of financial asset that must satisfy the firm's objective.

The pecking order theory states the order of priority management would follow in raising new fund. Since the first choice of financing by management would be internal sources it means that management would exploit avenues of internally generated funds (for instance retained funds) before going for external debts and finally going for issue of shares. Order of ranking in financing is what is referred to as pecking order. Such priority surely has impact on capital structure decision. This study is anchored on this theory.

The Agency Cost Theory

This is a theory concerning the relationship between the principal (shareholders) and the agent of the principal (company's managers). This suggests that the firm can be viewed as a nexus of contracts between resource holders. An agency relationship arises whenever one or more individuals called principals hire one or more other individuals called agents to perform some services by delegating decision-making authority to them.This theory was derived from the conflict between the firm's management and equity holders (Jeheel & Olayiwola, 2017).

The agency theory was initially developed by Berle and Means in 1932. They argued that due to a continuous dilution of equity ownership of large corporations, ownership and control become more separated. This situation gives professional managers an opportunity to pursue their interest instead of that of shareholders (Jensen & Rumback, 2007).

In theory, shareholders are the owners of a company, and the task of its directors is merely to ensure that shareholders' interests are maximized. Specifically, the duty of directors is to manage the company in a way that maximizes the long term objective of the shareholders, and thus maximizes the company's profit and cash flow (Elliot& Elliot, 2002).

The problem is that the interest of the principal and the agent are never exactly the same. The agent, who is the decision-making person, tends most of the time to pursue his own interests instead of those of the principal. It follows that the agent may decide to spend the free cash available to the firm to fulfill his need for self-aggrandizement and prestige instead of growing the shareholders' fund (Van Horne, 2006).

The main problem faced by shareholders is to ensure that managers will return excess cash flow to them (i.e. through dividend payouts); instead of having it re-invested in unprofitable projects (Brealey, Myers & Allen 2006). If the principal wants to make sure that the agent acts in his interests, he must undertake some agency cost (e.g. the cost of monitoring managers). This means that the more the principals want to control managers' decision, the higher their agency costs will be.

Some studies discovered that capital structure can somewhat cope with the principal-agent problem without substantially increasing agency costs, but simply by trading-off equity for debt (Pinegar &Wilbricht, 1989). Lubatkin & Chatterjee (1994) argued that firms can discipline managers to run business more efficiently by increasing their debt to equity ratio. Debt creation ensures contractually that managers will return excess cash flow to investors instead of

investing it in projects that may result in negative net present value (NPV). This is due to the fact that high degree of leverage will entail high interest expenses, which may force managers to focus mainly on those activities necessary to ensure that the financial obligations of the firm are met. By having less cash flow available, managers of highly leveraged firms see their ability to use the firms' resources for discretionary and often useless spending reduced.

Firms which are mostly financed by debt give managers less decision making power than those financed mostly by equity, and thus debt can be used as a control mechanism, in which lenders and shareholders become the principal parties in the corporate governance structure. Managers that are not able to meet debt obligations can easily and promptly be displaced in favour of new managers that can better stakeholders interest. Leveraged firms therefore are somehow better for shareholders because they ensure that managers do not have the opportunity of wasting the company's resources in unprofitable expenses. The ultimate outcome of debt creation is thus to transfer wealth from the organization and its managers to the investors (Jensen, 1986).

This reasoning may lead to the conclusion that debt financed firms are always better for investors than equity financed firms. It is logical therefore to wonder why not all the firm's assets be financed by debt. The answer lies in the fact that debt financing increases cost of capital and other costs including risk of liquidation. Highly leveraged firms are more likely to face cash problems, which increases their likelihood of liquidation, and thus increases all the costs related to such problem. Moreover, highly leveraged companies, which are generally considered risky companies, tend to be low-rated by rating agencies. This classification as risky companies increase their overall cost of capital since they must generate higher returns than those guaranteed by well-rated firms when they want to attract new investors.

2.3   Empirical Review

The empirical studies which examined the relationship between financial structure and corporate financial performance of firms are enormous. While some adopted accounting measures of performance, others used market valuation as measures of performance.

For example, Ibrahim (2009)and Umar, Tanveer, Aslam and Sajid (2012), examined the impact of financial structure choice on firm performance in Egypt and Pakistan using a multiple regression analysis in estimating the relationship between leverage level and firms performance. The study covered the period of 1997 to 2005. Using three accounting based measures of financial performance (return on equity, return on asset and gross profit margin), the result revealed that financial structure choice decision in general, has a weak-to-no impact on firms' performance.

Cespedes, Gonzalez, and Molina (2010) investigated relationship between financial structure and ownership in seven (7) Latin American countries during 1996 and 2005. In this study, 6,766 firms were selected as a sample. They concluded that there is a positive relationship between leverage and ownership concentration. Also, the research results indicate a positive relationship between leverage and growth variable, and a negative relationship between leverage and profitability and larger firms have tangible assets.

Aborode (2005) reviewed the impact offinancial structure on profitability of twenty-two (22) companies listed in Ghana Stock Exchange during 1998 to 2002. The results showed that there is a significant positive relationship between capital structure (total debt to total asset ratio) and return on equity (ROE). The author also indicated that profitable companies have more dependence on financing through liability and high percent (85%) of liabilities of these companies are short term liabilities.

Sam and Heng (2011) in their study examined the relationship between capital structure and corporate performance of Malaysian construction sector

from the period of 2005 to 2008. They selected a sample of 49 companies. Their findings show that there is a significant relationship between capital structure and corporate performance.

Aburub (2012) in his study on the impact of financial structure on the performance of companies listed in Palestine Stock Exchange from 2006 to 2010 of which 28 companies were selected as samples. The study used five measures of return on equity (ROE), return on asset (ROA), earnings per share (EPS), market value to book value of equity ratio (MVBR), and Tobin Q ratio as the measures of accounting and market of firm performance evaluation and also as dependent variables, four measures of short term debt to total asset ratio (SDTA), long term debt to total asset ratio (LDTA), and total debt to total equity ratio (TDTQ) as the measures of financial structure. The result indicates that capital structure has a positive effect on firm performance evaluation measures.

Zeitun and Tian (2007) carried out a survey on the impact of financial structure on the firm performance for 167 Jordanian companies from 1989 to 2003. The result of their study suggested that financial structure significantly impact negatively on accounting measures of firm performance evaluation. The study indicated that short term to total asset ratio (SDTA) has significant negative impact on market measure of Jordanian companies' performance evaluation.

Sunder and Myers (1999) examined effect of four (4) factors: asset tangibility growth opportunities, company's tax status and profitability on capital structure (debt ratio) of 157 American companies in the period of 1979 to 1981. Their result proved a significant positive relationship between asset tangibility with debt ratio and a significant negative relationship between debt ratios with firm profitability. Moreover, they found no significant relationship between two variables of growth opportunities and the tax status with the debt ratio.

RajanandZingales (1995) studied the determinant factors of financial structure of companies/corporations in seven (7) large countries around the world (America, Japan, Germany, Italy, France, Britain and Canada) from 1987 to 1991. The study selected a sample of 4,557 companies in the seven countries. The study showed that financial leverage has a negative relationship with profitability and market value to book value ratio and that there is positive relationship with the value of tangible fixed asset and firm size.

Chen and Strange (2005) investigated the relationship between the variables of firm size, firm age, business risk, sales growth rate, tax, profitability and tangible assets with debt ratio in 972 stock companies in China in 2003. They concluded from their findings that the relationship between these variables and debt ratio depended on the basis of calculation of dependent variable (market value to book value).

Sogorb (2005) carried out a survey on the impact of small and medium companies' features on their financial structure in Spain from 1994 to 1998. The results show that tax reserves and profitability of these companies have negative relationship with financial structure, while size, growth opportunities and assets structure in these companies have positive relationship with financial structure.

Daskalakis and Pskillaki (2005) examined the determinants of financial structure of SME's in the Greek and French companies. The study was conducted on 11,252 Greek companies and 2006 French companies from 1997 to 2002. The study adopted assets structure (tangible assets to total asset ratio), size, growth opportunities and profitability of company as determinant of capital structure. The result revealed that asset structure and profitability have negative relationship with debt ratio (capital structure) in both countries, but firm size and growth opportunities have positive relationship with financial structure.

Harris andRaviv (1991), Chavelier (1995), and Kovenock and Phillips (1995) conducted a survey on the effect of financial structure on various

industries decisions and concluded that the type of industry can affect the use of debts and firms performance.

Fosberg and Ghosh (2006) in their study on the 1,022 companies in the New York Stock Exchange (NYSC) and 244 companies in the America Stock Exchange (AMEX) concluded that the relationship between financial structure and return on asset (ROA) is negative. Similarly, Houag and Song (2006) conducted study on 1,200 Chinese companies from 1994 to 2003 and concluded in their study that financial leverages has negative relationship with return on assets (ROA) and growth opportunities.

Anderson (2005) carried out a study on the relationship between financial structure and firm's performance for 1,323 companies from various industries and concluded that there is a significant relationship between financial structure and return on assets (ROA). Elsayed-Ebaid (2009) in a similar study, examined the effect of financial structure on the performance of 64 Egyptian companies from 1997 to 2005. The findings were that there is a significant negative relationship between ROA and debt to total asset ratio. Also Mramor and Crigoj (2009) concluded in their study that there is a significant negative relationship between financial leverage (total debt to total asset ratio) and return on assets ratio (ROA).

Abbasali, Esfandian, Milad, Vida and Mohammad (2012) examined the relationship between financial structure and firm performance evaluation measures with evidence from the Teheran Stock Exchange. Using a sample of 400 companies from 2006 to 2010, the findings show that there is a significant negative relationship between debt ratio and financial performance measures. But the relationship between ROA and ROE measures with the firm age is not significant. Also a significant positive relationship exists between asset turnover, firm size, asset tangibility ratio, and growth opportunities with financial performance.

Mumtaz, Raul, Ahmed andNoreen (2013) studied the impact of financial structure on financial performance in Pakistan. Using a sample of 83 companies selected from KSE 100 index, they found that financial performance of firms is significantly affected by their financial structure and their relationship is negative in nature. Also, financial structure of a firm is negatively related to its risk level as the share of debt increases in the capital mix.

There are similar studies in Nigeria on the relationship between financial structure and firm financial performance. Onaolapo and Kajola (2010) investigated the effect of financial structure on financial performance of companies listed in the Nigeria Stock Exchange (NSE). The study examined 30 non-financial companies in 15 industrial sectors from period of 2001 to 2007. The results indicated that the financial structure has a significant negative effect on financial performance measures (ROA and ROE) of these companies.

In a study conducted by Adeyemi and Oboh (2011) on the perceived relationship between corporate financial structure and firm value in Nigeria using 66 companies, it was found that the market value of a firm is significantly and positively influenced by its choice of financial structure. Their result shows that there exists a significant positive effect of long-term financial leverage on the market value of a firm.

Osuji andOdita (2012) examined impact of & structure on financial performance of Nigerian firms. Using a sample of 30 non-financial firms listed in the Nigerian Stock Exchange during a period of 2004 to 2010. Adopting the ordinary least square (OLS) method of analysis, the result shows that a firm's capital structure (debt ratio) has a significant negative impact on the firm's financial measures of return on asset (ROA) and return on equity (ROE).

Muritala (2012) carried out an empirical study of financial structure on firm's performance in Nigeria. The results from panel least square (PLS) confirmed that asset turnover, size, firm age and firm's asset tangibility are positively related to firm's performance. Also, the findings provide evidence of

a negative and significant relationship between asset tangibility and return on asset (ROA) as a measure of performance in the model.

Nwude& Anyalechi(2018) examinedimpact of capital structure on performance of commercial banks in Nigeria. Data were analyzed using correlation and regression analysis, random effect panel analysis, granger causality analysis, as well as post estimation test such as restricted f-test of heterogeneity and Hausman test. The result revealed that debt finance had negative and significant effect on ROA while debt-equity ratio has positive and significant effect on ROE. There was neither unidirectional nor bidirectional relationship between capital structure and performance of commercial banks in Nigeria.

Taiwo (2012), using ten firms listed on the Nigerian Stock Exchange for a period of five years (2006-2010) from the static trade-off, pecking order and agency theory point of view, revealed that the sampled firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance.

Bassey, Akpaeti, Ikpe and Udo (2013), used a sample of 60 unquoted agro-based firms in Nigeria within a period of six years (2005-2010) from the agency cost theory point of view. They employed the Ordinary Least Square regression and descriptive statistics and revealed that only growth and educational level of firms owners were significant determinants of both long and short term debt ratios, assets structure, age of the firms, gender of owners and export status impacted significantly on long term debt ratios, while business risk, size and profitability of firms were major determinants of short term debt ratio for the firms under investigation.

