

FINANCIAL PERFORMANCE AND FIRM CHARACTERISTICS OF NON-FINANCIAL  
QUOTED COMPANIES IN NIGERIA

By

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## Declaration

I declare that the work in this thesis entitled Financial Performance and Firm Characteristics of Non-Financial Quoted Companies in Nigeria has been performed by me in the Department of Business Administration. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma at this or any other Institution.

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Name of Student

Signature

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## Certification

This thesis entitled Financial Performance and Firm Characteristics of Non-Financial Quoted Companies in Nigeriaby Maryam ABDU meets the requirements of the regulations governing the award of the degree of Doctor of Philosophy in Business Administration of the Ahmadu Bello University, and is approved for its' contribution to knowledge and literary presentation.

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## Abstract

*Funding is essential for businesses and has been given prominence in corporate finance. It ensures financial flexibility which is fundamental and necessary for firms in Nigeria to operate. The broad objective of the study was to examine the effects of firm characteristics on the financial performance of quoted non-financial firms in Nigeria. The scope of the study spans eleven years from 2004 to 2014. Eight hypotheses were formulated, all formulated in null form and two models were formulated using market value and return on investment as the dependent variables and firm characteristics as the independent variables. The research design is quantitative and panel data and the population of study consisted of 105 non-financial equities quoted on The Nigerian Stock Exchange from 2004 to 2014. Non probability sampling technique was used for the study and using the recommended sample selection chart sizes for two different precision levels, 82 equities were used as sample for the research. The data collected was from Secondary source extracted from annual report and accounts of the sampled companies. A multiple regression analysis using STATA was used to test the hypotheses of the study. The Hausman test conducted indicated that the two models were fixed effect. The study provides empirical insights on firm characteristics and financial performance of the sampled companies. The result of findings showed that for model one, equity-to-total asset, and total assets have significant effect on market value of quoted non-financial firms in Nigeria, and total debt-to-total assets and total fixed assets-to-total assets have no significant effect. For model two, total debt-to-total assets, equity-to-total assets, and total fixed assets-to-total assets have significant effect on return on investment, while total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria. The study concluded that equity-to-total assets and total assets are the determinants of market value, and total debt-to-total assets, equity-to-total assets and fixed assets-to-total assets are the determinants of return on investment and firms are encouraged to continue to make more use of these variables in their financing decisions. The study recommends that managers of quoted-non-financial companies in Nigeria should consider the outcome of this research for consideration in their financing decisions. Also policy makers, money and capital market regulators should implement policies that are favourable to the investor that would continue to ensure increased financial performance of the quoted non-financial firms in Nigeria. Further researches could be carried out using primary data so as to have information from the perspectives of managers on firm characteristics and financial performance.*

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## List of Abbreviations and Acronyms

OLS = Ordinary Least Square

UK = United Kingdom

USA = United States of America

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background to the Study**

In corporate finance, the issue of funding has been given much prominence in the activities of the firm. Corporate financing is a global issue because without proper financing, organisations, globally, will find difficulty in conducting their businesses. Almeida and Campello (2010) stated that corporate managers in Europe and the United States have always claimed that maintaining ‘financial flexibility’ is the primary objective of their firm’s policies. Financial flexibility ensures the continued running of operations of an organisation; it brings sustainability, and continued growth for the firm, which is expected to create wealth and add value to shareholders and stakeholders of the organisation. Thus, funding is therefore very essential for the survival of a firm.

It is part of a mandatory role for companies in Nigeria to finance their businesses so that they may be able to add value, remain in business and grow over time. Once businesses are in operation, the general expectations are that profits will be generated which in turn would lead to the creation of wealth to both the shareholders and the organisation. The returns made are expected to be paid to the shareholders in the form of dividends. The continued existence of the business allows employment to be created and employees to be paid salaries thereby improving the standard of living of people. In addition, revenues to be generated for the government through taxes and levies, which if fully utilised effectively the stakeholders to also benefit both socially and economically. All these are

expected to reduce the level of poverty in the country, create wealth for the economy, and increase economic growth and development for the country.

Corporate financing decisions can be a complex process and existing theories can at best explain only certain features of how diverse and complex financing choices can be. The complexity of the financing decisions resulted to the choices of determining which financing structure to adopt for the organisation and financing structure decisions informed the issue of firm characteristics. Characteristics of the firm consists of the combinations of debt, equity, fixed assets, total assets and turnover, which are used in financing decisions to bring about an optimum performance and firm value.

The relationship between financial performance of the firm and firm characteristics is a subject of considerable debate both theoretically and in empirical literature. An optimal characteristic is expected to achieve maximum firm value or market value, increase in profitability, decrease in risk, and lower the weighted average cost of capital. It therefore becomes a concern if organisations are unable to achieve maximum financial performance through optimum firm characteristics.

Arguments have been made on characteristics and how the financial performances of firms are affected. Area of conflict lies on which financing policy to adopt. Where the firm is heavily financed by debt, interest will be paid by the organisation which reduces the profit of the firm, dividends and also retained earnings. With fewer retained earnings, the firm will have fewer funds for investment and may decide to restructure and use more of internal financing. This is informed by the pecking order theory of capital structure as pioneered by (Myers, 1984). Another argument informed by Miller and Modigliani,

(1958) is that capital structure has no relevance in determining the financial performance of the company, that performance is determined by factors none other than debt or equity.

The corporate sector in Nigeria is made up of firms operating in a competitive environment and this free market coupled with the widening and deepening of the financial markets created a basis for companies to optimally determine their characteristics. Salawu and Agboola, (2008) explained that financial freedom of Nigerian companies can be traced to as far back as 1987 when financial liberalisation gave more flexibility to the Nigerian financial managers in choosing the firm's characteristics. Despite this flexibility, finance is still a major constraint to businesses in Nigeria and with the lack of sufficient funds for operations, coupled with low levels of investment capital recorded in recent years have result in low capacity utilization of industries, thus affecting corporate performance.

Companies borrow for many reasons; to finance working capital requirements, to acquire machinery, or, when deciding to expand the business, merge with other companies, or acquire other companies. Other reasons could be associated with the potential economic benefits associated with the use of debts such as lower bankruptcy costs, or where there is weak public governance. Debt financing has been prominent with Nigerian companies and globally because it is reliable (Colla, Ippolito, & Li, 2013); (Rauh & Sufi, 2010) and has become a major source for many companies. Debt types differ in use between companies depending on the degree of specialisation of the companies. Companies that have a high growth opportunity, cash holdings, cash flow volatility, research and development expenses, and advertising expenses, and those with unique products and a



strong board, take few types of debts, while large mature, profitable companies with more tangible assets, high leverage, and a credit rating use more of multiple sources of debt.

Equity financing involves the use of paid-up share capital, share premium, reserves and surpluses or retained earnings and companies can offer rights issues to the existing shareholders, offer its shares to the public in the form of public offer or initial public offer if the shares are offered for the first time. The issue at stake is that whichever mode of financing is adopted, the financial performance of the firm has to be taken into consideration because no organisation will consider its characteristics at the detriment of its financial performance.

The financial performance of the firm is measured both internally and externally. Baker and Wurgler (2002), Adeyemi and Oboh (2011) and Ogbulu and Emeni, (2012) measured performance from the perspective of market values, Margaritis and Psillaki (2010), measured performance from the perspective of production efficiency of the organisation, while other scholars such as Oke and Babatunde (2011) associated financial performance from the perspective of profitability.

## **1.2 Statement of the Problem**

There has been persistent theoretical debate on capital structure since the seminal work of Miller and Modigliani (1958) and Modigliani and Miller (1963) hypotheses. There has also been mixed feelings in both local and foreign studies, such as studies made by Chinaemerem and Anthony (2012) who researched on Nigerian firms and viewed debt ratio to have a significantly negative impact on the firm's financial performance; Ogbulu and Emeni (2012) who also conducted their research in Nigeria and found equity capital

as a component of capital structure to be irrelevant to the value of the firm; Ur Rehman(2013) conducted their study on sugar companies in Pakistan and found mixed results. Hassan, Ahsan, Rahaman and Alam (2014) made their study on Bangladeshi firms and found capital structure to have a negative impact on the firm's performance; and, Li, Yue and Zhao (2007) made their research on Chinese firms and found that state ownership structure is positively associated with leverage and firm's access to long-term debt, while foreign ownership structure is negatively associated with all measures of leverage. These debates gave rise to a substantial amount of effort to determine which factors determine the firm's characteristics or choice of capital structure.

Miller and Modigliani (1958) demonstrated that financial leverage is not related to firm value, but in a world with tax deductible interest payments, the value of the firm was positively related with capital structure. The Pecking order theory captured and prioritised more on the use of internal financing, that the organisation preferred raising capital inwards either through equity and retained earnings rather than raising capital through debt. The trade-off theory justified the use of debt that the firm would use debt more up to the point where the marginal value of tax shields on additional debt was justified by the increase in the present value of the possible costs of financial distress (Myers, 2007). The signalling hypothesis looked at signals sent to the market when a company decides to raise finance either through the use of debt or equity financing. Agency theory concentrated on agency costs associated with conflicts between owners of the organisation and managers of the organisation. With decades of such researches, no clear acceptable position for firm characteristics and capital structure was adopted for companies in Nigeria and it becomes important to investigate the theories of capital

structure and find out the direction on issues of financing behaviour of which few literatures in Nigeria had been investigated.

Many studies on firm characteristics were conducted in developed countries. Few of such are: Robb and Robinson (2014) who focused on firms who relied heavily on external debt sources such as bank financing, and less extensively on friends and family-based funding sources; Fan, Titman, and Twite (2012) examined the influence of institutional environment on capital structure and debt maturity choices; Margaritis and Psillaki (2010) investigated the relationship between capital structure, ownership structure and firm performance in French firms, and whether if more efficient firms choose more or less of debt in their capital structure. Frank and Goyal (2009) focused on the relative importance of many factors in the capital structure decisions of publically traded American companies and found some of the most reliable factors that explained market leverage to be tangibility, profit, log of assets and expected inflation; Mahajan and Tartaroglu (2008) investigated equity market timing hypothesis of capital structure in major industrialized countries; Hail and Leuz (2006) looked at international differences in firms' cost of equity capital across 40 countries; and Rajan and Zingales (1995) investigated the determinants of capital structure choice of financing decisions of public firms in the major industrialized countries.

Studies were also made in some other countries like Pakistan (Jibrán, Wajid, Waheed, & Masood, 2012) who tested the pecking order theory for capital structure of listed firms in Pakistan; Bangladesh (Chowdhury & Chowdhury, 2010) who investigated the influence of debt-equity structure on the value of shares in companies incorporated in Dhaka Stock

Exchange and Chittagong Stock Exchange of Bangladesh, Ghana (Doku, Adjasi, & Sarpong-Kumankuma, 2011), (Bokpin & Isshaq, 2008), and (Abor, 2008) whose studies explore the relationship between financial market development and choice of finance (debt-equity) of listed firms in Ghana, the impact of stock market development on the financing choices of listed firms in Ghana, and, comparisons of the capital structures of publicly quoted firms, large unquoted firms and small and medium enterprises in Ghana, respectively; and Jordan (Al Farooque, Van Zijl, Dunstan, & Karim, 2007) looked at the effect of board ownership on the performance of the firm in Bangladesh. The level of economic development, financial market development, capital market development, financial and capital market maturity, and also the financial and capital market efficiency of many countries differ considerably with that of Nigeria, and as a result of this, the findings of these studies are expected to be related and linked with the respective economic and financial maturity of the countries. The conflicts of interest lie on the maturity of such markets which are not associated with the Nigerian financial market thereby warranting an investigation on firm characteristics and financial performance of companies in Nigeria.