Ogebe, Ogbe and Allen (2013) investigated the effect offinancial structure on the firm performance in Nigeria from period of 2000 - 2010. The results provide strong evidence in support of the traditional theory of financial structure which asserts that leverage is a significant determinant of firm's performance. In the results, a significant negative relationship is established between leverage and performance. Akinyomi and Olagunju2 (2013) used three

manufacturing companies selected randomly from the food and beverage categories and a period of five years (2007-2011). They used the static trade-off and the pecking order theory point of view. The study used correlation analysis method which revealed that debt to capital, debt to common equity, short term debt to total debt and the age of the firms' is significantly and positively related to the return on asset and the return on equity but long term debt to capital is significantly and relatively related to return on asset and return on equity. The hypothesis also tested that there is no significant relationship between financial structure and financial performance using both return on asset and return on equity.

Babalola (2014) used 31 manufacturing firms with audited financial statements for a period of fourteen years (1999-2012).The study was anchoredon static trade-off theory point of view.Itrevealed that financial structure is a trade-off between the costs and benefits of debt and that large firms are more inclined to retain higher performance than middle firms under the same level of debt ratio.

Ubesie (2016)studied the effect of Nigerian banks' financial structure on the performance of conglomerates quoted on the floor of the Nigerian stock exchange from 2011 to 2015. The study identified four levels of dependent variables which are return on assets, ratio (ROA), return on equity ratio (ROE), assets turnover ratio (AT) and earnings per share (EPS) whereas the independent variable is financial leverage. Descriptive statistics and the pooled ordinary least square (POLS) regression analytical method were used for data analysis. The study finds thatfinancial structure has effect on both return on assets and asset turnover of the conglomerates but no effect on return on equity and earnings per share of the conglomerate. It is then concluded that an in-depth analysis of business factors which affect a particular industry should be considered so as to obtain the benefits of the debt-equity mix.

Jeheel and Olayiwola (2017) tested relationship between equity financeand return on sets of Chemical and Paint firms listed on the Nigeria Stock Exchange. They employed correlation research design to explain the relationship. Nine firms were used for a period of ten years (2000 – 2009). They found out that financial structure is an important determinant of firms' financial performance.

Matar and Eneizan (2018) looked into the determinants of financial performance in the Industrial Firms: Evidence from Jordan. They used secondary data from twenty-three firms. Result of regression analysis carried out showed that there is a significantly negative relationship between financial structure and return on assets.

Seide, (2017), examined impact of capital structure on the financial performance of private manufacturing companies in Amhara regional state of Ethiopia. The study employed two profitability ratios: Return on

Assets (ROA) and Return on Equity (ROE). The study used panel data for 16 private manufacturing companies for the period 2010 to 2014.The regression result reveal a significant positive relationship between capital structure and ROA while there existed significant negative relationship between long term debt, total debts and debt equity ratio with profitability.

Ezekwe, Aguand Eziedo (2014) examined the effect of financial structure on financial performance: Evidence of quoted pharmaceutical companies in Nigeria. Quasi-experimental design was used, while ordinary least squares method was used for the analysis. It was established that debt-ratio and equity ratio have negative relationship with return on assets.

Javed, Rao, Akramand Nazir (2015) studied effect of financial structure on performance of the firms: Empirical evidence from Pakistan using 154 firms as sample. The study used ordinary lest square technique. It was found thattotal debt and long-term debt are negatively relatedto return on asset and return on equity.

Kimathi, Galo and Melissa (2015) investigated relationship between return on equity and debt-equity ratio. Pearson coefficient test showed a weak positive relationship between the variables.

2.4   Gap in Literature

Various theories which explain the relationship between capital structure and financial performance of firms have been considered in this chapter. Also, a number of empirical studies conducted to validate the claims of those theories were reviewed. Some of these studies adopted return on assets (ROA), return on equity (ROE), earnings per share (EPS) etc. as measures of financial performance of firms. Most of the findings provided strong evidence in support of the traditional theory, static trade-off theory, pecking order and agency theory. It is also observed that studies on financial structure and financial performance in Nigeria such as Ubesie (2016), Babalola (2014) Akinwumi (2013) Bassey et al (2013) and Taiwo (2012) concentrated on banking sector, manufacturing sector and agro-based sector. The studies also employed data which covered a period of four (4), five (5) and six (6) years. As a result, the present study therefore looked into the relationship between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeria and expanded the data range to a period of sixteen (16) years. This is the gap which this study fills as it examined the effect of financial structure on financial performance measures of Return on Equity (ROE), Return on Asset (ROA) and Earnings per Share (EPS) of quoted consumer goods manufacturing firms in Nigeria from 2001 to 2016.

2.5 SUMMARY OF LITERATURE REVIEWED

S/NO	AUTHOR(S)	YEAR	TITLE OF THE STUDY	THEORETICAL FRAMWORK	METHODOLOGY	FINDINGS
1	Abbasali, Esfandian, Milad, Vida & Mohammad	2012	Relationship between financial structure and firm performance with evidence from the Tehran Stock Exchange: 2006 to 2010			The findings show that there is a significant negative relationship between debt ratio and financial performance measures.
2	Aborode	2005	Impact of financial structure on profitability of twenty-two (22) companies listed in Ghana Stock Exchange			Significant positive relationship between financial structure and return on equity (ROE).
3	Adeyemi & Oboh	2011	Relationship between corporate financial structure and firm value in Nigeria using 66 companies,			That market value of a firm is significantly and positively influenced by its choice of financial structure.
4	Akinyomi	2013	Relationship between financial structure and financial performance of firms	The static trade-off and the pecking order theory	Correlation analysis method	Long term debt is significantly and relatively related to ROA and ROE.

5	Anderson	2005	Relationship between financial structure and firms performance for 1,323 companies from various industries			There is a significant relationship between financial structure and return on assets (ROA).
6	Babalola	2014	Effect of financial Structure and Performance of Manufacturing firms	Static trade-off point of view		The study revealed that financial structure is a trade-off between the costs and benefits of debt,.
7	Ezekwe & Eziedo	2014	Effect of financial structure on financial performance evidence of quoted Pharmaceutical companies in Nigeria		Ordinary least square method used	It was established that debt ratio and equity ratio have negative relationship with return on assets.
8	Ibrahim &El-Sayed	2009	Impact of financial structure choice on firm performance in Egypt		Multiple regression analysis	A weak-to-no impact on firms' performance
9	Javed, Rao, Akram & Nazir	2015	Effect of financial structure on performance firms:		Least square method	Total debt and long-term debt are negatively related to

			Empirical evidence from Pakistan.			return on assets and return on equity.
10	Jeheel & Olayiwola	2017	Relationship between equity finance and return on assets of Chemical and Paint firms listed on the Nigeria Stock Exchange.			That financial structure is an important determinant of firms' financial performance
11	Kimathi, Galo & Melissa	1995	Relationship between equity and debt-equity ratio		Pearson coefficient test used	The test showed weak positive relationship between the variables.
12	Matar & Eneizan	2018	Determinant of financial performance in the industrial firms: Evidence from Jordan		Regression analysis carried out	There is significant negative relationship between financial structure and ROA
13	Mumtaz, Raul, Ahmed & Noreen .	2013	Impact of financial structure on financial performance in Pakistan. Using a sample of 83 companies selected from KSE 100 index			Financial performance of firms is significantly affected by their financial structure and their relationship is negative
14	Muritala	2012	Empirical		panel least	Negative and

			study of financial structure on firm's performance in Nigeria.		square (PLS)	Significant relationship exist between asset tangibility and ROAas a measure of performance in the model.
15	Ogebe, Ogbe &Allen	2013	Impact of financial structure on firm performance in Nigeria: 2000 to 2010.	Traditional theory of financial structure		Significant negative relationship is established between leverage and performance.
16	Onaolapo & Kajola	2010	Effect of financial structure on financial performance of companies listed in the Nigeria Stock Exchange (NSE).			The results showed that financial structure has a significant negative effect on financial performance measures (ROA and ROE) of the companies
17	Osuji & Odita	2012	Impact of financial structure on financial performance of Nigerian firms.		Adopting the ordinary least square (OLS) method of analysis	Significant negative impact on the firm's financial measures of ROAand ROE

18	Sam & Heng	2011	Relationship between financial structure and corporate performance of 49 Malaysian construction sector			There is a significant relationship between financial structure and corporate performance.
19	Seid, K.	2017	The Impact of Capital Structure on Firm Performance: Empirical Evidence from Private Manufacturing Companies of Amhara Regional State of Ethiopia		The study used panel data regression method	There exist a significant positive relationship between capital structure and ROA while there significant negative relationship between long term debt, total debts and debt equity ratio with profitability.
20	Sivalingam, L. & Kengatharan, L.	2018	Capital structure and financial performance: A study on commercial banks in Sri Lanka		Panel data extracted from the annual reports of 10 selected banks for the period from 2007 to 2016 were used to conduct the	Revealed that total debt to total assets ratio have negative significant relationship with ROA. Growth in banks

					empirical study.	deposit has positive significantrel ationship with ROA.
21	Taiwo A. M.	2012	An Empirical Analysis of Capital Structure on Firms' Performance in Nigeria. An Empirical Analysis of Capital Structure on Firms' Performance in Nigeria.		Panel Least Square (PLS)	Asset turnover, size, firm's age and firm's asset tangibility are positively related to firm's performance. And negative and significant relationship between asset tangibility and ROA.
22	Ubesie	2016	Effect of Financial structure on the performance of listed Nigerian Banks: 2011 - 2015		Descriptive statistics and pooled ordinary least square (POLS) regression analytical method	The study finds that financial structure has effect on ROAA and assets turnover of the firms
23	Zeitun & Tian	2007	Impact of financial structure on performance of 167 Jordanian companies: 1989 to 2003			Significantly impact negatively on accounting measures of firm performance

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

According to Okwandu (2004) and Boris, Donald and Pamela (2008), research design is the set of methods and procedures used in collecting and analyzing measures of the variables specified in the research problem.

The variant of research design adopted in this study is the ex-post factodesign. This is used because the study is a correlational one measuring relationship between dependent and independent variables. Panel data is also used.Panel data are repeated surveys of a cross-sectional sample in different time periods (Boris & Pamela, 2008andBryman, & Bell, 2007). This research design will be suitable for this study because it involves the collection of data on a sample of individual consumer goods manufacturing firms listed in the Nigerian Stock exchange (NSE).

The data to be collected on the firms will be used to examine the relationship between the firm's financial structure and their financial performance using the earlier stated variables.

3.2 Population of the Study

This study looked into therelationship between financial structure and financial performance of quoted consumer goods manufacturing companies in Nigeria from 2001 to 2016. The population for the study covered all Consumer Goods manufacturing firms that are quoted in Nigeria Stock Exchange Market during the period under consideration. There are twenty-one (21) of such firms

3.3 Sources of Data

The data was sourced from the published financial statements of consumer goods manufacturing firms that are quoted in the Nigerian Stock Exchange (NSE) from 2001 - 2016. These data include: profit before tax, profit

after tax, return on assets, return on equity, total turnover, total assets, total equity and total debt.

3.4 Method of Data Collection

The data were collected from the secondary sources such as the various quantitative data published by the Nigerian Stock Exchange (NSE) on the activitiesthe of consumer goods manufacturing firm's as was obtained from their financial statements in each accounting period.Nigerian Stock Exchange (NSE) publications were major sources of data used for the study.

3.5 Measurement of Variables

The variables adopted to measure the effect of financial structure on financial performance of quoted consumer goods manufacturing firms in Nigeria are presented in this section.

3.5.1Financial Performance Variables(Dependent Variables)

Firm's financial performance variables for the study are:

i. **Return on Assets (ROA)**: This is defined as the relationship between profit before tax and total assets of the firm concerned.

ii. **Return on Equity(ROE):** This is defined as the relationship between profit after tax and total value of equity of the firms.

iii. **Earnings per Share (EPS):** Describes relationship between profit after tax and number of ordinary shares.

3.5.2 Financial Structure Variables(Independent Variables)

The variables used to measure financial structure of the firm for the study are:

i. **Total Equity (TEQ):** This is the total value of ordinary shares plus all retained earnings of the firm. It is expected to be positively related to the firm's financial performance.

ii. **Total Debt (TDBT):** These are instruments used to raise borrowed funds for the organizations. Debt could take the form of debentures and bonds. It is expected to be negatively related to the firm's financial performa.

3.5.3 Control Variables (Independent Variables)

The control variables which may also impact on the firm's financial performance are introduced as follows:

iii. **Total Assets (TAS):** The total assets of a firm are considered to be an important determinant of the firm's profitability, hence the need to introduce it as a controlled variable. It is the sum of current and non-current assets at the end of firm's reporting years. The total asset is amount accruing from the firm's tangible and non-tangible assets. It is expected to be positively related to financial performance.

iv. **Total Turnover (TOT):** It is considered that a firm's total turnover figure also influence the level of the firm's performance. It is thus introduced as a second controlled variable.

Thus, from the explanations above, we specify our models as follows:

3.6 Model Specifications

This study adopted linear model to test the relationship between financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria from 2001 to 2016(Onaolopo &Kajola, 2010).The study used return on assets, return on equity and earnings per share for the measurement of the firm's performance. This is specified below:

Model I: Return on Asset (ROA) Model

ROA = f (TEQ, TDBT, TAS, TOT) ……..……………. …………..3.1

This can be written in Ordinary Least Square (OLS) form as:

$ROA_t = a_o + a_1 TEQ_t + a_2 TDBT_t + a_3 TAS_t + a_4 TOT_t + U_t$…………...3.2

$$a_1 > 0; a_2 < 0; a_3 > 0; a_4 > 0$$

Where: ROA = Return on Asset, a proxy for firm's performance

TEQ = Total equity, a proxy for financial structure

TDBT= Total debt, a proxy for financial structure

TAS = Total asset, -controlled variable

TOT = Total turnover - controlled variable

t = time period under study

a_o = constant

a_1-a_4 = parameters or coefficient of explanatory variables

u = error term

Model II: Return on Equity (ROE) Model

$ROE = f(TEQ, TDBT, TAS, TOT)$ ………………..…………3.3

This can be written in OLS form as:

$ROE_t = b_o + b_1 TEQ_t + b_2 TDBT_t + b_3 TAS_t + b_4 TOT_t + U_t$……..3.4

$$b_1 > 0; \quad b_2 < 0; \quad b_3 > 0; \quad b_4 > 0$$

Where: ROE = Return on equity, a proxy for firm's performance

TEQ = Total equity, a proxy for financial structure

TDBT = Total debt, a proxy for financial structure

TAS = Total asset, -controlled variable

TOT = Total turnover - controlled variable

t = time period under study

b_0 = constant

$b_1 - b_4$ = parameters or coefficient of the explanatory variables

u = error term

Model III: Earnings per Share (EPS) Model

$EPS = f(TEQ, TDBT, TAS, TOT)$.……………………………3.5

This can be written in OLS form as:

$EPS_t = c_o + c_1 TEQ_t + c_2 TDBT_t + c_3 TAS_t + c_4 TOT_t + U_t$……..3.6

$$c_1 > 0; \quad c_2 < 0; \quad c_3 > 0; \quad c_4 > 0;$$

Where: EPS = Earnings per share, a proxy for firm's performance

TEQ = Total equity, a proxy for financial structure

TDBT = Total debt, a proxy for financial structure

TAS = Total asset, -controlled variable

TOT = Total turnover - controlled variable

t = time period under study

c_0 = constant

$c_1 - c_4$ = parameters or coefficient of the explanatory variables

3.7   Method of Data Analysis

This study adopted the Ordinary Least Square (OLS) technique to estimate the relationship between financial structure and quoted consumer goods manufacturing firm's financial performance in Nigeria from 2001-2016. The study used multiple regression analysis to establish the relationship between financial structure and financial performance of quoted consumer goods manufacturing firms' in Nigeria using the identified variables.

Other tests of significance which were used in the study are:

i. R^2 – coefficient of determination was used to test the explanatory power of the independent variables (TEQ, TDBT, TAS and TOT);

ii.   T-test was used to test for the significance of the coefficient of the variables (a_1, a_2, a_3, a_4, b_1, b_2, b_3, b_4, c_1, c_2, c_3, c_4);

iii.   F-Ratio was used to test for the significance of the overall model;

iv.   Durbin-Watson (DW) test was used to test whether auto-correlation exist or not in error term (u);

v.   Philip-Perron (PP) test was used to test for unit root. That is, whether the data used is stationary or not.

vi.   Granger causality test was carried out to establish the direction of relationship between capital structure and manufacturing firm's financial performance in Nigeria.

This study used E-views package to facilitate the process of estimation of the models relating financial structure with manufacturing firm's financial performance in Nigeria.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

This chapter of the study centre on the presentation of data and the results of OLS regression analysis carried out. The regression results presented include: Philip-Perron (PP) unit root test, short-run regression estimates of the models establishing the relationship between financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria as well as that of pairwise granger causality tests. They are presented as follows:

4.1   Data Presentation

This is concerned with the presentation of the time series data collected from the Nigerian Stock Exchange (NSE) statistical bulletin on the variables of study. They are presented as follows:

Table 4.1: Trends in the Ratio Data of 21 Quoted Consumer Goods Manufacturing Firms in Nigeria, 2001- 2016

YEARS	Return on Assets (ROA)	Return on Equity (ROE)	Earnings Per Share (EPS)	Total Assets (TAS) ₦'000	Turnover (TOT)₦'000	Total Equity (TEQ) ₦'000	Total Debt (TDBT) ₦'000
2001	0.2645	0.2664	102.22	132473449	132473449	92749684	79389867
2002	0.3241	0.3344	90.72	138043488	138043488	100466798	101736477
2003	0.2654	0.3328	137.78	193927687	193927687	115674917	137166302
2004	0.2433	0.2974	94.04	227649334	227649334	132451912	166141079
2005	0.2112	0.3073	73.45	268670098	268670098	142478814	179916550
2006	0.2133	0.2584	113.77	295137048	295137048	191815041	231558235
2007	0.2979	0.3078	135.25	330277541	330277541	223043982	280739392
2008	0.3131	0.3848	113.94	381192213	381192213	230523240	334439421
2009	0.2747	0.3522	71.42	449134461	449134461	277359849	374234474
2010	0.2882	0.1318	149.10	512275814	512275814	763921962	379360438
2011	0.2334	0.3113	156.06	660206004	660206004	363481534	509666979
2012	0.1912	0.2501	121.17	792506014	792506014	435897267	606141401
2013	0.1696	0.2431	224.46	998171721	998171721	506894182	664620899
2014	0.2711	0.2048	111.08	1129191615	1260837785	565399539	1653571889
2015	0.2364	0.1673	78.76	1188672905	1293892397	533689325	1660672466
2016	0.4321	0.1540	102.87	1335323898	1432644968	581555210	1219113270

Source: Nigerian Stock Exchange Fact-book

From table 4.1, return on assets of the twenty one (21) quoted consumer goods manufacturing firms stood at 0.2645 in 2001 and rose to 0.3241 in 2002. From 2003 to 2005, the value of return on assets was on declining trend. It declined from 0.2654 in 2003 to 0.2433 in 2004 and 0.2112 in 2005. It rose slightly from 0.2133 in 2006, 0.2979 in 2007 and to 0.3131 in 2008 and dropped to 0.2747 in 2009. It rose to 0.2882 in 2010 and fell steadily from 0.2334 in 2011 to 0.1912 in 2012, 0.1696 in 2013, 0.2364 in 2015 and 0.4321 in 20I6 (See fig. 4.1).

Return on equity of the twenty one (21) quoted consumer goods manufacturing firms stood at 0.2664 in 2001. It rose from 0.3344 in 2002 to 0.3328 in 2003 and declined to 0.2974 in 2004, 0.3074 in 2005 and 0.2584 in 2006. From 2007 to 2008, return on equity rose from 0.3078 to 0.3848 respectively. Between 2009 and 2013, the value return on equity fluctuated around 0.3522 in 2009, 0.1318 in 2010, 0.3113 in 2011, 0.2501 in 2012, 0.2431 in 2013 and 0.2431 in 2013, 0.1673 in 2015 and 0.1540 in 20I6 (See fig. 4.1).
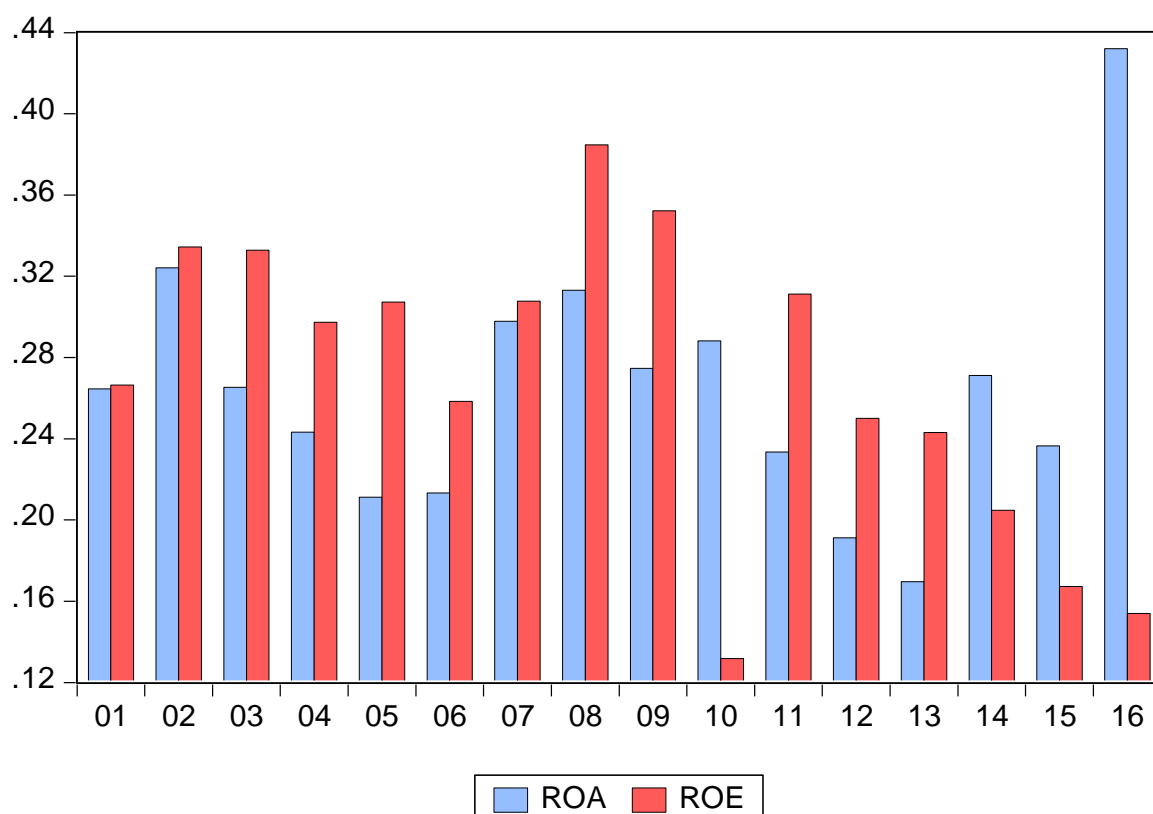
Fig 4.1: Trends of return on equity (ROE) and return on assets (ROA) of 21 Listed Consumer Goods Manufacturing Firms in Nigeria, 2001 to 2016

Source: Author's Computation from NSE Data

Earnings per share of the twenty one (21) quoted consumer goods manufacturing firms stood at 102.22 in 2001, 90.72 in 2002, 137.78 in 2003, 94.04 in 2004 and 73.45 in 2005. It rose sharply from 113.77 in 2006 to 135.25 in 2007 and declined to 113.94 in 2008 and to 71.42 in 2009. Earnings per share

doubled at 149.10 in 2010, 156.06 in 2011 but declined slightly to 121.17 in 2012 and tripled at 224.46 in 2013, but later declined to 78.76 in 2015 and 102.87in 20I6 (See figure 4.2).

EPS
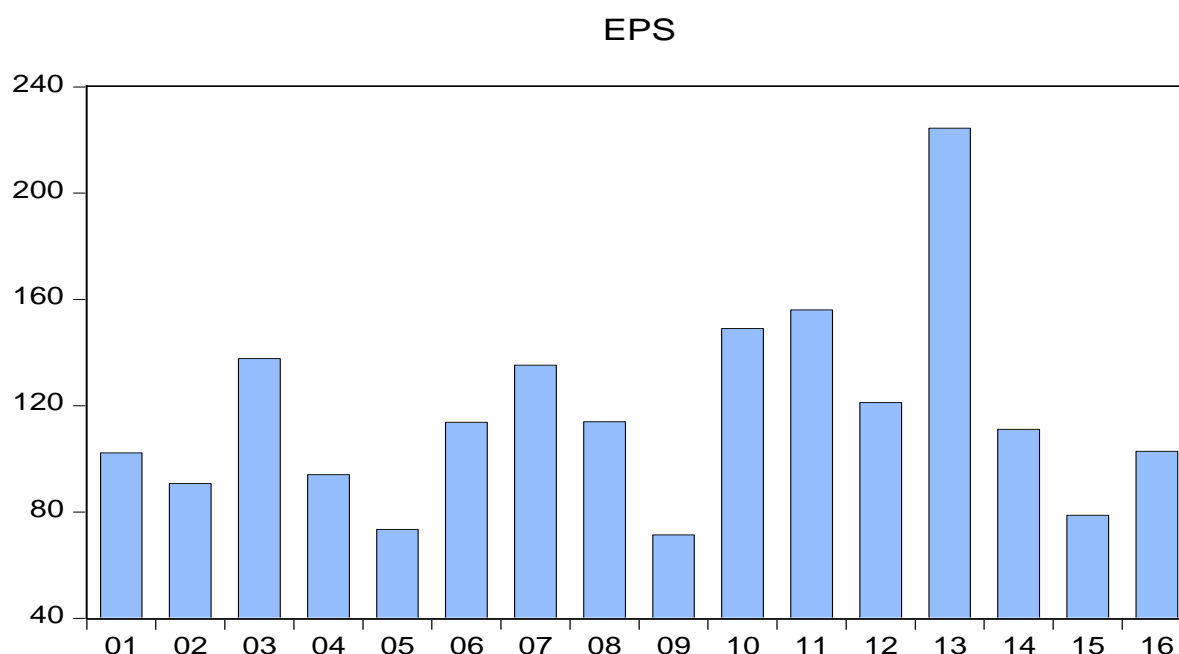
Fig 4.2: Trends of earnings per share (EPS) of 21 Quoted Consumer Goods Manufacturing Firms in Nigeria, 2001 - 2016

Source: Author's Computation from NSE Data

Total equity of the twenty one (21) quoted consumer goods manufacturing firms recorded ₦92,749,684 in 2001. It grew steadily from ₦100,466,798 in 2002, ₦115,674,917 in 2003,₦132,451,912 in 2004, ₦142,478,814 in 2005, ₦191,815,041 in 2006, ₦223,043,982 in 2007, ₦230,523,240 in 2008, ₦277,359,849 in 2009, ₦763,921,962 in 2010, ₦363,481,534 in 2011, ₦435,897,267 in 2012 and ₦533,689,325 in 2015 and ₦581555210in 2016 (See figure 4.3).