Many studies on characteristics were identified with a particular sector, for instance, conglomerate sector (Lawal, 2013); cement companies (Suleiman, 2013); chemical and paints sector (Chechet, Garba, & Odudu, 2013); quoted firms (Ebimobewe, Okay, & Binaebi, 2013), (Ranti, 2013), (Chandrasekharan, 2012), consumer sector, (Ahmad, Mohd, Abdullah, & Roslan, 2012) sugar companies (Ur Rehman, 2013). From whatever view, it becomes necessary to investigate firm characteristics and the financial performance of the firm; and find out whether the characteristics of quoted non-financial

firms in Nigeria have an influence on financial performance both internally and externally. In other words, the intent of this study is to examine whether the characteristics of quoted non-financial firms in Nigeria have influence in market value and profitability or not. Thus this study bridged the gap and looked at a cross section of quoted non-financial firms in Nigeria which is expected to have a more detailed view from previous studies, and updated the researches.

### **1.3 Research Questions**

The following are the research questions that guided the study.

- i. To what extent does financing using total debt have effect on market value of quoted non-financial firms in Nigeria?
- ii. Does financing using equity have effect on market value of quoted non-financial firms in Nigeria?
- iii. To what extent does fixed assets have effect on market value of quoted non-financial firms in Nigeria?
- iv. Does financing using total assets have effect on market value of quoted non-financial firms in Nigeria?
- v. To what extent is financing using total debt have effect on return on investments of quoted non-financial firms in Nigeria?
- vi. Does financing using equity have effect on return on investments of quoted non-financial firms in Nigeria?
- vii. To what extent does fixed assets have effect on return on investments of quoted non-financial firms in Nigeria?

- viii. Does financing with total assets have effect on return on investments of quoted non-financial firms in Nigeria?

#### **1.4 Objectives of the Study**

The general aim of this study is to examine the effect of firm characteristics on the financial performance of quoted non-financial firms in Nigeria. The specific objectives of the study are to:

- i. identify the effect of total debt-to-total assets on market value of quoted non-financial firms in Nigeria;
- ii. examine the effect of equity-to-total assets on market value of quoted non-financial firms in Nigeria;
- iii. determine the effect of fixed assets-to-total assets on market value of quoted non-financial firms in Nigeria;
- iv. determine the effect of total assets on market value of quoted non-financial firms in Nigeria;
- v. identify the effect of total debt-to-total assets on return on investment of quoted non-financial firms in Nigeria;
- vi. examine the effect of equity-to-total assets on return on investment of quoted non-financial firms in Nigeria;
- vii. determine the effect of fixed assets-to-total assets on return on investment of quoted non-financial firms in Nigeria; and
- viii. determine the effect of total assets on return on investment of quoted non-financial firms in Nigeria.

## 1.5 Hypotheses of the Study

In line with the stated objectives of the study, the following hypotheses are formulated in null form for the research:

H<sub>01</sub>: Total debt-to-total assets have no significant impact on market value of quoted non-financial firms in Nigeria.

H<sub>02</sub>: Equity-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

H<sub>03</sub>: Fixed assets-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

H<sub>04</sub>: Total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

H<sub>05</sub>: Total debt-to-total assets have no significant impact on return on investment of quoted non-financial firms in Nigeria.

H<sub>06</sub>: Equity-to-total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

H<sub>07</sub>: Fixed assets-to-total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

H<sub>08</sub>: Total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

## **1.6 Scope of the Study**

The study is centred on financial performance and firm characteristics of non-financial quoted companies in Nigeria. The ranges of determinants of firm characteristics are evaluated in order to understand these factors, and highlight their role in decision making by assessing their effects on firm performance.

The scope of the study covered an eleven year period from 2004 to 2014. Data for eleven years were used so that a more comprehensive and better result can be attained. The time frame was expected to capture changes made in respect of the financing behaviour of corporate bodies. For instance, the second Obasanjo administration in 2003 embarked on a comprehensive economic reform programme to address four main areas; macro-economic reform, structural reform, public sector reform and institutional and governance reform (Okonjo-Iweala&Osafo-Kwaako, 2008). The reform programme was viewed as the initial steps of a perceived much longer journey of economic recovery and sustained growth. The choice of the date was therefore chosen to evaluate the financial performance and firm characteristics of quoted non-financial companies in Nigerian post Obasanjo administration 2003 reforms. This was because it was expected that the reforms would have an effect on the Nigerian capital market and the companies quoted on the Nigerian Stock Exchange. December 2014 was considered also since most companies would have ended their financial year making their accounts available to the public.

There are many companies operating in Nigeria which are both public and private carefully making decisions on their financing needs. The study confines the investigation to only the non-financial public companies that are quoted on the Nigerian Stock



Exchange as at 31st December, 2014. The geographical scope therefore covers Nigeria as a whole excluding parent or associated companies operating outside the country.

Looking at characteristics of the financial sector in the Nigerian Stock Exchange, their capital structures are clearly defined. The Nigerian banking sector is highly regulated by the Central Bank of Nigeria where it was mandated that all national banks were required to have a minimum paid up share capital pegged at N25 billion. Similarly, the National Insurance Commission regulates the insurance industry in Nigeria and their capital base was revised to be N2 billion for life insurance, N3 billion for general insurance and N10 billion for reinsurance (Proshare Markets, 2005). Quoted non-financial sectors have undefined capital structures and hence the scope of the study looked at the characteristics of quoted non-financial sectors of the Nigerian Stock Exchange.

Many factors are said to compose firm characteristics but the content scope of this study was limited to debt, equity, fixed assets, total assets and turnover. This is because debt, equity, fixed assets and total assets are explained as major variables of the study accounting for the components of firm characteristics. The independent variables of the study are therefore identified to be debt, equity, fixed assets, total assets and turnover; while the dependent variables are market value and return on investment.

Looking at financial performance, many factors are said to influence decisions. It could be factors peculiar to the organisation and issues that can be controlled or addressed; or it could be issues beyond the control of the organisation such as government policy, economic variables or market variables. This research looked at financial performance of

the firm from two perspectives, from the perspectives of external and internal performance. Market value was considered as an external performance, and profit after tax, which was the company's ability to generate profit through its available total assets or return on investment was considered as internal performance.

Looking at debt financing, many studies used either long term debt or short term debt as their variable measurements. This research however, looked at total debt using the combinations of both long term and short term debt. This had not been done in previous studies and this gap was addressed by this study.

As there is no clear guiding pattern on the choice of firm characteristics for Nigerian companies, it becomes necessary to investigate the characteristics that were most appropriate in attaining maximum financial performance for Nigerian firms.

## **1.7 Significance of the Study**

The financing decisions of companies in Nigeria are likely to change or be affected by so many variables. When companies have difficulty to ascertain which financing decision is most appropriate, it becomes a challenge to the companies and could affect their operations. There are financing areas which could add value to the company and bring about improvements in performance with the company attaining the least costs of capital, it therefore becomes important to look at these financing decisions and see their significance in firm characteristic decisions.

This study is particularly significant to the following stakeholders:

- i. Management and decision making organs of companies to give them a picture of how firm characteristics are likely to influence financial performance and value of the firm
- ii. Corporate managers in helping them identify which financing structure decisions to adopt when making decisions for the firm because it looks into the realm of corporate financing, and corporate managers have the responsibility of advising management on decisions taken in the organisation. The study will help corporate managers to identify and advise management on what variables to take into consideration in their financing decision making process. All decisions taken are made on the corporate financing method that will bring maximum value for the organisation with the least cost of capital.
- iii. Government and other financial authorities for the purpose of taking capital structure decisions in mind when establishing financial regulations that will govern organisations and which are likely to affect financial performance of companies in Nigeria.
- iv. Providers of credit to companies so that they can have an insight on firm characteristics and how it can affect the performance of companies.
- v. Prospective investors in companies who will decide on whether to buy the shares of the companies because characteristics may or may not affect the values of the companies.
- vi. Academics, especially to add more knowledge on the existing literature on capital structure to verify the theoretical claims on relevance and irrelevance of the theories and proffer a way forward on capital structure.

## **CHAPTER TWO**

### **LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

#### **2.1 Introduction**

This chapter discussed the literature on firm characteristics and financial performance. The conceptual framework which discussed the views of scholars on firm characteristics, schools of thought on capital structure, the determinants of firm characteristics and components of firm characteristics was elaborated; a review of related empirical studies were analysed where discussions on characteristics were made based on the variables of study; which was followed by the theoretical framework and model build-up of the research and concluded with a summary. This chapter forms the basis for investigation of firm characteristics and identifies the relevant theory of the research.

#### **2.2 Conceptual Literature**

Capital structure is seen differently by people and scholars. The attempts to define capital structure are on-going phenomena with the different views and perspectives widely and extensively discussed. Most arguments made were based on the perception of the subject or the factors and situations which were to play when characteristic issues are addressed, but a common and close definition of firm characteristics are expressed in the way the organisation adopts its financing structure that gives the highest returns with the least cost of capital. To Myers (2007; 81), capital structure was “the study which attempts to explain the mix of securities and financing sources used by corporations to finance real investment.”

Adeyemi and Oboh (2011) defined characteristics as the combination of long term debt and equity financing. This was the general and widely accepted view but researchers further classified the combination based on which particular aspect of capital structure to adopt. Ajao and Ema (2012) also agreed with Adeyemi and Oboh (2011) on the issue of long term debt and described characteristics to be the proportionate relationship between debt and equity where debt was majorly made up of long term loans such as debenture, while equity included paid up share capital, share premium, reserves, and surpluses or retained earnings. The company can therefore finance its investments by debts, equity, or a combination of debt and equity. This has traditionally been the method commonly adopted by organisations over the years. Chinnam and Anthony (2012) defined capital structure to be a means by which an organisation was financed using the mix of debt and equity capital.

Hasan, Ahsan, Rahaman and Alam (2014) perceived characteristics as the combination of a firm's long – term debt, specific short – term debt, common equity, preferred equity and retained earnings which were used to finance overall operations and growth, and that capital structure was very important in decision as it was directly related to the risk and returns of a firm. Ogbulu and Emeni (2012) defined capital structure as the addition of long-term debt and shareholder's fund. Ayanda, Ekpo, Mustapha and Adedoyin (2013) see capital structure as measured by leverage that can be narrowed down into long term debt/equity and short term debt/equity.

The definitions encompassed in the concepts are that capital structure consisted of the firms' mix of debt and equity. It is concerned with how companies finance their

operations (Salawu, 2007) and in defining how firms finance their operations, a distinction can be made on what mix to use. Should the organisation adopt more of debt structure, or employ more of equity, or both debt and equity? Traditionally, borrowing is still borrowing whether it is from family, friends, business acquaintance and so on. The distinction on the types of borrowing lies on the situation, need and capability of loan repayment for the loan and as researched by Robb and Robinson (2014) who wanted to know the capital structure choices that entrepreneurs made in their firms initial year of operation. They found that the use of external debt financing were heavily relied by companies in their data. External debt sources were mainly bank financing, and that firms relied less extensively on friends and family – based funding sources. Short term borrowing was associated with repayment within a year with interest elements attached. Borrowing for a long term entailed a longer period of repayment that was sourced from the capital market, and the important aspect of the situation were that shares were offered to the public in exchange for monies as source of funding for the firm's requirements.

Chechet, Garba and Odudu (2013) see capital structure as an important decision made by managers and are the proportionate financing mix of debt and equity used by firms in financing their assets. They stated that in as much as wealth maximisation remains a primary motive to going concern businesses, capital structure decisions should be regarded as an expedient and indispensable phenomena to business firms, as it facilitated maximisation of return on investment over a long run perspective while risk was minimised through boosting the efficiency of project financing of mergers, acquisition and expansion as well as dividend decision. They felt that debt-to-equity ratio should be seen to be pivotal to the future growth of the organisation and decisions made by

financial managers' border on wealth maximisation of the company as the primary motive and increase in the market value of the firm.

Debt – equity ratios should be a pivotal issue for the firm because where the firm's debt level far outweighs its equity position, the firm could eventually be faced with repayment problems. Debt – equity ratio position had to be given special consideration in the face of growth and development and wealth maximisation of the company.

Ebimobowei, Okay and Binaebi, (2013) viewed capital structure to be one of the most important financial decisions apart from investment decisions for any business organisation, Ahmad, Mohd, Abdullah, and Roslan (2012) give a better picture to show the importance of capital structure in influencing the operational performance from shareholders' perspective even though higher use of debt significantly increased the performance from the total firm's perspective, which was also agreed by Ebimobowei, Okay and Binaebi, (2013), as a decision in maximising returns to the organisation, capital structure had an effect on the value of the firm. Maximisation of firm value was one of the most important concepts in the field of financial management so any decision made on capital structure for the organisation had to be made with consideration of the value of the firm.

In a study of equity share on new issues and aggregate stock returns, Baker and Wurgler (2000) provided an alternative observed capital structure as the cumulative outcome of past attempts to time the equity markets and state that firms issued relatively more equity than debt just before periods of low market returns, because equity share in new issues

had stable predictive power. Baker and Wurgler (2002) later observe that firms are more likely to issue equity when their market values are high. By this definition, they felt that companies looked at the informational content aspect of equity issues and based their decisions on when to seek for equity financing. Firms therefore issued equity when their market values were high, relative to book value and past market values, and repurchased equity when their market values were low.

Barine (2012) looked at characteristics as a decision on a firm's debt/equity ratio which finance managers chose in order to maximize the value of the firm for the shareholders. His view on capital structure lies more with the shareholders. He was of the opinion that if the changes in the firm's capital structure made affected the company negatively or decreased the value of the firm, such decisions could hurt the shareholders. Capital structure decisions therefore had to be made with the interest of the shareholders at hand. This could be an important view to be considered. Where there is shareholder satisfaction, there may not be problems for the firm. Some shareholders are more concerned with the returns received on their investments. They would like to receive higher dividends or some form of dividend paid constantly. In the likelihood that debt – equity level was high, the possibility of not issuing dividends would also be high (because of the high debt level), which could result to discontent on the part of the shareholder. On another dimension, other shareholders may be less interested in dividend payments and more concerned with issues of more funding, growth and profitability. Whichever policy adopted, the shareholders' interest was considered of utmost importance.



Leary and Roberts (2014) see capital structure from the perspective of the firm and peer firms. They felt that peer firms played an important role in determining capital structure decisions and financial policies, and that in a large part the firms' financing decisions were responses to the financing decisions and to a lesser extent the characteristics of peer firms. That peer effects were more important for capital structure determination than mostly previously identified determinants, that smaller less successful firms were highly sensitive to their larger, more successful peers, and not vice versa. They quantified externalities generated by peer effects which could amplify the impact of changes in exogenous determinants on leverage by over 70%.

### **2.2.1 Schools of Thought on Capital Structure**

Studies on capital structure started as far back as 1958 when Modigliani and Miller (1958) introduced their debate on the cost of capital, corporation finance and the theory of the firm. This widely held debate gave rise to the emergence of several theories and schools of thought. The study of capital structure has been concerned with financial leverage decisions and as stated by Pandey (2010) the firm's objective should be directed towards maximization of the firm's value, thus capital structure or financial leverage decision was examined from its impact on the value of the firm. As decisions are concerned with firm value maximisation, different views emerged on the factors that were responsible for maximisation of firm value. The two main schools of thought were the relevance of capital structure school of thought and the irrelevance of capital structure school of thought.

Kurfi (2003) and Van Horne (2005) agree that in order to appreciate the capital structure controversy properly with respect to the cost of capital and value of the firm, some assumptions would have to be made, such as:

- i. The firm employs only two types of capital; debt and equity, as such the value of the firm may have to be consisted of the sum of values of both debt and equity.
- ii. The total assets of the firm must be given such that the firm can only change its financing mix by issuing debt and repurchasing common stock or by issuing common stock and retiring debt, and there are no flotation costs for issues.
- iii. The operating earnings of the firm are not expected to grow; and as such, it will remain constant into perpetuity.
- iv. The firm must have a policy of paying 100 per cent of its earnings in dividends.
- v. The business risk of the firm is assumed to be constant and independent of financial risk and capital structure.
- vi. Individual investors of the firm have the same subjective probability distributions of expected future operating earnings.
- vii. Taxes and bankruptcy costs would not exist. This assumption is later on relaxed.

### ***2.2.1.1 Relevance of Capital Structure***

The thrust of the view of the relevance of capital structure school of thought was that capital structure matters. Two approaches behind the relevance school of thought were the Net Income Approach and the Traditionalist view.

#### ***a) Net Income Approach***

Durand (1959) developed two theories of capital structure, the net income approach and the net operating income approach. The net income theory suggested that the costs of debt and equity remained constant irrespective of changes in the degree of leverage. Since the cost of debt was less than the cost of equity, increase in leverage would gradually decrease the weighted average cost of capital, and as a result, the value of a firm increased with leverage (Dalal, 2013).

In the net income approach, the firm could increase its value or lower the overall cost of capital by increasing the proportion or level of debt in the capital structure. Kurfi (2003) asserts that the main assumptions under this approach were that:

- i. The equity capitalisation rate, and the debt capitalisation rate, remained constant with changes in leverage.
- ii. The equity capitalisation rate was greater than debt capitalisation rate.
- iii. If the equity capitalisation rate and debt capitalisation rate were to be constant, and if debt capitalisation rate is lower than equity capitalisation rate, then an increase in the use of debt would increase the shareholders' earnings, and that would result in higher value of equity and lower the overall weighted average cost of capital.

By increasing the debt portion in capital structure, the firm is able to increase firm value and lower the weighted average cost of capital. As such this view believed that as firms continued to increase leverage, it would enhance their values and lower the costs of capital.

***b) The Traditional View***

The traditional view, just like the net income approach agreed to the relevance in the use of leverage in increasing firm value in capital structure decisions. Van Horne (2005) points out that this view assumes that there is an optimal capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. With the traditional approach, the firm can lower its cost of capital and raises its total value through leverage. Kurfi (2003) explained further that after reaching the optimum point (that is the minimum cost of capital or maximum value of the firm), coverage causes the cost of capital to increase and the value of the firm to decline. The traditional approach therefore assumes that the cost of capital declines and the value of the firm increases in leverage up to a prudent debt level. There is therefore an optimum capital structure and as such referred to as the relevance theory of capital structure.

The traditional approach is a compromise between the net income approach and the net operating approach and Kurfi (2003) explains that the behaviour of the overall cost of capital is divided into three stages based on the changes in capital structure.

- i. In the first stage, which is the increasing value stage, the cost of equity, is assumed to be constant or rise slightly with increase in leverage. The cost of debt is also assumed to be constant or rises negligibly and is lower than the cost of

equity. As such the weighted average cost of capital decreases and the value of the firm increases as leverage increases.

- ii. After reaching a certain degree of leverage, the first stage enters the second stage which is the optimum value stage, whereby increases in leverage have a negligible effect on the cost of capital or the value of the firm. This is because the added financial risk will increase the cost of equity to offset the advantage of low cost debt. The cost of capital will reach a minimum or the value of the firm will be at a maximum at a specific point or within the range.
- iii. The third stage was the declining value, and, beyond a certain limit of leverage, the cost of capital increases or the value of the firm decreases with increasing leverage. Investors will perceive a high degree of financial risk and as such demand a high equity capitalisation rate which will offset the advantage of the low-cost debt.

With the traditional view, an optimum capital structure can therefore be a range of degrees of leverage. The criticisms of the traditional view are that investors' value levered firms' more than unlevered firms, implying that investors pay a premium for the shares of levered firms. The contention with this view is that, moderate amount of debt in sound firms do not really add very much to the riskiness of shares and is not defensible (Pandey, 2010). Also, there is no existence of any sufficient justification that the assumption of investors' perception that risk of leverage is different at different levels of leverage.

### ***2.2.1.2 Irrelevance of Capital Structure***

Modigliani and Miller (1958) do not agree with the traditional view. They argue that in perfect markets without taxes and transaction costs, a firm's market value and the cost of capital remain invariant to capital structure changes. The value of the firm depends on the earnings and risk of its assets (business and financial risk) rather than the way in which the assets have been financed (Pandey, 2010). The proponents of the irrelevance of capital structure are Modigliani and Miller (1958) and the Net Operating Income approach.

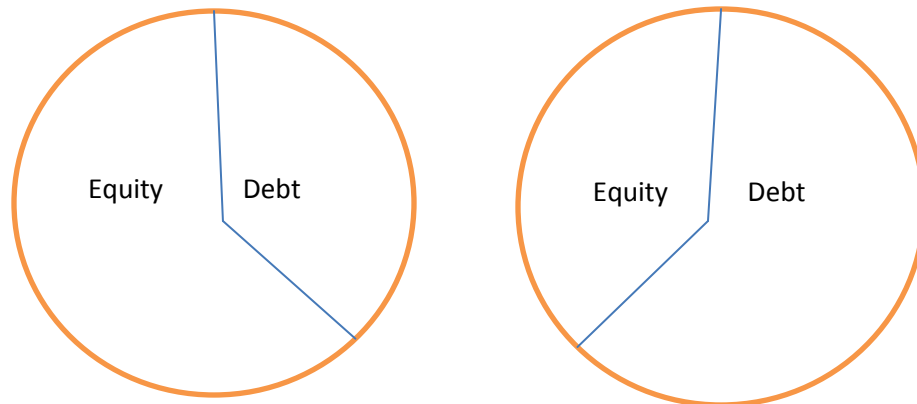
#### ***i) Modigliani and Miller (MM) Hypothesis***

Modigliani and Miller (1953) in their original position advocated the relationship between leverage and the cost of capital and disagreed with the traditional position, and offered a behavioural justification for having the cost of capital remain constant throughout all the degrees of leverage. Van Horne (2005) states the assumptions of Modigliani and Miller (1953) to be as follows:

- a) Capital markets are perfect. Information is costless and readily available to all investors. There are no transaction costs, and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.
- b) The average expected future operating earnings of a firm is represented by subjective random variables. It is assumed that the expected values of the probability distribution of all investors are the same. That the expected values of the probability distributions of all expected operating earnings for all future periods are the same as present operating earnings.