Total debt of the twenty one (21) quoted consumer goods manufacturing firms stood at ₦79,389,867 in 2001. It increased steadily from ₦101,736,477 in 2002, ₦137,166,302 in 2003,₦166,141,079 in 2004, ₦179,916,550 in 2005, ₦231,558,235 in 2006, ₦280,739,392 in 2007, ₦334,439,421 in 2008,

₦374,234,474 in 2009, ₦379,360,438 in 2010, ₦509,666,979 in 2011, ₦606,141,401 in 2012 and ₦1,660,672,466 in 2015and ₦1219113270 in 2016(See figure 4.3).
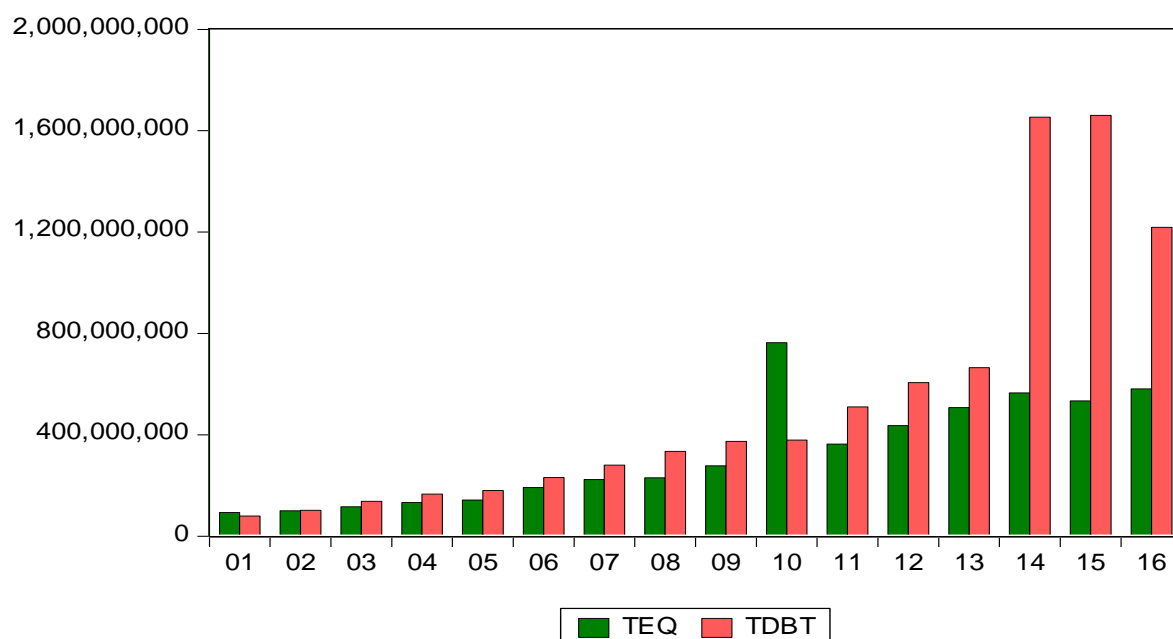
Fig 4.3: Trends of total equity (TEQ) and total debt (TDBT) of 21 Listed Consumer Goods Manufacturing Firms in Nigeria, 2001 - 2016

Source: Author's Computation from NSE Data

Total assets of the twenty one (21) quoted consumer goods manufacturing firms stood at ₦132,473,449 in 2001. It increased steadily from ₦138,043,488 in 2002, ₦193,927,687 in 2003,₦227,649,334 in 2004, ₦268,670,098 in 2005, ₦295,137,048 in 2006, ₦330,277,541 in 2007, ₦381,192,213 in 2008, ₦449,134,461 in 2009, ₦512,275,814 in 2010, ₦660,206,004 in 2011, ₦792,506,014 in 2012 and ₦1,188,672, 905 in 2015 (See figure 4.4).

Firm size proxied by turnover of the twenty one (21) quoted consumer goods manufacturing firms recorded ₦132,473,449 in 2001. It grew steadily from ₦138,043,488 in 2002, ₦193,927,687 in 2003,₦227,649,334 in 2004, ₦268,670,098 in 2005, ₦295,513,048 in 2006, ₦330,277,541 in 2007, ₦381,192,213 in 2008, ₦449,134,461 in 2009, ₦512,275,814 in 2010,

₦660,206,004 in 2011, ₦792,506,014 in 2012 and ₦998,171,721 in 2013(See figure 4.4).

Fig 4.4: Trends of total assets (TAS) and Firm Size (FSZ) of 21 Quoted Consumer Goods Manufacturing Firms in Nigeria, 2001 to 2016
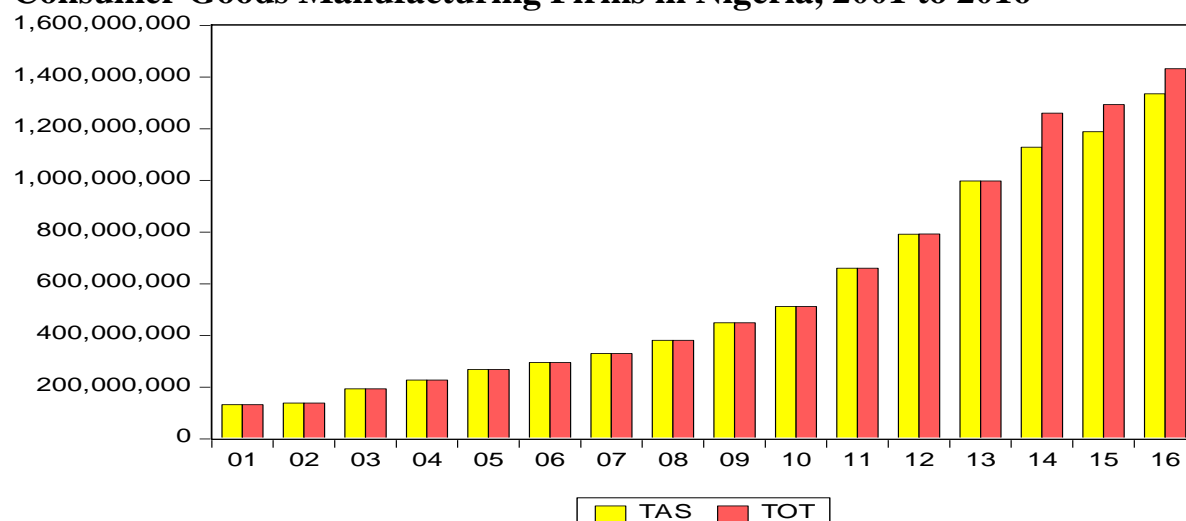
Source: Author's Computation from NSE Data

4.2   Descriptive Statistics

The analysis of the summary measures of the variables used for this study was presented in this section. The data in Table 4.2 indicate that return on assets indicated an average of 0.253160, with medium of 0.264500. Also, the maximum and minimum values of return on assets are 0.324100 and 0.169600 respectively with standard deviation of 0.044608. However, the skewness and kurtosis of -0.206486 and 2.192954 was recorded.

On the average, return on equity is approximately 0.276660, the median value of 0.2297400. Also, the maximum and minimum values of return on equity are 0.384800 and 0.131800 respectively with standard deviation of 0.069592. However, the skewness and kurtosis are -0.572094 and 2.628997.

The mean value of earnings per share is approximately 119.5480, the median value of 113.7700. Also, the maximum and minimum values of earnings per

share are 244.4600 and 71.42000 respectively with standard deviation of 43.43678. However, the skewness and kurtosis are 1.542136 and 5.590110.

The mean value, total equity is approximately 3.12E+08, the median value of 2.31E+08. Also, the maximum and minimum values, total equity are 7.64E+08 and 92749684 respectively with standard deviation of 2.06E+08. However, the skewness and kurtosis are 0.741759 and 2.448892.

The mean value of total debt is approximately 4.91E+08, the median value of 3.34E+08. Also, the maximum and minimum values, total equity are 1.66E+09 and 79389867 respectively with standard deviation of 5.05E+08. However, the skewness and kurtosis are 1.668809 and 4.461425.

The mean value of total assets is approximately 5.13E+08, the median value of 3.81E+08. Also, the maximum and minimum values, total equity are 1.19E+09 and 132E+08 respectively with standard deviation of 3.59E+08. However, the skewness and kurtosis are 0.774320 and 2.213611.

The mean value of firm size is approximately 7.40E+08, the median value of 6.49E+08. Also, the maximum and minimum values of firm size are 1.29E+08 and 1.96E+08 respectively with standard deviation of 3.82E+08. However, the skewness and kurtosis are 0.154820 and 1.581726.

Table 4.2   Summary Measures of the Variables

VARIABLES	ROA	ROE	EPS	TAS	TEQ	TOT	TDBT
Mean	0.264344	0.268994	117.2556	5.65E+08	3.29E+08	5.85E+08	5.36E+08
Median	0.264950	0.281900	112.4250	4.15E+08	2.54E+08	4.15E+08	3.54E+08
Maximum	0.432100	0.384800	224.4600	1.34E+09	7.64E+08	1.43E+09	1.66E+09
Minimum	0.169600	0.131800	71.42000	1.32E+08	92749684	1.32E+08	79389867
Std. Dev.	0.062116	0.073895	38.30765	4.03E+08	2.10E+08	4.39E+08	5.21E+08
Skewness	1.010494	-0.437238	1.300791	0.696287	0.547374	0.794116	1.334204
Kurtosis	4.478835	2.205045	4.848738	2.053429	2.072778	2.196032	3.408081
Jarque-Bera	4.180900	0.931109	6.790707	1.890171	1.372143	2.112564	4.857952
Probability	0.123631	0.627787	0.033529	0.388646	0.503550	0.347746	0.088127
Sum	4.229500	4.303900	1876.090	9.03E+09	5.26E+09	9.37E+09	8.58E+09
Sum Sq. Dev.	0.057877	0.081908	22012.14	2.44E+18	6.64E+17	2.90E+18	4.07E+18
Observations	16	16	16	16	16	16	16

Source: Author's Computation from NSE Data

4.3   Results of Correlational Matrix

In order to establish the degree of relationship between the dependent and independent variables, the study carried out analysis on correlational matrix. The results are presented in tables 4.3, 4.4 and 4.5.

Table 4.3: Correlational Matrix on ROA Model

VARIABLES	ROA	TAS	TEQ	TOT	TDBT
ROA	1	0.123413165	0.107711642	0.148034084	0.136407194
TAS	0.123413165	1	0.804802372	0.997941575	0.919181945
TEQ	0.107711642	0.804802372	1	0.793775138	0.703230876
TOT	0.148034084	0.997941575	0.793775138	1	0.939526455
TDBT	0.136407194	0.919181945	0.703230876	0.939526455	1

Source: Author's Computation from NSE Data

From table 4.3, total equity indicates about 10.7% positive relationship with return on assets, total debt showed about 13.6% positive relationship with the dependent variable. Total assets indicated about 12.3% of positive relationship with the dependent variable. Firm sizeproxied by turnover showed about 14.8% positive association with dependent variable.

Table 4.4: Correlational Matrix on ROE Model

VARIABLES	ROE	TAS	TEQ	TOT	TDBT
ROE	1	0.67404251219	0.809788599	0.68038558381	0.6393932298
TAS	0.67404251219	1	0.80480237232	0.99794157578	0.9191819450
TEQ	0.80978859962	0.80480237232	1	0.79377513820	0.7032308764
TOT	0.68038558381	0.99794157578	0.79377513820	1	0.9395264550
TDBT	0.63939322982	0.91918194507	0.70323087645	0.93952645501	1

Source: Author's Computation from NSE Data

From table 4.4, total equity indicates about 80.9% positive relationship with return on equity, total debt showed about 63.0% positive relationship with the dependent variable. Total assets indicated about 67.4% of positive relationship with the dependent variable. Firm size proxied by turnover showed about 68.0% positive association with dependent variable.