- c) Firms can be categorised into ‘equivalent return’ classes. All firms within a class have the same degrees of business risk.
- d) The absence of corporate income taxes is assumed.

Van Horne (2005) further stressed that Modigliani and Miller (1953) position was based on the idea that no matter how one divides up the capital structure of the firm amongst debt, equity and other claims, there is a conservation of investment value. The total investment value of a corporation depended on its underlying profitability and risk; it is invariant with respect to relative changes in the firm’s financial capitalisation. The view of Modigliani and Miller (1953) is illustrated in the pie picture in Fig 2.1 where the pie does not change as it is divided into debt, equity and other securities. The sum of the parts must equal the whole regardless of the financing mix the total value of the firm stays the same (Van Horne, 2005).



Firm Value

Firm Value

Figure 2.1 Illustration of Capital Structure Irrelevancy

Source: Adopted from Van Horne, J. C. (2005).

Modigliani and Miller (1953) came up with two propositions, based on their assumptions. That firms in the same risk class, the total market value is independent of the capital structure and is given by capitalising the expected net operating income by the rate appropriate to that risk class; and that, for firms in the same risk class, the cost of equity, is equal to the constant average cost of capital plus a premium for financial risk which is equal to the debt-equity ratio times the spread between the constant average cost of capital and the cost of the debt (Kurfi, 2003; Pandey, 2010).

**ii) *Net Operating Income Approach***

The net operating income approach also agrees that the value of the firm is not affected by changes in debt component. Durand (1959) is the proponent of this approach and suggests that a change in debt of a firm or company or the change in leverage failed to affect the total value of the firm or company. The weighted average cost of capital and the total value of a company are independent of the capital structure decisions or financial leverage of a company (Borad, 2013).

Borad (2013) explained that in the net operating income approach the market value is dependent on the operating income and the associated business risk of the firm, and both of these factors cannot be impacted on financial leverage. Financial leverage can only impact on the share of income earned by debt holders and equity holders but cannot impact the operating income of the firm. Any change therefore, in debt to equity ratio cannot make any change in the value of the firm. Any increase in debt component of a company is likely to be faced with higher risk for the company.



The assumptions or features of the net operating income approach as stated by Borad (2013) are that:

- i. The overall capitalisation rate remains constant irrespective of the degree of leverage. At a given level of earnings before interest and taxes (EBIT), the value of the firm will be “EBIT/overall capitalisation rate.”
- ii. The value of equity is the difference between total firm values less the value of debt. That is  $\text{Equity} = \text{Total Value of the Firm} - \text{Value of Debt}$ .
- iii. Weighted average cost of capital remains constant; and with the increase in debt, the cost of equity increases. Increase in debt in the capital structure results in increased risk for shareholders. As a compensation of investing in highly leveraged company, the shareholders expect higher returns resulting in higher cost of equity capital.

Durand (1959, as cited in Kurfi, 2003), criticised the MM hypothesis and stated that the assumptions of perfect capital market and expectations of the arbitrage process are subtle and restrictive because of the existence of capital market's imperfections, and MM,s analysis is static and not dynamic to take care of changing situations. With the net operating approach, the value of the firm is the capitalised value of net operating income, and both the net operating income and the firm's opportunity cost of capital are assumed to be constant with regard to the level of financial leverage. Pandey (2010) further explained that the value of a levered firm under this approach was the expected sum of incomes of the shareholders and debt holders. Debt holders' income is interest and shareholders' income called net income is the expected net operating income less interest. The sums of the values of debt and equity would therefore form the value of a levered firm.

Based on the different perceptions of capital structure by the various researches, it is important to look at the determinants of firm characteristics and explain what factors determine firm characteristics. These are discussed overleaf.

### **2.2.2 Determinants of Firm Characteristics**

Firm characteristics are determined by various internal and external factors as stated by Baral (2004) and Abor (2008). Suleiman (2013) further elaborated that the determinants of characteristics consisted of macro-economic variables or what he classified as external factors. Macro-economic variables are issues related to tax policy, inflation rate and capital market conditions. External factors are the factors which are not in control of the firm. Internal factors or firm specific factors are those factors internal to the organisation which could determine firm characteristics and financial performance of the firm, such as the size of the firm, age of the firm, liquidity, asset tangibility, profitability and financial flexibility. Other factors could be the nature, policy, and relationship of management and the board of directors. These factors can also influence or determine the characteristics of the firm.

The internal factors of firm are the concern of the research and this is because these are the most important characteristics that could influence the financial performance of companies in Nigeria. There is the need to discuss internal factors of the firm and Baral (2004) elaborated the factors in the following page as follows:

### **2.2.2.1**        *Size of the firm*

The size of the firm was viewed as one of the important determinants of firm characteristics. Al-Shubiri (2010) and Abor (2008) opine that firms that are large in size were more diversified, were able to tolerate and withstand high debt ratios, and determined the ability and capability of the company to secure a loan for financing business activity. Firm size was often used as an exogenous variable in explaining financial decisions and could determine or influence the financial performance of the firm. Titman and Wessels (1988) explain that the cost of issuing debt and equity securities was related to the size of the firm because firms that were small in nature tended to pay much more than large firms when raising funds for long term purposes, such as when issuing new equity or debentures or preference shares.

Firm size could be seen from many perspectives – market structure, level of turnover and profitability, assets structure, or number of employees in an organisation. Kumar, Rajan and Zingales (2001) assessed the size of the firm size using employment statistics in a country. They supported that human capital was positively correlated with the size of the firm and measured the size of the firm by dividing the total employment in the country – sector combination by the total number of firms in that combination. The size and classification of businesses in Nigeria are grouped into small, medium and large scale enterprises and financing decisions have always been central to these enterprises. The financing requirements and needs all revolved around capital structure decisions and could be made based on the sizes of these enterprises.

Kurshev and Strebulaev (2008) in trying to establish a positive relationship with size to capital structure which had been empirically found to be related, investigated whether a dynamic capital structure model could explain the cross – sectional size – leverage relationship. They considered the presence of fixed costs of external financing that led to infrequent restructuring and created a wedge between small and large firms. They found that firm – size effects on leverage were affected by four relationships. Some firms were unlevered (zero – leverage effect), smaller firms tended to take on more debt at refinancing to compensate for longer waiting times (which they classified as beginning – of – cycle – effect), an increase in firm size increased the value of equity and decreased leverage (the within – cycle effect) and smaller firms waited longer before restructuring and the leverage ratio deviates more from the leverage at refinancing point (the end – of – cycle effect). At individual firm level, smaller firms issued more debt conditional on refinancing but waited longer before restructuring again, the presence of unlevered firms had a positive effect on the size – leverage relationship. Their results revealed a consistent and positive relationship of leverage and firm size, thus a dynamic trade – off model of capital structure was able to produce qualitatively the relationship between firm size and leverage as observed in empirical studies.

Orlitzky, (2001) investigated the relationship of firm size and the financial performance of the firm because some theoretical and empirical debates had been done to show positive relationships between corporate social performance and firm size. Across studies comprising on average over 15,000 observations, he was able to show positive correlation. Baral (2004) also asserted that the bankruptcy cost theory explained a positive relationship between characteristics and the size of the firm. As large firms are

more diversified, they were less prone to bankruptcy (Titman &Wessels, 1988)implied less probability of bankruptcy and lower bankruptcy costs. Baral (2004) continued by stating that studies carried as far back as the 1970s show positive relationship between firm size and capital structure and some are yet to corroborate with the theoretical relationship.

On a contrary view, Niresh and Velnampy (2014) found negative relationship between firm size and financial performance. Using return on assets and net profit as indicators of firm profitability, and total assets and total sales as indicators of firm size, their correlation and regression analysis was able to establish that there was no indicative relationship between firm size and profitability of listed manufacturing firms and that firm size had no profound impact on profitability of the listed manufacturing firms in Sri Lanka.

#### **2.2.2.2      *Age of the Firm***

Age of the firm is very important in firm characteristics. As the firm continues to stay longer in the business, it establishes the capacity to grow further,makes the firm to continue as a going business concern and have a greater capacity to borrow funds to finance its activity. Firm age could therefore be positively related to and be a determinant offirm characteristics. Banks when giving out loans looked at the credibility of the debtor. When the credit facility proves profitable, shareholders are the greatest beneficiary and they take the profit associated. When the loan goes bad, or the credit fails, the creditors are at the losing end and have to bear the consequences. Diamond (1989, as cited in Abor, 2008) suggests that the use of firm reputation comes to play

when granting credit and firm reputation is almost always associated with the age of the firm. As the firm stayed longer in the business, it was most likely able to build a credit worthy reputation. The researcher agreed with this view because as firms stay longer in the business, they establish a reputation which can guarantee their ability to source for funding.

Gregory, Rutherford, Oswald and Gardiner (2005) added to the literature that as firms become larger, older and more informational transparent, their financing options become more attractive by using public equity funding or long term debt as opposed to insider funding. Age could also be positively associated with goodwill and would make borrowing easier because of the years of operations and existence. The view of this researcher is that age of the firm had influence on firm characteristics because of the years spent in the business and was likely to affect financial performance positively.

Peterson and Rajan (1994, as cited in Abor, 2008) viewed that older firms had more debt ratios because they tended to be higher quality firms, Hall, Hutchinson and Michaelas (2004, as cited in Abor, 2008) agreed that there was a positive relationship between age and long term debt and a negative relationship with short term debt, whilst Esperanca, Ana and Mohammed (2003, as cited in Abor, 2008), Green, Murinde and Suppakitjarak (2002, as cited in Abor, 2008) found a negative influences to both short term and long term debt.

### 2.2.2.3 *Profitability*

The returns that any firm makes determined its continued existence. When firms continue to make profit, their next strategy was to look at the prospect of growing or expanding the business. The relationship between profitability and capital structure was explained in many theories because capital structure decisions were targeted at attaining the maximum returns or profit for the organisation.

Organisations that made profit are likely to have retained earnings available that could finance future activity which may likely make them choose less of debt to finance their activity. The Pecking order and static trade off theories agreed more on the use of internal financing which could be linked to the issue of profitability, because without a certain level of profit making, the possibility of internal financing would not be attainable. The order of the preference arose from the one that was least sensitive (and least risky) to the one that was most sensitive (and most risky) and this arose as a result of asymmetric information between corporate insiders and less well informed market participants as viewed by Myres(1984, as cited in Abor, 2008). Profitable firms are therefore likely to access retained profit and rely less on outside sources such as debt.