Table 4.5: Correlational Matrix on EPS Model

VARIABLES	EPS	TAS	TEQ	TOT	TDBT
EPS	1	0.19190676095	0.33855400178	0.15117236082	0.04352926992
TAS	0.19190676095	1	0.80480237232	0.99794157578	0.91918194507
TEQ	0.33855400178	0.80480237232	1	0.79377513820	0.70323087645
TOT	0.15117236082	0.99794157578	0.79377513820	1	0.93952645501
TDBT	0.04352926992	0.91918194507	0.70323087645	0.93952645501	1

Source: Author's Computation from NSE Data

From table 4.5, total equity indicates about 33.8% positive relationship with earnings per share, total debt showed about 4.3% positive relationship with the dependent variable. Total assets indicated about 19.1% positive relationship with the dependent variable. Firm sizeproxied by turnover showed about 15.1% positive association with dependent variable.

4.4   Unit Root Test

In order to ascertain whether the time series data collected on the various variables of study were stationary or not, the study carried out a unit root test using Philip-Perron (PP) test. The results are as follows:

Table 4.6: PP Unit Root Test

Variables	PP Statistic	1% Critical Value	5% Critical Value	Order of Integration
ROA	-3.986439	-4.057910	-3.119910	1(1)
ROE	-9.814078	-4.057910	-3.119910	1(1)
EPS	-3.311553	-4.004425	-3.098896	1(0)
TEQ	-13.35054	-4.057910	-3.119910	1(1)
TDBT	-3.711777	-4.057910	-3.119910	1(1)
TAS	-3.552030	-4.121990	-3.144920	1(2)
TOT	-6.535997	-4.121990	-3.144920	1(2)

Source: E-Views (9.5) Data Analysis

From the results in table 4.6 where the unit root test was carried out to establish the stationarity of the variables,return on assets (ROA), return on equity (ROE), total equity (TEQ) and total debt (TDBT) are integrated of order one 1(1) at 1% and 5% levels of significance. The results also indicate that earnings per share (EPS) is integrated of order zero 1(0) at 5% level of significance. The results

also indicated that total assets (TAS) and firm size (TOT) are integrated of order two 1(2) at 1% and 5% levels of significance. This means that the time series data are stationary.

4.5   Short Run Regression Analysis

The various models that established relationship between financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria were estimated as follows

Table 4.7: **Short Run Regression Estimates for Return on Assets (ROA) Model**

Dependent Variable: D(ROA)
Method: Least Squares
Date: 05/01/18   Time: 16:03
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033015	0.023178	1.424371	0.1848
D(TAS)	-4.13E-09	9.64E-10	-4.280945	0.0016
D(TEQ)	-7.01E-12	7.72E-11	-0.090859	0.9294
D(TOT)	3.96E-09	8.65E-10	4.577249	0.0010
D(TDBT)	-4.47E-10	1.05E-10	-4.255405	0.0017
R-squared	0.696623	Mean dependent var		0.011173
Adjusted R-squared	0.575272	S.D. dependent var		0.071088
S.E. of regression	0.046329	Akaike info criterion		-3.044906
Sum squared resid	0.021464	Schwarz criterion		-2.808889
Log likelihood	27.83679	Hannan-Quinn criter.		-3.047420
F-statistic	5.740566	Durbin-Watson stat		1.523947
Prob(F-statistic)	0.011521			

Source: E-Views(9.5) Data Analysis

From the results in table 4.7,adjusted R^2 is0.575272. This means that about 57.5percent (%) of the variation in the dependent variable return on assets (ROA) is as a result of the variations in the explanatory variables of total equity (TEQ), total debt (TDBT), total assets (TAS) and firm size proxied by turnover (TOT). The remaining 42.5 percent (%) may be attributed to the variables that are not included in the model. The F-statistic of 5.740566 and

Prob(F-statistic) of0.011521indicates that the overall model is statistically significant at 5 percent (%).The result of DW-statistic of 1.523947 shows absence of autocorrelation of the error term. This means that the estimates based on OLS is not spurious. It means that the results of the analysis are reliable for predictions.

From the coefficient values (table 4.7),total asset (TAS), total equity (TEQ) andtotal debt (TDBT) showed negative relationship with return on assets (ROA).But total turnover (TOT) a proxy for firm size showed positive relationship. This means that and total debtand turnover conformed to the apriori grounds of the study buttotal equityand total asset did not.

Table 4.8: **Short Run Regression Estimates for Return on Equity (ROE) Model**

Dependent Variable: D(ROE)
Method: Least Squares
Date: 05/01/18   Time: 16:06
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.023652	0.021883	1.080844	0.3051
D(TAS)	-7.32E-10	9.10E-10	-0.804936	0.4396
D(TEQ)	-4.77E-10	7.29E-11	-6.546151	0.0001
D(TOT)	5.64E-10	8.16E-10	0.690601	0.5055
D(TDBT)	-7.57E-11	9.91E-11	-0.764407	0.4623
R-squared	0.817094	Mean dependent var		-0.007493
Adjusted R-squared	0.743932	S.D. dependent var		0.086437
S.E. of regression	0.043740	Akaike info criterion		-3.159905
Sum squared resid	0.019132	Schwarz criterion		-2.923888
Log likelihood	28.69928	Hannan-Quinn criter.		-3.162419
F-statistic	11.16823	Durbin-Watson stat		1.814247
Prob(F-statistic)	0.001041			

Source: E-Views (9.5)Data Analysis

From the results in table 4.8, Adjusted R^2 is 0.743932. This means that about 74.4 percent (%) of the variation in the dependent variable return on assets (ROE) is as a result of the variations in the explanatory variables of total equity (TEQ), total debt (TDBT), total assets (TAS) and (TOT)**.** The remaining 25.6 percent (%) may be attributed to the variables that are not included in the model. The F-statistic of 11.16823 indicates that the overall model is

statistically significant at 5 percent (%).The result of DW-statistic of 1.814247 shows absence of autocorrelation of the error term. This means that the estimates based on OLS is not spurious.

From the coefficient values (table 4.8), total equity (TEQ), total assets (TAS) and total debt (TDBT) showed negative relationship with return on assets (ROE). This means that total equity and total assetsdid not conformed to the apriori grounds of the study.Total turnover (TOT), aproxy offirm size, indicated a positiverelationship with return on equity (ROE).

Table 4.9: **Short Run Regression Estimates for Earnings Per Share (EPS) Model**

Dependent Variable: EPS
Method: Least Squares
Date: 05/01/18   Time: 16:08
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.69525	16.46408	4.476124	0.0012
D(TAS)	1.38E-06	6.84E-07	2.014975	0.0716
D(TEQ)	5.94E-08	5.48E-08	1.082924	0.3043
D(TOT)	-8.64E-07	6.14E-07	-1.407326	0.1896
D(TDBT)	9.17E-08	7.45E-08	1.230097	0.2468
R-squared	0.502575	Mean dependent var		118.2580
Adjusted R-squared	0.303604	S.D. dependent var		39.43440
S.E. of regression	32.90813	Akaike info criterion		10.08652
Sum squared resid	10829.45	Schwarz criterion		10.32253
Log likelihood	-70.64889	Hannan-Quinn criter.		10.08400
F-statistic	12.52589	Durbin-Watson stat		2.101087
Prob(F-statistic)	0.016980			

source: E-Views(9.5) Data Analysis

From the results in table 4.9, AdjustedR^2 is 0.303604. This means that about 30.4 percent (%) of the variation in the dependent variable earnings per share (EPS) is as a result of the variations in the explanatory variables of total equity (TEQ), total debt (TDBT), total assets (TAS) and firm size proxied by turnover (TOT). The remaining 69.6 percent (%) may be attributed to the variables that are not included in the model. The F-statistic of 12.52589 indicates that the overall model is statistically significant at 5 percent (%). The

result of DW-statistic of 2.101087shows absence of autocorrelation of the error term. This means that the estimates based on OLS is not spurious.

From the coefficient values (table 4.9), total equity (TEQ), total assets (TAS) and total debt (TDBT) showed positive relationship with earnings per shares (EPS). This means that total equity and total assets conformed to the apriori grounds of the study. Total turnover (TOT), aproxy offirm size, indicated negative relationship with earnings per share (EPS).

4.6   Hypotheses Testing

Results of the Short Run Regression analysis were used in testing the hypotheses raised for the study.

4.6.1Test of Hypothesis I

Ho₁: There is no significant relationship between financial structure and return on assets of listed consumer goods manufacturing firms in Nigeria.

H_A1:   There is significant relationship between financial structure and return on assets of listed consumer goods manufacturing firms in Nigeria.

Table 4.7: **Short Run Regression Estimates for Return on Assets (ROA) Model**

Dependent Variable: D(ROA)
Method: Least Squares
Date: 05/01/18   Time: 16:03
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.033015	0.023178	1.424371	0.1848
D(TAS)	-4.13E-09	9.64E-10	-4.280945	0.0016
D(TEQ)	-7.01E-12	7.72E-11	-0.090859	0.9294
D(TOT)	3.96E-09	8.65E-10	4.577249	0.0010
D(TDBT)	-4.47E-10	1.05E-10	-4.255405	0.0017
R-squared	0.696623	Mean dependent var		0.011173
Adjusted R-squared	0.575272	S.D. dependent var		0.071088
S.E. of regression	0.046329	Akaike info criterion		-3.044906
Sum squared resid	0.021464	Schwarz criterion		-2.808889

Log likelihood	27.83679	Hannan-Quinn criter.		-3.047420
F-statistic	5.740566	Durbin-Watson stat		1.523947
Prob(F-statistic)	0.011521			

Level of significance:5%

The F-statistic of 5.740566 and Prob (F-statistic) of 0.011521indicates from the overall model that financial structure has significant relationship with return on assets (ROA)at 5 percent (%) level of significance. The null Hypothesis is therefore rejected.

4.6.2 **Test of Hypothesis II**

Ho$_2$: There is no significant relationship between financial structure and return on equity of listed consumer goods manufacturing firms in Nigeria.

H$_{A2}$: There is significant relationship between financial structure and return on equity of listed consumer goods manufacturing firms in Nigeria.

Table 4.8: **Short Run Regression Estimates for Return on Equity (ROE) Model**

Dependent Variable: D(ROE)
Method: Least Squares
Date: 05/01/18   Time: 16:06
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.023652	0.021883	1.080844	0.3051
D(TAS)	-7.32E-10	9.10E-10	-0.804936	0.4396
D(TEQ)	-4.77E-10	7.29E-11	-6.546151	0.0001
D(TOT)	5.64E-10	8.16E-10	0.690601	0.5055
D(TDBT)	-7.57E-11	9.91E-11	-0.764407	0.4623

R-squared	0.817094	Mean dependent var		-0.007493
Adjusted R-squared	0.743932	S.D. dependent var		0.086437
S.E. of regression	0.043740	Akaike info criterion		-3.159905
Sum squared resid	0.019132	Schwarz criterion		-2.923888
Log likelihood	28.69928	Hannan-Quinn criter.		-3.162419
F-statistic	11.16823	Durbin-Watson stat		1.814247
Prob(F-statistic)	0.001041			

The F-statistic of 11.16823 and Prob (0.001041) indicates from the overall model that financial structure has significant relationship with return on equity (ROE)at 5 percent (%) level of significance. The null Hypothesis is therefore rejected.

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4.6.3 **Test of Hypothesis III**

Ho₃: There is no significant relationship between financial structure and earnings per share of listed consumer goods manufacturing firms in Nigeria.

H_{A3}: There is significant relationship between financial structure and earnings per share of listed consumer goods manufacturing firms in Nigeria.

Table 4.9: **Short Run Regression Estimates for Earnings Per Share (EPS) Model**

Dependent Variable: EPS
Method: Least Squares
Date: 05/01/18   Time: 16:08
Sample (adjusted): 2002 2016
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.69525	16.46408	4.476124	0.0012
D(TAS)	1.38E-06	6.84E-07	2.014975	0.0716
D(TEQ)	5.94E-08	5.48E-08	1.082924	0.3043
D(TOT)	-8.64E-07	6.14E-07	-1.407326	0.1896
D(TDBT)	9.17E-08	7.45E-08	1.230097	0.2468

R-squared	0.502575	Mean dependent var		118.2580
Adjusted R-squared	0.303604	S.D. dependent var		39.43440
S.E. of regression	32.90813	Akaike info criterion		10.08652
Sum squared resid	10829.45	Schwarz criterion		10.32253
Log likelihood	-70.64889	Hannan-Quinn criter.		10.08400
F-statistic	12.52589	Durbin-Watson stat		2.101087
Prob(F-statistic)	0.016980			

The F-statistic of 12.52589and Prob (F-statistic) of 0.016980 indicates from the overall model that financial structure has significant relationship with earnings per share (EPS)at 5 percent (%) level of significance. The null Hypothesis is therefore rejected.

4.6.4 **Test of Hypothesis IV**

Ho₄: There is no significant direction of relationship between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeria.

H_{A4}: There is significant direction of relationship between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeria.

Level of significance: 5%
Test Statistics: F-test.
Critical Value: 1.771
Decision Rule: If the calculated value of T-test is greater than the critical (table) value at 5% level of significance, reject the null hypothesis. Accept the null hypothesis if otherwise.