Madura and Fox (2007) opined on multinational companies that; multinational companies that used their retained earnings were likely to be highly profitable companies. Such companies were able to finance most of their investments with retained earnings and therefore used equity – intensive capital structure. Multinational companies that have smaller levels of retained earnings on the other hand may rely on debt financing to complement their financing needs. Growth – oriented multinational companies were less

able to finance their expansion with retained earnings and tended to rely on debt financing, whilst multinational companies with less growth needed new financing and may rely on retained earnings (equity) rather than debt.

From a different view, Static trade-off theory pleaded for risky firms to borrow less as opined by Myres (1984) and that higher profitability firms implied higher debt capacity and less risky to debt holders because they were able to service the debt. This was a contrasting view with the pecking order theory. Studies of Titman and Wessels (1988), Friend and Hasbrouck and (1989, as cited in Baral, 2004) show negative relationship between the level of debt in firm characteristics and profitability. Peterson and Rajan (1994, as cited in Abor, 2008) however, found a significantly positive association between profitability and firm characteristics. The view of this researcher concurred with that of Myres (1984) because it was safer to borrow less where the firm was in a risky position. If profits were realised, the company would be in a better position to service its debts making it less volatile to witness foreclosures in any event of defaulting debt repayments.

#### **2.2.2.4      *Financial Flexibility of the Firm***

The ability of an organisation to take advantage of unforeseen opportunities or deal with unexpected events determined a firm's financial flexibility. Madura and Fox (2007) stated that companies with stable cash inflows could handle more debt because there was a constant stream of cash inflows to cover periodic interest payments. Companies that do not have a stable cash flow would most likely avoid taking debt because they would not be able to service interest payment on debt. Multinational corporations also think the



same way and would avoid debt because they are not assured of generating enough cash in each period to make interest payments.

Mahajan and Tartaroglu (2008) in their research on equity market timing and capital structure stated that firms that have higher growth opportunities, which typically have higher valuations may prefer to lower their leverage to maintain their financial flexibility. Byoun (2011) also examined the demand for financial flexibility and how it affected capital structure decisions and found that developing firms that were in the phase of financial flexibility had low leverage, growth firms that were in the phase of utilising financial flexibility to fund growth opportunities had high leverage, and mature firms that were in the phase of recharging financial flexibility had moderate leverage. He conclude by observing that financial flexibility framework provided explanations for several capital structure “puzzles,” and could be an important “missing link” in existing capital structure theories. This researcher agreed with this position because by lowering leverage, the firm controlled interest payments on debt and concentrated more on the growth opportunities available to the firm.

On a conservative leverage policy directed at maintaining that financial flexibility could enhance investment ability, Marchica and Mura (2010) found that following a period of low leverage, firms make larger capital expenditures and increase abnormal investment and that new investments were financed through new issues of debt, that the impact of financial flexibility was both statistically significant and economically sizable, and that in the long-run performance tests, financially flexible firms do not only invest more but also invested better. Denis (2011)also agreedon the impact of flexibility considerations on

corporate capital structure and pay-out policies, Hege and Hennessy (2010) also agreed with financial flexibility on capital structure, so also did Parlour, Stanton, and Walden (2012) where they asserted that in a parsimonious general equilibrium model of the banking sector and asset pricing, intermediaries had the expertise to monitor and reallocate capital. They studied financial development, intra economy capital flows, the size of the banking sector, the value of intermediation, expected market returns, and the risk of bank crashes. Their model was built on the idea that there were frictions, restricting how quickly capital could flow into and out of such an intermediated sector, and their analysis suggests that capital flows provided the most straightforward way to measure financial flexibility of an economy. The researcher opined that with capital flows and share of bank capital, firms would have available funds to determine their operations and increase in financial performance.

Denis and McKeon (2012) looked at debt financing and financial flexibility and were able to deduce that firms that intentionally increased leverage through substantial debt issuances did so primarily as a response to operating needs rather than a desire to make large equity pay out. Their findings were consistent with a capital structure theory in which financial flexibility in the form of unused debt capacity played an important role in capital structure decisions. The view of this researcher was that firms at the initial stage seek for financing for operational needs, rather than to increase its equity base. Most equity issues had been done to finance operational needs at the initial stages for finance requirements. Other reasons for subsequent debt issuances are done after the primary motive of operational needs had been met.

It is important for the firm to manage its financial flexibility to enable the company face any operational situations as identified by Ang and Smedema (2011) where they analysed how managers manage financial flexibility condition on expected probability of a recession. They found that in the aggregate firms do not appear to prepare financially for such situations. The lack of preparation was attributed to basically their inability to prepare, financial constraints and poor cash availability. They also found evidence that firms that were able to prepare, unconstrained and cash rich firms may prepare for future recessions.

### **2.2.3 Components of Firm Characteristics**

The components of firm characteristics are the variables of this study that made the composition of firm characteristics. Ibenta (2005) identified that characteristics were classified into externally generated sources and internally generated sources of funds. Externally generated funds were common stock, preferred stock, debentures, bonds and long-term bank or institutional loans. Internally generated funds were funds generated through the use of retained earnings, reserves and all charges against profit. The composition of any characteristics put in place by management is one that would have an effect on the financial performance of the firm. The target capital structure of the firm should therefore be one which was aimed at minimising the cost of capital and maximising market value and return on investment for the firm.

Capital structure decisions were a flow of activities which lie on the management of the firm and explained in figure 2.2 (Ibenta, 2005). It usually starts with a capital budgeting decision. When the firm makes a decision on a long term investment like investing on

equipment, expanding the business or acquiring a new facility, they would want to know if it would be wise to lease or purchase the new equipment. Any decision made by the organisation would have the main concern of maximising the investors' investment and also keep the stakeholders happy. Any investor investing in a project is going to invest in a project that would maximize returns on investment.

Capital budgeting requires a lot of decisions and the first decision made would be on which project to take on and what method to use which eventually leads to the need to raise funds to finance the activity for the organisation. Ibenta (2005) further elaborates that the decision on what form of financing to make or the decision of which capital structure to adopt, that is using the existing capital structure, or using a combination of debt – equity mix, or dividend decision, would be made bearing the risk associated or effects on share earnings. It is expected that the effect of the financing decision would be one that would have a lowest effect on the cost of capital and at the same time increase the value of the firm. The flow financing needs are explained in figure 2.2 overleaf which explains decisions made on firm characteristics.

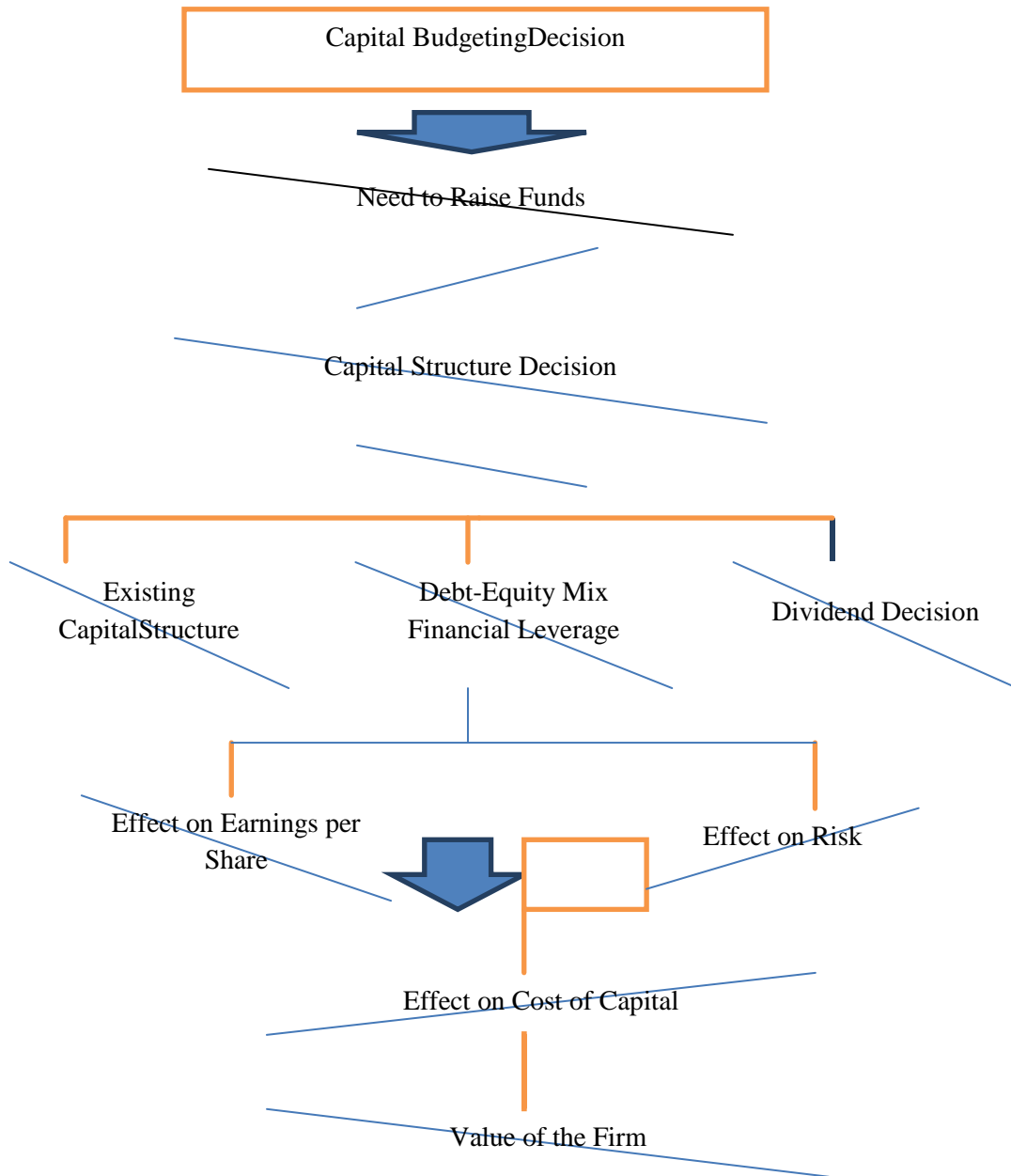


Figure 2.2 Flow of Capital Structure Decision

Source: Adopted from Ibenta, S. N. (2005).

Pandey (2010) explained that the financing or capital structure decision is a significant managerial decision which influences the shareholder's return and risk and consequently affecting the market value of shares. The capital structure decision process is further expanded from the view of Ibenta (2005) explaining that the company will have to plan its capital structure initially, at the time of its promotion. Subsequently, whenever funds have to be raised to finance investments, a capital structure decision is involved. The process as identified by Pandey (2010) is explained overleaf. The capital budgeting decision involves decisions centred on replacement, modernisation, expansion, or diversification decision. Once decisions are made, the firm looks at the options to raise funds through the use of internal funds, debt or external equity. The new financing decision of the firm may affect its debt-equity mix, and the debt-equity mix has implications for the shareholders' earnings and risk, which in turn, will affect the cost of capital and the market value of the firm.

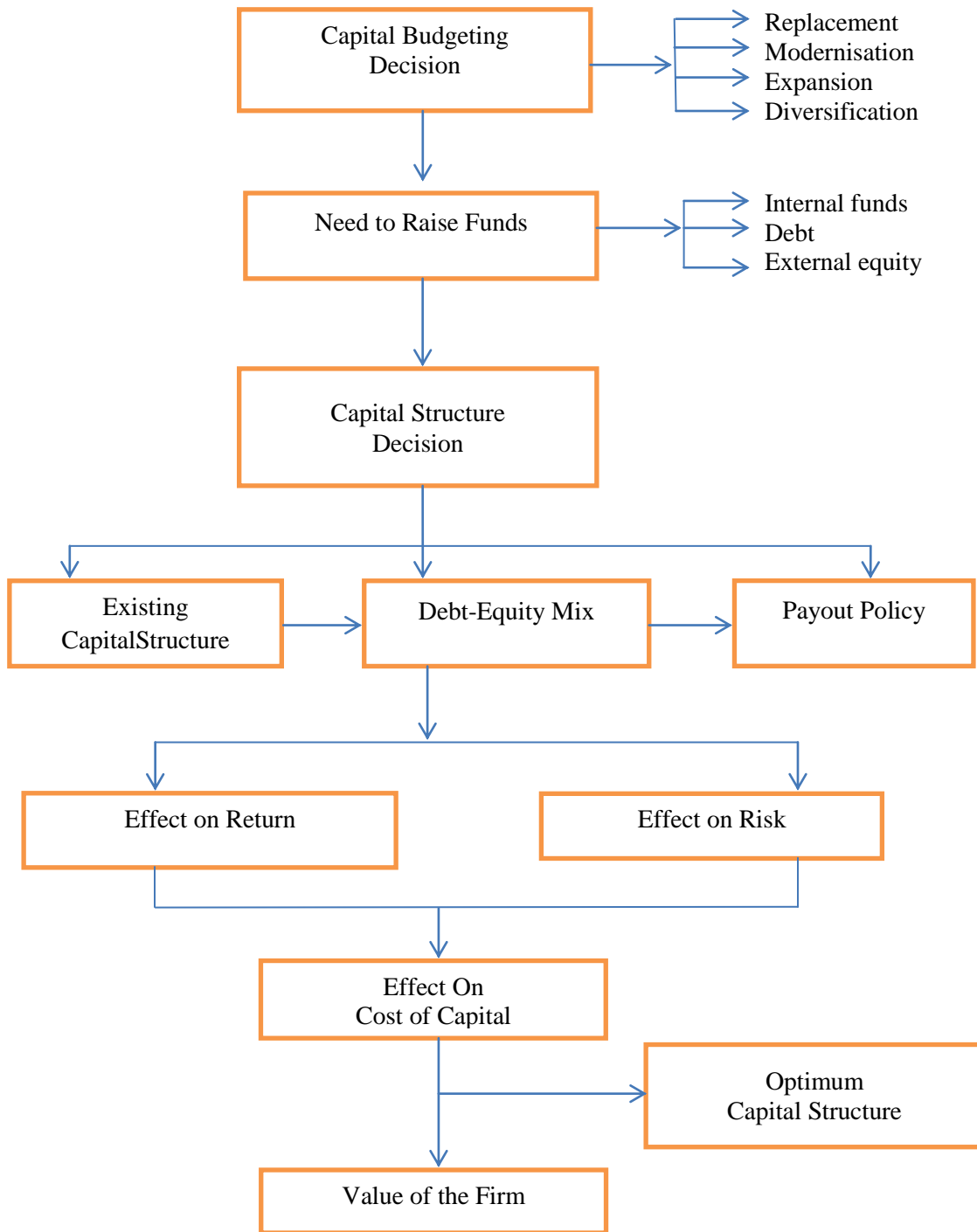


Figure 2.3 The Capital Structure Decision Process

Source: Adopted from Pandey, I. M. (2010).

### **2.2.3.1      *Equity and Firm Characteristics***

Equity represented the true ownership or claim on the firm. The amount of interest in monetary value contributed by members of the firm made up the firm's issued share capital or equity. Financing through equity involved the raising of capital through the sale of shares to raise funds. Equity capital generally involved two types, contribution by shareholders or using the retained earnings of the organisation.

Pandey (2010) stated that a company may issue two types of shares - ordinary shares or preference shares. Preference shares have preference over ordinary shares in terms of payment of dividend and repayment of capital if the company is wound up and they may be issued with or without maturity period. Ordinary shares are issued by the firm through the various methods of rights issue, initial public offer, offer for sale or offer for subscription. Companies in Nigeria have for long offered their shares to the public when the need for additional funding was required. Several studies were conducted on whether equity financing was a cheaper mode of financing which was expected to increase the value of the firm or not. Most of such studies related with the Pecking order hypothesis where internal financing (retained earnings or equity) was preferred over external financing (debt).

Mande, Park, and Son (2012) in their empirical research of over 2,000 US equity and debt issuance over a period 1998 to 2006 examined the role corporate governance played in influencing a firm's choice of financing which was either to use equity or debt financing. They hypothesized that the likelihood or not of equity financing increased with governance because of a reduction in agency costs between investors and managers in the



firms. While reductions in agency costs occurred for both equity and debt financing, they argued that there was a more significant effect on equity financing. Their results reveal that the measures of corporate governance effectiveness had an impact on the likelihood of choosing equity compared to debt. The theoretical/academic implications of their research refined and extend the pecking order hypothesis which suggested that firms use equity as their last resort because of information asymmetry associated with equity financing.

When looking at information asymmetry, market timing of equity was very important in capital structure as viewed by Mahajan and Tartaroglu (2008). Managers' attempted timing equity markets by issuing shares when the market price was high and repurchasing when the price was low. Baker and Wurgler (2002) added that the intention of this strategy was to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital and that in the efficient and integrated capital markets studied by Modigliani and Miller (1958), the costs of different forms of capital did not vary independently, so there was no gain from opportunistically switching between equity and debt. Managers' time equity markets when they have the interest of the shareholders at hand and where they want to protect their investments. Previous studies have shown that firms issued equity instead of debt when market value was high, relative to book value and past market values, and tend to repurchase equity when market value was low. Second, analyses of long – run stock returns following corporate finance decisions suggested that equity market timing were successful on average. Firms issued equity when the cost of equity was relatively low and repurchased equity when the cost was relatively high. Third, analyses of earnings forecasts and realizations around equity issues

suggested that firms tend to issue equity at times when investors are rather too enthusiastic about earnings prospects, and fourth, perhaps the most convincing managers admitted to market timing in anonymous surveys (Baker & Wurgler, 2002). Graham and Harvey, (2001) found that two – thirds of Chief Financial officers' (CFO) agree that the amount by which their stock was undervalued or overvalued were important considerations in issuing equity, and nearly as many agreed that if stock price had recently risen, the price at which they sell was high. In their survey, they found equity market prices to be regarded as more important than other factors considered in the decision to issue convertible debt.

Lipson and Mortal (2009) found that firms with more liquid equity had lower leverage and preferred equity financing when raising capital. Bertomeu, Beyer, and Dye (2011) had a contrary view on the use of equity when they developed a model of external financing that jointly determined a firm's capital structure, its voluntary disclosure policy, and its cost of capital, investigated a setting in which investors – who provide financing to a firm in exchange for securities issued by the firm – sometimes incurred trading losses when they subsequently traded their securities with a superiorly informed trader. They state further that both the firm's disclosure policy and the structure of the firm's securities determined the informational advantage of the superiorly informed trader, which in turn determined the size of the investors' trading losses and the firm's cost of capital. They established a hierarchy of optimal securities and disclosure policies that varied with the volatility of the firm's cash flow, and found that when all disclosures are voluntary, debt securities were always optimal, with the form of debt, whether risk – free, investment grade, or “junk” debt – varying with the firm's cash flow. Their model predicted a

negative association between firms' cost of capital and the extent of information that firms disclosed voluntarily.

### **2.2.3.2      *Assets and Firm Characteristics***

Assets play a very important role in firm characteristics. The asset structure of a firm determines the capability of the firm in securing loan to finance its activity. A firm that was large in size stands a better chance of accessing funds because it was likely to have an asset structure that was large, while a firm with a small asset structure size would find difficulty in sourcing external financing. A firm's asset structure therefore reveals the size of the firm.

Asset structure is a firm-level characteristic that affects capital structure decisions. The degree to which the firm's assets are tangible, dictates the chances of securing a loan and also its liquidation value. A company's asset structure especially tangible assets or availability of a strong balance sheet structure, are good sources for collateral. Banks are always willing to finance businesses depending upon whether the lending can be secured by tangible assets. Firms required tangible and intangible assets for operations but it is only the tangible assets that are required when sourcing for funding. Studies in support of asset tangibility includes that of Frank and Goyal (2009) who found that the most reliable factors for explaining market leverage were median industry leverage, tangibility, log of assets and expected inflation all of which have a positive effect, and that of Rampini and Viswanathan (2013) who made reference that tangible assets are the key determinants of firm leverage, and further classified the degree of leverage based on the level of asset tangibility. The degree of leverage can further be associated with the relevancy or

irrelevancy of determining of firm value as propounded by the various schools of thought on capital structure decisions.

Campello and Giambona (2013) looked at the relationship between asset structure and capital structure by exploiting variation in the saleability of corporate assets. Their study adds to the literature on capital structure by considering credit-supply side frictions as determinants of leverage. Few papers explored such related ideas. They established a link to distinguish across different assets in the firm's balance sheet, such as machinery, land, and buildings, and used an instrumental approach that incorporated market conditions for the assets. They found those assets that redeploy ability were a main driver of leverage when credit frictions were high.

Theory suggested that asset tangibility increases borrowing capacity because it allows creditors to more easily repossess a firm's assets in case of default. Banks in particular looked at asset structure and saleability of the asset before granting any kind of loans to customers. Any credit issuing authority would look at assets, usually physical assets that have value. Abor (2008) also agrees that the degree to which the firm's assets are tangible should result in the firm having greater liquidation value.

Some empirical studies have suggested the existence of a relationship in the argument between asset structure and leverage for firms such as Rajan and Zingales (1995) and Hovakimian, Hovakimian and Tehranian (2004, as cited in Abor, 2008). Other studies suggested that a relationship existed between asset structure and long term debt and a negative relationship between asset structure and short term debt such as Cassar and

Holmes (2003, as cited in Abor, 2008) and Hall, Hutchinson and Michaelas (2004, as cited in Aboor, 2008).

### **2.3 Review of Related Empirical Studies on Firm Characteristics and Financial Performance**

Initially, most studies on firm characteristics were made on developed economies because of the sound financing structures that were peculiar to these countries, but gradually spread to developing countries. Many of such studies were initially conducted in the United States of America (US), then in other countries, before they were then conducted in developing countries. In Nigeria, the reviews of recent heightened necessitating more reviews of the subject at hand. The review of related empirical studies was done based on the variables of study.