From the results of F-values in table 4.10, 4.11 and 4.12 the null hypothesis is rejected in ROA and ROE models, but accepted in EPS model. This indicates that the direction of relationship between financial structure and earnings per share of listed consumer goods manufacturing firms in Nigeria is insignificant with negative relationship with EPS, but significant with ROA and ROE.

4.7 Granger Causality Test

In order to determine the direction of relationship between the dependent and explanatory or independent variables, the study carried out pairwise granger causality test. The results of the granger causality test are presented as follows:

Table 4.10: **Pairwise Granger Causality Test for Return on Assets (ROA) Model**

Pairwise Granger Causality Tests
Date: 05/01/18   Time: 16:12
Sample: 2001 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TAS does not Granger Cause ROA	14	4.77068	0.0387
ROA does not Granger Cause TAS		0.76311	0.4942
TEQ does not Granger Cause ROA	14	0.07306	0.9301
ROA does not Granger Cause TEQ		0.24452	0.7881
TOT does not Granger Cause ROA	14	9.34320	0.0064
ROA does not Granger Cause TOT		1.29000	0.3217
TDBT does not Granger Cause ROA	14	9.16650	0.0067
ROA does not Granger Cause TDBT		2.39535	0.1465

Null Hypothesis:	Obs	F-Statistic	Prob.
TEQ does not Granger Cause TAS	14	1.65143	0.2449
TAS does not Granger Cause TEQ		1.09843	0.3742
TOT does not Granger Cause TAS	14	5.63110	0.0259
TAS does not Granger Cause TOT		31.2162	9.E-05
TDBT does not Granger Cause TAS	14	4.19268	0.0517
TAS does not Granger Cause TDBT		11.0035	0.0038
TOT does not Granger Cause TEQ	14	0.72887	0.5089
TEQ does not Granger Cause TOT		1.03692	0.3933
TDBT does not Granger Cause TEQ	14	0.30888	0.7417
TEQ does not Granger Cause TDBT		1.16609	0.3546
TDBT does not Granger Cause TOT	14	44.7164	2.E-05
TOT does not Granger Cause TDBT		12.4078	0.0026

Source: E-Views (9.5) Data Analysis

From the results of the pairwise granger causality test in table 4.10, TAS, TOT and TDBT granger cause ROA but ROAdoes not granger cause them. This indicates uni-directional causation. The results also show that TEQ does not granger cause ROA and ROA does not granger cause TEQ. The results also show that there was no causation on rest of the variables.

Table 4.11: **PairwiseGranger Causality Test for Return on Equity (ROE) Model**

Pairwise Granger Causality Tests
Date: 05/01/18   Time: 16:14
Sample: 2001 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TAS does not Granger Cause ROE	14	5.88577	0.0232
ROE does not Granger Cause TAS		0.59575	0.5715
TEQ does not Granger Cause ROE	14	5.36050	0.0293
ROE does not Granger Cause TEQ		4.27388	0.0496
TOT does not Granger Cause ROE	14	6.17071	0.0205
ROE does not Granger Cause TOT		0.13203	0.8780
TDBT does not Granger Cause ROE	14	4.13301	0.0533
ROE does not Granger Cause TDBT		0.30893	0.7417
TEQ does not Granger Cause TAS	14	1.65143	0.2449
TAS does not Granger Cause TEQ		1.09843	0.3742
TOT does not Granger Cause TAS	14	5.63110	0.0259
TAS does not Granger Cause TOT		31.2162	9.E-05
TDBT does not Granger Cause TAS	14	4.19268	0.0517

Null Hypothesis:	Obs	F-Statistic	Prob.
TAS does not Granger Cause TDBT		11.0035	0.0038
TOT does not Granger Cause TEQ	14	0.72887	0.5089
TEQ does not Granger Cause TOT		1.03692	0.3933
TDBT does not Granger Cause TEQ	14	0.30888	0.7417
TEQ does not Granger Cause TDBT		1.16609	0.3546
TDBT does not Granger Cause TOT	14	44.7164	2.E-05
TOT does not Granger Cause TDBT		12.4078	0.0026

Source: E-Views (9.5) Data Analysis

From the results of the pairwise granger causality test in table 4.11, TAS, TOT and TDBT have uni-directional causation with ROE. TEQ has bi-directional causation with ROE

Table 4.12: **PairwiseGranger Causality Test for Earnings Per Share (EPS) Model**

Pairwise Granger Causality Tests
Date: 05/01/18   Time: 16:15
Sample: 2001 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TAS does not Granger Cause EPS	14	1.19842	0.3456
EPS does not Granger Cause TAS		0.68791	0.5272
TEQ does not Granger Cause EPS	14	0.48224	0.6325
EPS does not Granger Cause TEQ		0.41006	0.6754
TOT does not Granger Cause EPS	14	0.31580	0.7370
EPS does not Granger Cause TOT		4.67069	0.0406
TDBT does not Granger Cause EPS	14	0.14824	0.8643
EPS does not Granger Cause TDBT		10.1452	0.0049
TEQ does not Granger Cause TAS	14	1.65143	0.2449
TAS does not Granger Cause TEQ		1.09843	0.3742
TOT does not Granger Cause TAS	14	5.63110	0.0259
TAS does not Granger Cause TOT		31.2162	9.E-05
TDBT does not Granger Cause TAS	14	4.19268	0.0517
TAS does not Granger Cause TDBT		11.0035	0.0038
TOT does not Granger Cause TEQ	14	0.72887	0.5089
TEQ does not Granger Cause TOT		1.03692	0.3933
TDBT does not Granger Cause TEQ	14	0.30888	0.7417
TEQ does not Granger Cause TDBT		1.16609	0.3546
TDBT does not Granger Cause TOT	14	44.7164	2.E-05
TOT does not Granger Cause TDBT		12.4078	0.0026

Source: E-Views (9.5) Data Analysis

From the results of the pairwise granger causality test in table 4.12, TAS, TEQ, TOT and TDBT does not granger cause EPS. The results show that there is no causation with the dependent variable.

4.8 Discussion of Findings

This section of the study centred on the discussion of major findings. From the various analysis carried out, total asset (TAS), total equity (TEQ) and total debt (TDBT) showed negative relationship with return on assets (ROA). However turnover a proxy for firm size (TOT) showed positive relationship. The overall analysis proved that there is significant relationship between financial structure and return on assets of listed consumer goods manufacturing firms in Nigeria. This is consistent with the earlier study of Anderson (2005) and Elsayed-Ebaid (2009) that there is a significant relationship between capital structure and return on assets (ROA). The findingof the current study is also in congruence with the earlier work of Aburub (2012) that capital structure has a positive effect on firm performance evaluation measures. However, it did not agree with the work of Zeitun & Tian (2007) who concluded in their study that there is a significant negative relationship between financial structure (total debt to total asset ratio) and return on assets ratio (ROA).

The analysis revealed that total equity (TEQ), total assets (TAS) and total debt (TDBT) showed negative relationship with return on assets (ROE). Firm size proxied by turnover (TOT) indicated positive relationship with return on equity (ROE).The overall analysis revealed that there is significant positive relationship between financial structure and return on equity of listed consumer goods manufacturing firms in Nigeria. However, there is no significant positive relationship between financial structure of TAS, TEQ and TDBT and return on equity of listed consumer goods manufacturing firms in Nigeria. This finding is not in line with the works Onaolapo and Kajola (2010) and Osuji and Odita (2012) that the capital structure has a significant negative effect on financial

performance measures (ROA and ROE) of these companies. Also, this finding does not support the earlier work of Ogebe, Ogbe and Allen (2013) that a significant negative relationship is established between leverage and performance.

The analysis also revealed that total equity (TEQ), total assets (TAS) and total debt (TDBT) showed positive relationship with earnings per shares (EPS). This means that total equity and total assets conformed to the Pecking Order Theory of financial structure. Total turnover (TOT) indicated negative relationship with earnings per share (EPS).The overall analysis revealed that there is significant relationship between financial structure and earnings per share of listed consumer goods manufacturing firms in Nigeria. This finding is also in line with the work of Aburub (2012) that capital structure has a positive effect on firm performance evaluation measures of earnings per share (EPS).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1   **Summary of Findings**

This study examined the relationship between financial structure and financial performance of listed consumer goods manufacturing firms in Nigeriafrom 2001 to 2016. Specifically it evaluated the relationship betweenfinancing pattern and financial performance of these firms with respect to the return on assets (ROA), return on equity (ROE) and earnings per share (EPS). The study was hinged on the Pecking Order theory of financial structure which was developed by Myers and Majluf (1984). This is to consider effect of the theory on financial performance of listed consumer goods manufacturing firms in Nigeria. As the theory explains, ''the primary concern of a firm is to raise capital through retained earnings while trade-off between firm's bankruptcy cost and tax shield of debt is a secondary issue''. The Pecking order theory maintains that profitable firms are likely to use retained earnings and make less use of debt relative to less profitable firms. This implies that firm's performance and debt-equity ratio are expected to be negatively related, a proposition supported by a number of empirical studies.

The ordinary least square (OLS) method was used in analyzing the data collected on the variables of study from the Nigerian Stock Exchange fact book. The result of the analysisrevealed the following:

i)   The correlational matrix showed that total asset (TAS), total equity (TEQ), total turnover (TOT) and total debt (TDBT) showed positive relationship with return on assets (ROA), return on equity (ROE) and earnings per share (EPS).

ii)   Short run regression estimates for the models showed that 9.66% of change in return on assets, 81.71% of change in return on equity

and50% of change in earnings per share were due to variation in the variables of total assets, total equity, total turnover and total debts.

iii) Null hypotheses one, two and three arerejectedbased on the Prob(F-statistic) values obtained from the short run regression estimates.

iv) F-values from the short run regression estimates as shown in tables 4.10, 4.11 and 4.12 indicted that positive direction of relationship with return on assets while it is negative with return on equity and earnings.

5.2 Conclusion

The result of the t-test analysis which tested the hypotheses showed that financial structure did not have a common relationship with the variables usedin this study. For example return on assets showed a positive relationship with total turnoverwhereas it has negative relationship with total equity, total debt and total assets. However the overall modelrevealed asignificant positive relationship between financial structure and financial performance of the firms using return on assets, return on equity and equity.

Theoverall model revealed that financial structure has positive relationship with financial performance indicators tested for the study. The four hypotheses tested were all accepted.

5.3 Recommendations

In line with the findings/conclusion made in this study, the following recommendations are put forward:

i. Consideration should still be given to proportion of equity and debtsrequired by firms in financing their operations. This is because the study revealed that financial structure have influence on financial performance of firms

ii. Management should ensure improvement in the size of the firm as it plays significant role in the financial performance of the firm. This is because the size of the firm creates economies of scale to the firm, which encourage equity investment and good consideration for credit facilities.

iii. Nigerian Capital Market should be strengthened as they are expected to play positive role in the development of the national economy. This can be achieved by sustaining its policy direction on the reform of the Nigerian financial sector.

iv. The government should create enabling environment for manufacturing companies to thrive. This will attract foreign portfolio investors into the economy, increase equity fund and ratio of quoted consumer goods manufacturing firms and boost their financial performance in the country.

5.4 Contribution to Knowledge

i. This study looked into consumer goods manufacturing firms, a manufacturing sector that seemed not to be of interest to many researchers. It is thus a good contribution to knowledge as the study was in this area of our economy which was hardly looked into.

ii. Introduction of total assets and total turnover as moderating variables further enriched the study. It is our opinion that introduction of these two intervening variables further enriched the study and made it relevant as source of material for further studies.

iii. The number of years the study covered is an improvement as most studies in this areaconsidered lower number of years. Inclusion of causality test in the study gave further boost to the study.

5.5 Suggestion for Further Studies

This study looked into financial structure and financial performance of quoted consumer goods manufacturing firms in Nigeria from 2001 to 2015 using debt and equity ratio as independent variables while ROA, ROE and EPS were used as dependent variables. There are therefore other areas of this subject that were not covered by the study. Recommendation is thus given that further studies be made in some of these areas. They are:

i. Determinant of capital structure decision: (A study of quoted consumer goods manufacturing firms in Nigeria).

ii. Capital structure and market value of firms: (A study of quoted consumer goods manufacturing firms in Nigeria).

iii. Capital structure and financial performance. (A study of unquoted consumer goods manufacturing firms in Nigeria).