Isaac (2014) conducted a study to investigate whether a firm's choice of capital structure affected market value. His research was a mixed research using components of capital structure as debt and equity to cover a period of five years from 2005 to 2009. 90 firms were selected for the study using stratified and convenient sampling technique, and the results indicate that market value of a firm was positively and significantly influenced by its choice of capital structure. On a contrary study, Idris and Bala (2015) conducted a similar study using secondary data on 21 food and beverages firms quoted on The Nigerian Stock Exchange. Their research used both correlation and ex-post facto research design, and their findings reveal that market capitalisation had a significant negative impact on stock market returns of the listed food and beverages firms in Nigeria. The researcher conformed to the findings of Isaac (2014) because the expectations were that

market values were positively associated with capital structure decisions. Firms optimised their firm characteristics with the expectation that higher returns were obtainable. The selection of data gave a fair representation of companies and the research methodology used was appropriate for such studies.

Uremadu and Efobi (2012) conducted a research on the impact of capital structure and liquidity on corporate returns of manufacturing firms. Their study was a cross sectional series data which used secondary data from ten selected companies covering 2002 to 2006, and the data was arranged in cross-sectional time series and analysed using ordinary least square methodology. They wanted to confirm if the choice of capital structure adopted by a company affected profitability of the firm and whether there were observable significant effects of the choice of capital structure on the profitability of companies in Nigeria. They found negative and significant influence of value of long term debt, ratios of long term debt to total liability, and ratios of short term debt to total liability, and ratios of short term debt to total liability; and equity capital to equity capital to total liability, on returns and positive and significant effects of domestic liquidity rate, ratios of long term debt to equity capital and value of short term debt on profitability.

In a study of Nigerian manufacturing industry, Owolabi and Inyang (2012) conducted a study to investigate the determinants the capital structure of the manufacturing industry and their research identified the determinants to be tangibility, size, growth opportunities profitability and non-tax shields. They found that in addition to the determinants other issues like corruption, political atmosphere, and the nature of financial markets also influenced the capital structure of the industry. Owolabi and Inyang (2012)

highlighted those other issues such as financial distress, bankruptcy threats, solvency problem, risk of default due to unstable economic and political situations as possible dangers that plagued firms whose capital structure tilted towards debt financing.

Adeyemi and Oboh (2011), perceived the relationship between corporate capital structure and firm value in Nigeria on a sample size of 150 respondents and 90 non-financial firms. The firms were selected using stratified and convenient sampling techniques on both primary and secondary data. Adeyemi and Oboh (2011), wanted to identify the general pattern in the capital structure of the quoted firms, and to also examine the relationship that existed between capital structure and market values in Nigeria. Their scope was a five year period, and targeted their population within Lagos State. Structured questionnaires were issued and the results indicated that there was a significant relationship between corporate capital structure and corporate market value in Nigeria. The view of this researcher was that the method used by Adeyemi and Oboh (2011) were not the most convenient method in deriving decisions on capital structure. The use of primary sources alone cannot give an accurate and fair picture of capital structure. Secondary sources were more accurate indicators to use than primary data alone. Also, the population of study used in their research does not form a basis for general explanation of the capital structure of Nigerian companies.

Wanzenried (2006) investigated the effect of institutions and market characteristics on corporate capital structure dynamics. The study consisted of a sample comprising data of 873 firms in France, Austria, Belgium, the Netherlands, Denmark, Finland, Italy, Spain, Switzerland and the United Kingdom and was conducted over a ten year period from

1982 to 2002. Based on the fact that firms may temporarily deviate from their optimal capital structure due to the existence of adjustment costs, the study employed a partial adjustment model that linked transaction costs to country – specific characteristics such as development of the financial markets, legal system, and macro-economic environment. The results reveal that more developed financial markets, greater efficiency of the legal system and better protection of shareholders all had a positive effect on the speed at which firms adjusted their capital structure towards the target. Also higher economic growth and higher inflation rate positively affected the speed of adjustment to optimum capital structure.

Margaritis and Psillaki (2010) investigated a sample of French manufacturing firms using efficiency as a measure of firm performance and technology using directional distance function as proposed by Chambers, Chung and Fare (1996) over a period of four years from 2002 to 2005. They employed non parametric Data Envelopment Analysis (DEA) methods to construct the industry's 'best practice' production frontier and measured firm efficiency as a distance from that frontier. They tried to assess the direct effect of leverage on firm performance as stipulated by Jensen and Meckling (1976) and also to investigate if firm efficiency had an effect on capital structure and whether this was similar or not across different capital structure decisions. Their results on the sampled French firms from two traditional manufacturing industries (textile and chemicals) and a growth industry (computers and related activities and research and development) reveal that on average, firms in the chemicals industry are much larger and more capital intensive than firms in the computers and textile industry, but firms in the computer industry carry more debt in their capital structure and show higher profitability as well as



growth opportunities. Firms in the computer industry appeared to have more dispersed ownership structures. On their assessment between leverage and efficiency, to test whether differences in efficiency are related to leverage, the results reveal that leverage had a significant effect on efficiency.

On a study of family values: ownership structure, performance and capital structure of Canadian firms, King and Santor (2007) examined how family ownership affected the capital structure of 613 Canadian firms using a panel dataset from 1998 to 2005. They informed that empirical studies of family ownership and firm performance in the United States and abroad produced mixed results with a number of studies arguing that the relationship was endogenous. Their study made four contributions to literature, first, the period of study of eight years allowed the control for potential endogenous using panel regression techniques. Second they focused on family-owned firms and examined how their performance and capital structure varied relative to other controlling shareholders. In particular they distinguished the effect of family ownership from the use of control enhancing mechanisms. Third, they examined the impact of both market and accounting performance on the full sample using as proxies Tobin's q and return on assets. The performance measures had been used widely in studies in the US, European and emerging markets, making their results comparable. Fourth, they tested different theories relating ownership to capital structure. Their findings show that family owned firms that used only a single class of shares had higher financial leverage and higher return on assets than widely held firms. On the average, family-controlled firms were the only firms with concentrated ownership that exhibited lower Tobin's q ratios than widely held firms. Further results reveal that family - single firms exhibited similar valuations to other

firms consistent with the theory that ownership was an endogenous outcome that should have no observable effect on firm performance. Family ownership was not negative for performance per se but rather it was the use of control enhancing mechanisms that reduced a firm's value.

### **2.3.1 Financial Performance and Debt Financing**

When organisations decided to use debt financing for operations, they were tactically reallocating some future cash flows from equity claims in exchange for debt. These decisions had remained elusive with several theories attempting to define them. The issue of debt financing had been a fundamental issue in capital structure decisions. In choosing the capital mix, debt could be mobilised from many sources, but how heavily does the company depend on debt and what mix of debt instruments gave the company's reliance on the amount of debt that was reasonable for the organisation to consider? These were fundamental issues the organisation takes into consideration when it comes to debt applications. Debt financing involved financing for both long and short periods and debt capital could be sourced or mobilised from many sources. Within debt, commercial papers had the shortest maturity and public debt with the longest maturity. Pandey (2010) further identified that capitalised debt like lease or hire purchase was safer from the lender's point of view and that the assets backing the debt provided the protection to the lender. Collateralised or secured debt was relatively safe and had priority over unsecured debt in the event of solvency. In practice, companies did not do so, but it was important for them to take into consideration whether maturities of the firm's assets and liabilities matched, and if they did not, what trade-off was the firm making? A firm may obtain a

risk - neutral position by matching the maturity of assets and liabilities by using current liabilities to finance current assets, and short, medium and long – term debt to finance fixed assets in the order of maturity.

Denis and Mihov (2003) examined the choices in using bank debt, non – bank debt, and public debt and found that the primary determinant of debt source was the credit quality of the issuer. After sampling 1,560 new debts financing, they examined the choice among bank debt, non-private debt, and public debt, and found that the firm with the highest credit quality borrowed from banks and firms with the lowest credit quality borrowed from non-bank private lenders. Non-bank private debt thus played a unique role in accommodating the financing needs of firms with low credit quality. In addition, the choice of debt source was (weakly) influenced by managerial discretion. Colla, Ippolito and Li (2013) informed further that firms borrowed predominantly with one type of debt, and the degree of debt specialisation varied across the samples. Large firms tended to diversify across multiple debt types, while small firms specialised in fewer types. That the firms who employed fewer types of debt had higher bankruptcy costs, are more opaque, and lacked access to some segments of the debt markets. Other scholars with this view included Brav, (2009), Croci, Doukas, and Gonenc (2011), Li, Yue and Zhao (2007), and Drobotz, Gounopoulos, Merikas, and Schröder (2013) who stated that debt had been the most important source of external financing for the shipping industry. Other studies that found favourable conditions using debt were Rampini and Viswanathan (2013), Cohen and Katz (2012) who found positive correlation on how debt covenants impacted on capital structure, Doukas, Guo, and Zhou (2011) who found a favourable condition for debt issuance during hot – debt market periods and impacted positively on

capital structure. Faulkender and Petersen (2006) also found that firms that have access to the public bond markets, as measured by having a debt rating, have significantly more leverage.

In a study of optimal priority structure, capital structure, and investment, Hackbarth and Mauer (2012) looked at the influence of firm fundamentals on the agency cost of debt, and the conservative debt policy puzzle. They were interested in the interaction between financing and investment decisions where the firm has multiple debt issues and equity holders choose the timing of investment. They developed several predictions about how firms adjust their priority structure in response to changes in leverage, credit conditions, and firm fundamentals. They found that financially unconstrained firms with few growth opportunities prefer senior debt, while financially unconstrained firms, with or without growth opportunities prefer junior debt.

DeAngelo, DeAngelo, and Whited (2011) stated that firms deliberately but temporarily deviate from permanent leverage targets by issuing transitory debt to fund investment. Leverage targets conservatively embedded the option to issue transitional debt and with the evolution of leverage reflected the sequence of investment outlays. They estimated a dynamic capital structure model with these features and found that it replicated industry leverage very well, explaining that debt issuance or repayments traded off models and accounted for the leverage changes accompanying investment spikes.

In a study of stock listing where the listing of stocks reflects easy access to external finance, Schoubben and Van Hulle (2011) tested whether a stock listing leads to more flexibility of debt financing. Their literature suggests that the enhanced standing towards creditors would result in easier access to debt financing which was an extra advantage of being publically quoted. They used a data of listed and comparably large unlisted companies, and their results reveal that listing increases the flexible use of debt financing.

In a study of non-financial quoted companies, Oyesola (2007) used secondary data on a survey of 50 companies over a five year period from 2000 – 2004, his variables of study differed with that of Adeyemi and Oboh (2011) but was similar with the leverage variables of Salawu (2007) and capital structure determinants variables of Chechet, Garba and Odudu (2013). Two different analytical techniques were used – descriptive and inferential statistics and the results showed that debt financing for the sampled quoted companies correspond mainly to short term nature which reveal that Nigerian firms are either financed by equity capital or a mix of equity capital and short-term financing. The major conclusion from his result is that listed firms rely heavily on equity and short-term bank financing. The possibility for this behaviour is linked with the cumbersome nature of seeking for long term financing through the capital market experienced by firms in Nigeria. Chechet, Garba and Odudu (2013) revealed in their study that tangibility, growth, profitability and age have positive correlation with leverage, while size had a negative correlation with the dependent variable.