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APPENDIX ONE

NEW UNIT RT TEST

Null Hypothesis: D(ROA) has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.986439	0.0113
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
     and may not be accurate for a sample size of 13

Residual variance (no correction)	0.002277
HAC corrected variance (Bartlett kernel)	0.002175

Phillips-Perron Test Equation
Dependent Variable: D(ROA,2)
Method: Least Squares
Date: 07/17/17   Time: 11:17
Sample (adjusted): 2003 2015
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROA(-1))	-1.132367	0.285053	-3.972477	0.0022
C	-0.006679	0.014388	-0.464213	0.6515

R-squared	0.589254	Mean dependent var	-0.007254
Adjusted R-squared	0.551914	S.D. dependent var	0.077493
S.E. of regression	0.051873	Akaike info criterion	-2.939400
Sum squared resid	0.029599	Schwarz criterion	-2.852484
Log likelihood	21.10610	Hannan-Quinn criter.	-2.957265
F-statistic	15.78057	Durbin-Watson stat	1.789970
Prob(F-statistic)	0.002187		

Null Hypothesis: D(ROE) has a unit root
Exogenous: Constant
Bandwidth: 10 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-9.814078	0.0000
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
    and may not be accurate for a sample size of 13

Residual variance (no correction)	0.006136
HAC corrected variance (Bartlett kernel)	0.001059

Phillips-Perron Test Equation
Dependent Variable: D(ROE,2)
Method: Least Squares
Date: 07/17/17   Time: 11:15
Sample (adjusted): 2003 2015
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROE(-1))	-1.425136	0.264621	-5.385564	0.0002
C	-0.014868	0.023652	-0.628619	0.5424

R-squared	0.725030	Mean dependent var	-0.008115
Adjusted R-squared	0.700032	S.D. dependent var	0.155488
S.E. of regression	0.085160	Akaike info criterion	-1.947932
Sum squared resid	0.079774	Schwarz criterion	-1.861017
Log likelihood	14.66156	Hannan-Quinn criter.	-1.965797
F-statistic	29.00430	Durbin-Watson stat	2.397027
Prob(F-statistic)	0.000221		

Null Hypothesis: EPS has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.311553	0.0345
Test critical values:	1% level	-4.004425	
	5% level	-3.098896	
	10% level	-2.690439	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
　　and may not be accurate for a sample size of 14

Residual variance (no correction)	1863.661
HAC corrected variance (Bartlett kernel)	1625.382

Phillips-Perron Test Equation
Dependent Variable: D(EPS)
Method: Least Squares
Date: 07/17/17   Time: 11:12
Sample (adjusted): 2002 2015
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EPS(-1)	-0.991965	0.297103	-3.338795	0.0059
C	119.8017	38.45871	3.115073	0.0089

R-squared	0.481587	Mean dependent var	-1.675714
Adjusted R-squared	0.438385	S.D. dependent var	62.22110
S.E. of regression	46.62908	Akaike info criterion	10.65389
Sum squared resid	26091.25	Schwarz criterion	10.74518
Log likelihood	-72.57723	Hannan-Quinn criter.	10.64544
F-statistic	11.14755	Durbin-Watson stat	1.938245
Prob(F-statistic)	0.005901		

Null Hypothesis: D(TEQ) has a unit root
Exogenous: Constant
Bandwidth: 11 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-13.35054	0.0000
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
    and may not be accurate for a sample size of 13

Residual variance (no correction)	2.29E+16
HAC corrected variance (Bartlett kernel)	2.54E+15

Phillips-Perron Test Equation
Dependent Variable: D(TEQ,2)
Method: Least Squares
Date: 07/17/17   Time: 11:07
Sample (adjusted): 2003 2015
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TEQ(-1))	-1.515563	0.259970	-5.829760	0.0001
C	52069499	46568234	1.118133	0.2873

R-squared	0.755480	Mean dependent var	-3032871.
Adjusted R-squared	0.733251	S.D. dependent var	3.18E+08
S.E. of regression	1.64E+08	Akaike info criterion	40.81425
Sum squared resid	2.97E+17	Schwarz criterion	40.90117
Log likelihood	-263.2927	Hannan-Quinn criter.	40.79639
F-statistic	33.98611	Durbin-Watson stat	2.419131
Prob(F-statistic)	0.000114		

Null Hypothesis: D(TDBT) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.711777	0.0182
Test critical values:	1% level	-4.057910	
	5% level	-3.119910	
	10% level	-2.701103	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
        and may not be accurate for a sample size of 13

Residual variance (no correction)	6.32E+16
HAC corrected variance (Bartlett kernel)	6.32E+16

Phillips-Perron Test Equation
Dependent Variable: D(TDBT,2)
Method: Least Squares
Date: 07/17/17   Time: 11:01
Sample (adjusted): 2003 2015
Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TDBT(-1))	-1.114031	0.300134	-3.711777	0.0034
C	1.34E+08	84074417	1.590570	0.1400

R-squared	0.556045	Mean dependent var	-1172772.
Adjusted R-squared	0.515686	S.D. dependent var	3.93E+08
S.E. of regression	2.73E+08	Akaike info criterion	41.83103
Sum squared resid	8.22E+17	Schwarz criterion	41.91795
Log likelihood	-269.9017	Hannan-Quinn criter.	41.81317
F-statistic	13.77729	Durbin-Watson stat	2.000933
Prob(F-statistic)	0.003431		

Null Hypothesis: D(TAS,2) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.552030	0.0256
Test critical values:	1% level	-4.121990	
	5% level	-3.144920	
	10% level	-2.713751	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
       and may not be accurate for a sample size of 12

Residual variance (no correction)	2.00E+15
HAC corrected variance (Bartlett kernel)	2.00E+15

Phillips-Perron Test Equation
Dependent Variable: D(TAS,3)
Method: Least Squares
Date: 07/17/17   Time: 11:03
Sample (adjusted): 2004 2015
Included observations: 12 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TAS(-1),2)	-1.201830	0.338350	-3.552030	0.0053
C	2409716.	14589913	0.165163	0.8721

R-squared	0.557853	Mean dependent var	-10154397
Adjusted R-squared	0.513638	S.D. dependent var	70308853
S.E. of regression	49033136	Akaike info criterion	38.40490
Sum squared resid	2.40E+16	Schwarz criterion	38.48572
Log likelihood	-228.4294	Hannan-Quinn criter.	38.37498
F-statistic	12.61692	Durbin-Watson stat	1.573358
Prob(F-statistic)	0.005250		

Null Hypothesis: D(TOT,2) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.535997	0.0003
Test critical values:	1% level	-4.121990	
	5% level	-3.144920	
	10% level	-2.713751	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
    and may not be accurate for a sample size of 12

Residual variance (no correction)	1.99E+15
HAC corrected variance (Bartlett kernel)	1.99E+15

Phillips-Perron Test Equation
Dependent Variable: D(TOT,3)
Method: Least Squares
Date: 07/17/17   Time: 11:05
Sample (adjusted): 2004 2015
Included observations: 12 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FSZ(-1),2)	-1.619388	0.247764	-6.535997	0.0001
C	-5679122.	14166228	-0.400892	0.6969

R-squared	0.810316	Mean dependent var	2531798.
Adjusted R-squared	0.791348	S.D. dependent var	1.07E+08
S.E. of regression	48879912	Akaike info criterion	38.39864
Sum squared resid	2.39E+16	Schwarz criterion	38.47946
Log likelihood	-228.3919	Hannan-Quinn criter.	38.36872
F-statistic	42.71925	Durbin-Watson stat	1.973046
Prob(F-statistic)	0.000066		

Dependent Variable: ROA
Method: Least Squares
Date: 07/17/17   Time: 11:23
Sample: 2001 2015
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.271507	0.025274	10.74243	0.0000
TEQ	6.81E-11	8.78E-11	0.775740	0.4559
TDBT	1.71E-10	5.76E-11	2.977100	0.0139
TAS	-4.56E-10	1.73E-10	-2.637074	0.0249
TOT	1.49E-10	1.29E-10	1.154907	0.2750

R-squared	0.595718	Mean dependent var		0.253160
Adjusted R-squared	0.434005	S.D. dependent var		0.044608
S.E. of regression	0.033560	Akaike info criterion		-3.689772
Sum squared resid	0.011263	Schwarz criterion		-3.453755
Log likelihood	32.67329	Hannan-Quinn criter.		-3.692286
F-statistic	3.683803	Durbin-Watson stat		1.439560
Prob(F-statistic)	0.042969			

Dependent Variable: ROE
Method: Least Squares
Date: 07/17/17   Time: 11:28
Sample: 2001 2015
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.288279	0.024636	11.70164	0.0000
TEQ	-4.74E-10	8.56E-11	-5.534654	0.0002
TDBT	3.00E-11	5.61E-11	0.534764	0.6045
TAS	-3.67E-10	1.69E-10	-2.175163	0.0547
TOT	4.18E-10	1.26E-10	3.320115	0.0077

R-squared	0.842179	Mean dependent var		0.276660
Adjusted R-squared	0.779051	S.D. dependent var		0.069592
S.E. of regression	0.032712	Akaike info criterion		-3.740949
Sum squared resid	0.010701	Schwarz criterion		-3.504932
Log likelihood	33.05712	Hannan-Quinn criter.		-3.743463
F-statistic	13.34074	Durbin-Watson stat		1.958858
Prob(F-statistic)	0.000510			

Dependent Variable: EPS
Method: Least Squares
Date: 07/17/17   Time: 11:31
Sample: 2001 2015
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	99.53076	21.85726	4.553670	0.0011
TEQ	1.02E-07	7.59E-08	1.344150	0.2086
TDBT	-1.99E-07	4.98E-08	-3.999748	0.0025
TAS	4.46E-07	1.50E-07	2.977330	0.0139
TOT	-1.93E-07	1.12E-07	-1.725018	0.1152

R-squared	0.681118	Mean dependent var		119.5480
Adjusted R-squared	0.553566	S.D. dependent var		43.43678
S.E. of regression	29.02260	Akaike info criterion		9.835228
Sum squared resid	8423.113	Schwarz criterion		10.07125
Log likelihood	-68.76421	Hannan-Quinn criter.		9.832714
F-statistic	5.339901	Durbin-Watson stat		2.309369
Prob(F-statistic)	0.014526			

Pairwise Granger Causality Tests
Date: 07/17/17   Time: 11:46
Sample: 2001 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TEQ does not Granger Cause ROA	13	0.70618	0.5219
ROA does not Granger Cause TEQ		0.20165	0.8214
TDBT does not Granger Cause ROA	13	0.99768	0.4104
ROA does not Granger Cause TDBT		1.05571	0.3918
TAS does not Granger Cause ROA	13	0.68989	0.5292
ROA does not Granger Cause TAS		0.31856	0.7360
TOT does not Granger Cause ROA	13	1.77942	0.2295
ROA does not Granger Cause TOT		2.15656	0.1782
TDBT does not Granger Cause TEQ	13	2.81736	0.1185
TEQ does not Granger Cause TDBT		0.28636	0.7584
TAS does not Granger Cause TEQ	13	0.94925	0.4267
TEQ does not Granger Cause TAS		2.38834	0.1537
TOT does not Granger Cause TEQ	13	17.5999	0.0012
TEQ does not Granger Cause TOT		0.13463	0.8760
TAS does not Granger Cause TDBT	13	2.19427	0.1739
TDBT does not Granger Cause TAS		3.30370	0.0900
TOT does not Granger Cause TDBT	13	1.66975	0.2477
TDBT does not Granger Cause TOT		1.26189	0.3339
TOT does not Granger Cause TAS	13	3.52652	0.0798
TAS does not Granger Cause TOT		4.82770	0.0422

Pairwise Granger Causality Tests
Date: 07/17/17   Time: 11:49
Sample: 2001 2015
Lags: 2

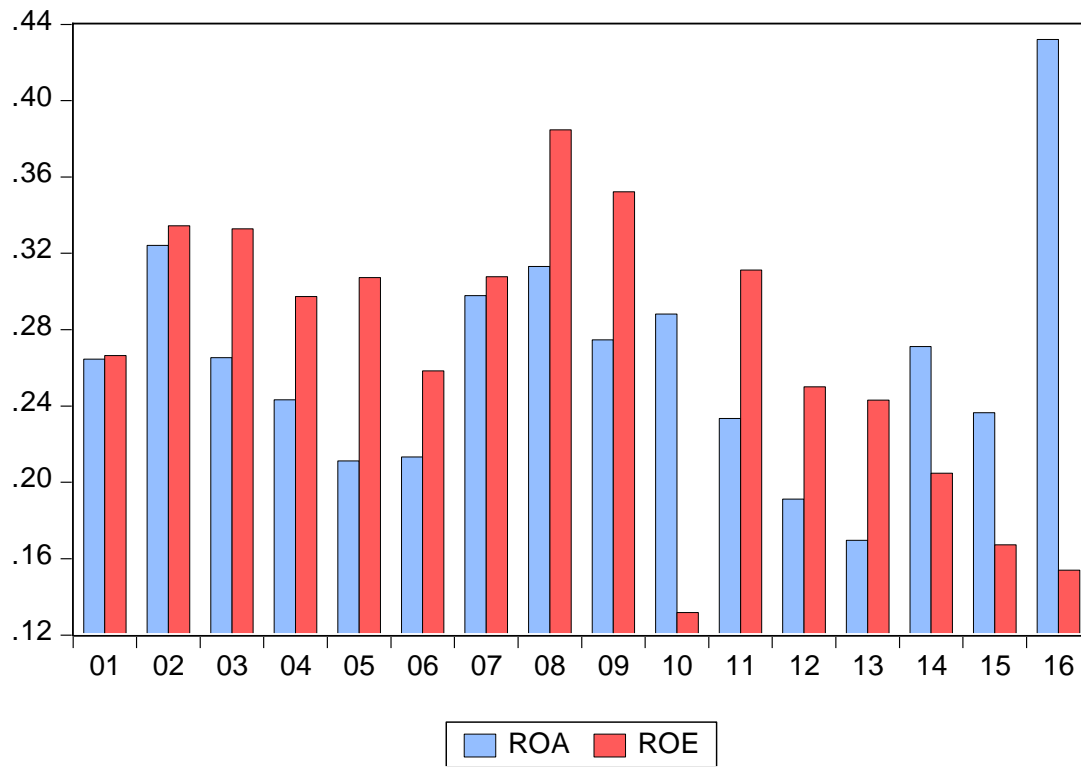| Null Hypothesis:	Obs	F-Statistic	Prob.
TEQ does not Granger Cause ROE	13	4.79537	0.0428
ROE does not Granger Cause TEQ		5.12212	0.0370
TDBT does not Granger Cause ROE	13	3.95085	0.0641
ROE does not Granger Cause TDBT		0.30171	0.7476
TAS does not Granger Cause ROE	13	4.93927	0.0401
ROE does not Granger Cause TAS		0.84746	0.4636
TOT does not Granger Cause ROE	13	3.91901	0.0651
ROE does not Granger Cause TOT		0.62512	0.5594
TDBT does not Granger Cause TEQ	13	2.81736	0.1185
TEQ does not Granger Cause TDBT		0.28636	0.7584
TAS does not Granger Cause TEQ	13	0.94925	0.4267
TEQ does not Granger Cause TAS		2.38834	0.1537
TOT does not Granger Cause TEQ	13	17.5999	0.0012
TEQ does not Granger Cause TOT		0.13463	0.8760
TAS does not Granger Cause TDBT	13	2.19427	0.1739
TDBT does not Granger Cause TAS		3.30370	0.0900
TOT does not Granger Cause TDBT	13	1.66975	0.2477
TDBT does not Granger Cause TOT		1.26189	0.3339
TOT does not Granger Cause TAS	13	3.52652	0.0798
TAS does not Granger Cause TOT		4.82770	0.0422

Pairwise Granger Causality Tests
Date: 07/17/17   Time: 11:51
Sample: 2001 2015
Lags: 2

| Null Hypothesis:	Obs	F-Statistic	Prob.
TEQ does not Granger Cause EPS	13	1.10902	0.3757
EPS does not Granger Cause TEQ		0.22471	0.8036
TDBT does not Granger Cause EPS	13	3.46265	0.0825
EPS does not Granger Cause TDBT		4.66283	0.0455
TAS does not Granger Cause EPS	13	2.40904	0.1517
EPS does not Granger Cause TAS		0.53145	0.6071
TOT does not Granger Cause EPS	13	3.20258	0.0951
EPS does not Granger Cause TOT		0.58727	0.5781
TDBT does not Granger Cause TEQ	13	2.81736	0.1185
TEQ does not Granger Cause TDBT		0.28636	0.7584
TAS does not Granger Cause TEQ	13	0.94925	0.4267
TEQ does not Granger Cause TAS		2.38834	0.1537
FSZ does not Granger Cause TEQ	13	17.5999	0.0012
TEQ does not Granger Cause FSZ		0.13463	0.8760
TAS does not Granger Cause TDBT	13	2.19427	0.1739
TDBT does not Granger Cause TAS		3.30370	0.0900
TOT does not Granger Cause TDBT	13	1.66975	0.2477
TDBT does not Granger Cause TOT		1.26189	0.3339
TOT does not Granger Cause TAS	13	3.52652	0.0798
TAS does not Granger Cause TOT		4.82770	0.0422

Source: Author's Computation from NSE Data
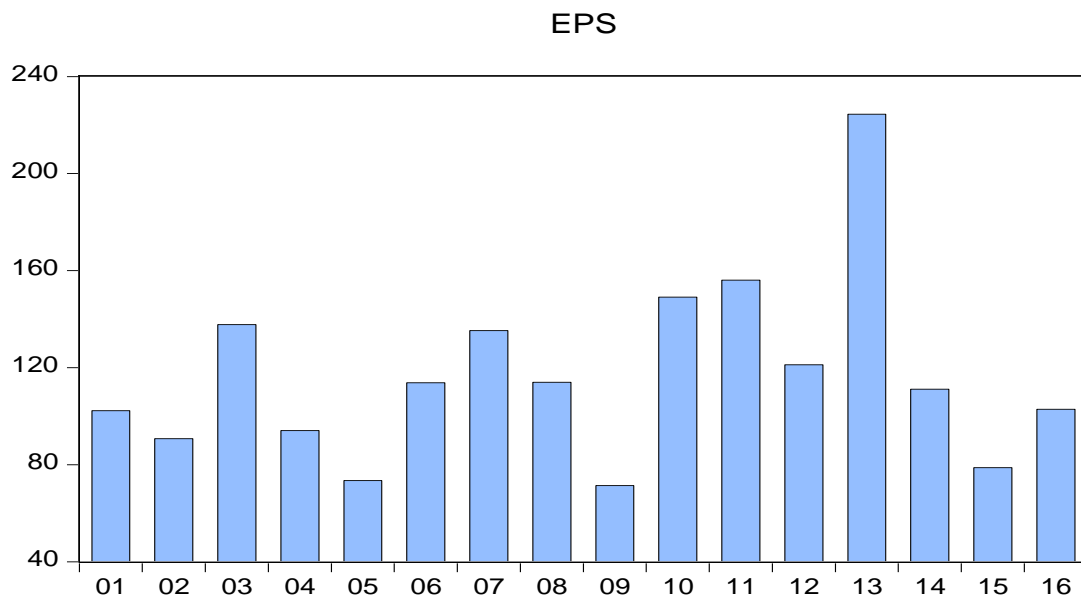
EPS

Source: Author's Computation from NSE Data
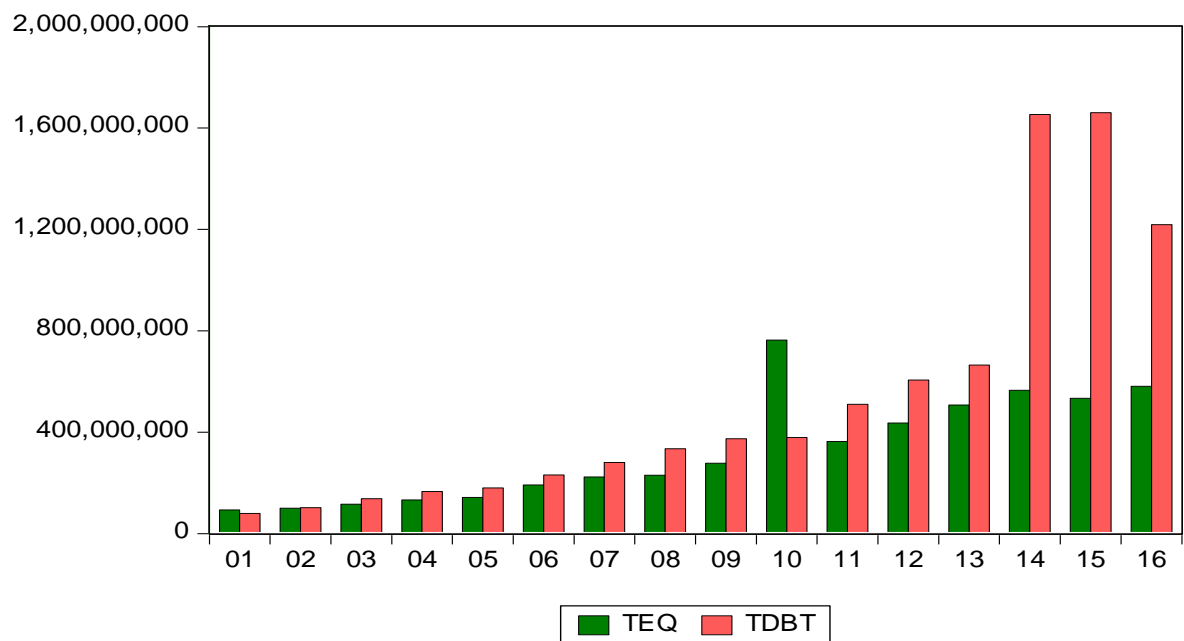
Source: Author's Computation from NSE Data
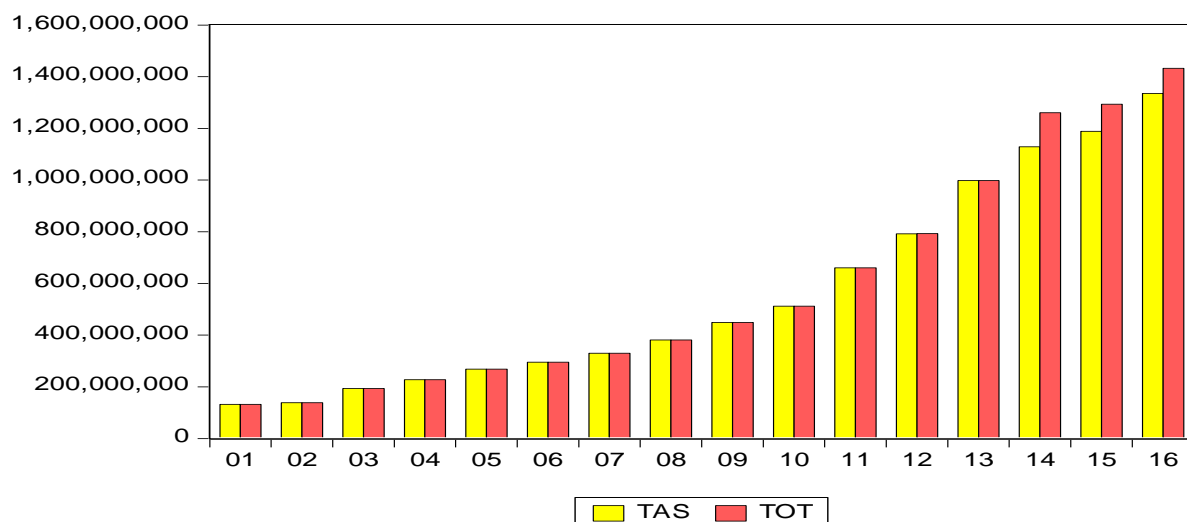
Source: Author's Computation from NSE Data

VARIABLES	ROA	ROE	EPS	TEQ	TDBT	TAS	TOT
Mean	0.253160	0.276660	119.5480	3.12E+08	4.91E+08	5.13E+08	7.40E+08
Median	0.264500	0.297400	113.7700	2.31E+08	3.34E+08	3.81E+08	6.49E+08
Maximum	0.324100	0.384800	244.4600	7.64E+08	1.66E+09	1.19E+09	1.29E+09
Minimum	0.169600	0.131800	71.42000	92749684	79389867	1.32E+08	1.96E+08
Std. Dev.	0.044608	0.069592	43.43678	2.06E+08	5.05E+08	3.59E+08	3.82E+08
Skewness	-0.206486	-0.572094	1.542136	0.741759	1.668809	0.774320	0.154820
Kurtosis	2.192954	2.628997	5.590110	2.448892	4.461425	2.213611	1.581726
Jarque-Bera	0.513668	0.904256	10.13838	1.565342	8.297158	1.885432	1.317111
Probability	0.773497	0.636273	0.006288	0.457183	0.015787	0.389568	0.517598
Sum	3.797400	4.149900	1793.220	4.68E+09	7.36E+09	7.70E+09	1.11E+10
Sum Sq. Dev.	0.027858	0.067803	26414.55	5.96E+17	3.57E+18	1.80E+18	2.04E+18
Observations	15	15	15	15	15	15	15

VARIABLES	ROA	TEQ	TDBT	TAS	TOT
ROA	1	-0.1873624554	-0.1774459842	-0.4087554357	-0.3920158634
TEQ	-0.187362455	1	0.6661387255	0.7871207933	0.8551952831
TDBT	-0.177445984	0.6661387255	1	0.9193534148	0.8176466456
TAS	-0.408755435	0.7871207933	0.919353414	1	0.9610315131
TOT	-0.392015863	0.8551952831	0.817646645	0.9610315131	1

VARIABLES	ROE	TEQ	TDBT	TAS	TOT
ROE	1	-0.7852790485	-0.5799070658	-0.5908375459	-0.5454549953
TEQ	-0.7852790485	1	0.6661387255	0.7871207933	0.8551952831
TDBT	-0.5799070658	0.6661387255	1	0.9193534148	0.8176466456
TAS	-0.5908375459	0.7871207933	0.9193534148	1	0.9610315131
TOT	-0.5454549953	0.8551952831	0.8176466456	0.9610315131	1

VARIABLES	EPS	TEQ	TDBT	TAS	TOT
EPS	1	0.3883129664	0.00302110712	0.30234272517	0.36157657647
TEQ	0.3883129664	1	0.66613872555	0.78712079393	0.85519528334
TDBT	0.0030211072	0.6661387255	1	0.91935341485	0.81764664537
TAS	0.3023427257	0.7871207933	0.91935341488	1	0.96103151302
TOT	0.3615765762	0.8551952831	0.81764664506	0.96103151302	1