Studies with contrary view on the use of debt financing on financial performance include Barine (2012) who opines that the higher the cost of debt, the increased possibility of financial distress, Ebimobowei, Okay, and Binaebi (2013), concluded that short-term debt, long-term debt and total debt have significant negative relationship with performance while non-tax debt and liquidity showed negative relationship with performance. Chinaemerem and Anthony (2012) show that a firm's capital structure surrogated by debt ratio has a significantly negative effect on the firm's financial measures of return on assets and return on equity. Chinaemerem and Anthony (2012) state that their findings indicated consistency with prior empirical studies and provide evidence in support of agency cost theory. Oke and Babatunde (2011) made their research on the impact of capital structure on the industrial performance of companies in Nigeria. They conducted their study on five quoted firms for ten years from 1997 – 2007. Panel data was used for the study, and the variables adopted for the research were debt financing, equity financing, debt-equity ratio as well as profitability index as proxy for firm's performance. Their model was in line with the theoretical foundation of Robert (2003, as cited in Oke and Babatunde, 2011) and Yoshio and Toshiyuki (2005). The model was a fixed effect consideration and their results showed that debt financing was negatively related to profitability of the firms; equity financing was positively related to profitability of the firm, debt-equity ratio was positively related to profitability and a negative relationship existed between firm performance and debt financing.

The results of Jibrán, Wajid, Waheed, and Masood (2012) did not conform to the study of Sheikh and Wang (2011) who investigated the factors that affect the capital structure of manufacturing companies in Pakistan and whether the capital structure models derived

from western settings provided convincing explanations for capital structure decisions of Pakistani firms. The theories reviewed by Sheikh and Wang (2011) were the trade-off theory, pecking order theory, agency theory, and the theory of free cash flow on a sample of 160 firms listed on the Karachi Stock Exchange from 2003 to 2007. Their results revealed that profitability, liquidity, earnings volatility, and tangibility (asset structure) related negatively to debt ratio. Firm size was positively linked to debt ratio, and non-debt tax shields and growth opportunities did not appear to be significantly related to debt ratio. The findings of the study are consistent with the predictions of the trade-off theory, pecking order theory and agency theory and show that capital structure model derived from western setting provides some help in understanding the financing behaviour of firms in Pakistan.

Salawu (2007) examined the factors that decide the appropriate amount of equity and debt in the Nigerian banking industry. He wanted to find out what the important factors in choosing the appropriate amount of debt were, how banks are financed and which source were the most effective, what factors were responsible for making equity issue, and what were the potential determinants of bank's capital structure. Questionnaires were administered to managers of 25 listed banks because they take part in policy administration, and he wanted to see the views of managers. The views of the respondents show that the most important factors in choosing the appropriate amount of debts for the banks were credit rating followed by volatility of earnings and cash flow; that banks finance mainly through equity and retained earnings. The managers were reluctant to give information of funding sources, and they had more preference for short-

term sources because it was cheap, more liquid and easily repayable. The research concludes that banks prefer to source and fund their operations through mixed sources.

Fan, Titman, and Twite, (2012) in a study of both developing and developed countries examined the influence of institutional environment on capital structure and debt maturity choices of a cross-section of firms in 39 countries. The study was built first because they considered issues within a panel that includes industry fixed effects, together with firm-level variables, and identified the variation in capital structure across countries that cannot be explained by cross – country differences in the industrial mix and firm – level characteristics. Secondly, they considered a large number of countries and a number of important institutional characteristics not previously explored. To understand their motivation, the importance of country – level factors relative to industry factors in determining capital structure was illustrated. Their experiments indicated that a country in which the firm resides is a more important determinant of how it is financed than is its industry affiliation which in turn suggests that differences in country level institutional factors are likely to have a first order effect on capital structure choices.

After regressing a large sample of firms to examine the extent to which cross – country differences in capital structure can be explained by differences in tax policies; legal environment, and the importance and regulation of financial institutions, Fan, Titman, and Twite, (2012) did not find a significant relation between debt ratios and tax policy; found that the strength of a country’s legal system and public governance importantly affected firm capital structure; and that weaker laws and more government corruption are associated with higher debt ratios and shorter debt maturity. Fan, Titman, and Twite,



(2012) therefore conclude that legal and tax system, and the preferences of capital suppliers explained a significant portion of the variation in leverage and debt maturity ratios. Specifically, firms in more corrupt countries and those with weaker laws tend to use more debt, especially short-term debt; explicit bankruptcy codes and deposit insurance are associated with higher leverage and more long-term debt.

### **2.3.2 Financial Performance and Equity Financing**

In a study of the impact of ownership structure on performance and risk taking behaviour of Turkish firms, Gürsoy and Aydoğın (1998; 1999), financial and non-financial firms listed on the Istanbul Stock Exchange between 1992 and 1998 were investigated. Most of the companies are ranked amongst the largest 500 manufacturing companies compiled by the Istanbul Chamber of Industry. With public offerings of equity through initial public offers, direct foreign investment and a large public sector in the Turkish economy, the market offered a very rich combination of corporate governance. The research defined ownership structure along two dimensions as ownership concentration and ownership mix. Ownership structure referred to the percentage of shares owned by majority shareholder(s), while ownership mix related to the identity of the majority shareholder. The corporations studied were characterised by highly concentrated family owned firms attached to a group of companies generally owned by the same family or group of families. Their data was time series and cross sectional data and when the variables were regressed, they found significant effect of ownership structure on both corporate performance and risk taking behaviour.

Ogbulu and Emeni (2012) conducted their research on characteristics and firm value of over 124 companies quoted on The Nigerian Stock Exchange. Ordinary least square method of regression was employed for the study. Their results showed that equity capital as a component of capital structure was irrelevant to the value of the firm, and long term debt was the major component in determining firm value. They concluded that capital structure decisions have various implications and one of the implications was its effect on the value of the firm.

Bokpin and Isshaq (2008) examined the impact of the development of the stock market on the financing decisions of listed firms in Ghana. Using data covering the period 1991 to 2005, debt-equity ratios were regressed on market size and market liquidity. Their results reveal that stock market development had not led to the substitution of equity for debt as per the propositions of Demiguc – Kunt and Maksimov (1996), and there was mixed impact on debt – equity performance on market liquidity suggesting that the size of the Ghanaian stock market is not yet significant to impact on financing choices of firms on the exchange. Short –term debt was found to be significantly related to market size variable and turnover ratio, but positively related to the other measure of market liquidity.

In a contrary study conducted by Doku, Adjasib and Sarpong - Kumankumac (2011) where they explored the relationship between financial market development and choice of finance of listed firms in Ghana. Their study wanted to test whether debt and equity finance are complements or substitutes. The study used panel data of 21 listed firms on the Ghana Stock Exchange over the period 1995 to 2005. The findings of their research

evidenced complementarity between banking and stock market development in financing decisions of the firms. The substitution effect between debt and equity financing were mainly in favour of equity financing. This showed the importance of the role of stock markets.

Huang and Ritter(2009) in their research of testing theories of capital structure and estimating the speed of adjustment examined a time series of external financing decisions of publically traded US firms. The financing decisions of the selected firms showed that firms funded a much larger proportion of their financing deficit with external equity when the cost of equity capital was low. They stated that the historical values of the cost of equity capital had long – lasting effects on the firms’ capital structure through their financing decisions. Huang and Ritter (2009) introduced a new econometric technique to deal with biases in estimates of the speed of adjustment toward target leverage at a moderate speed with a half-life of 3.7 years for book leverage, even after controlling for the traditional determinants of capital structure and firm fixed effects.

Hail and Leuz (2006) made an international comparison in the cost of equity capital across 40 countries. They wanted to examine whether there were differences in the firms cost of equity across the countries and whether the effectiveness of a country's legal institutions and securities regulation was systematically related to cross-country differences in the cost of capital. Their results show that the firms in countries with more extensive disclosure requirements, stronger regulation, and stricter enforcement mechanisms had a significantly lower cost of capital. Their result was consistent with the theory, that the cost of capital effects of strong legal institutions becomes substantially

smaller and, in many cases, statistically insignificant as capital markets become globally more integrated. Many legal institutions are complementary, variables characterizing countries' institutional characteristics tend to be highly correlated.

Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001) analysed capital structure choices of firms in ten developing countries – India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan and Korea from 1980 to 1990. Their knowledge on capital structure was mostly derived from data from developed economies that had many institutional similarities. It was the opinion of Mayer (1990, as cited in Booth, Aivazian, Demirguc-Kunt, and Maksimovic, 2001) that financial decisions in developing countries were different from developed countries, necessitating their research. Their study focused on three questions – whether corporate leverage decisions differed significantly between developing and developed countries; whether the factors that affected cross-sectional variability in individual countries' capital structures were similar between developed and developing countries; and whether the predictions of conventional capital structure models improved by knowing the nationality of the company. Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001) used firm-level database consisting of tangibility of assets, size, the market-to-book ratio, business risk, profitability variables to examine the financial structures of the sampled countries. They found that firms in developing countries had less long-term debt than do firms in developed countries and the role of specific capital structure determinants therefore may differ, that there is little that was 'special' about developing countries. They were of the view that although capital structures did differ systematically across countries and country factors are clearly important the financial factors that were important in

developed countries were also important in developing countries. They were able to conclude that debt ratios in developing countries seemed to be affected in the same way and by the same types of variables that were significant in developed countries. However, there were systematic differences in the way the ratios were affected by country factors, such as gross domestic product growth rates, inflation rates, and the development of capital markets. On the issue of nationality of the company, they deduced that knowing the country of origin was more important than knowing the size of all the independent variables for both the total and long term book-debt ratios. The market debt ratio was not true. A summary of review of selected empirical studies conducted on capital structure and financial performance is shown in Appendix 1.

## **2.4 Theoretical Literature**

Suleiman (2013) asserts that studies on firm characteristics emerged in the 1950s and focused on the examination of the relationship. Some of the theories included Pecking order theory, trade-off, agency theory, and market signalling hypothesis theory. These theories are discussed below.

### **2.4.1 Agency Theory**

Agency theory arose due to conflict of interest. Jensen and Meckling (1976) stated that agency theory provided an insight into financial management of capital structure. Agency theory had been used by other scholars in accounting, economics, finance, marketing, organisational behaviour and sociology (Eisenhardt, 1989) and yet it was still surrounded by controversy. According to agency theory the firm must manage a series of relationships between different stakeholders – the firm's owners known as principals and

the firm's managers known as agents. The fact that these two parties had different incentives in terms of the firm's operations imposed agency costs on the firm. Jensen and Meckling (1976) further stated that the introduction of agency costs created a trade-off in capital budgeting decisions as the use of debt contained agency costs associated with the potential conflicts of interest between lenders and the firm's ownership. These agency costs must be weighed against the benefits of financial leverage.

Agency theory explains the research on equity holdings- firm performance relationships and Fooladi (2012) further states that corporate governance as a mechanism helps to align management's goals with those of the stakeholders that are to increase firm performance. Agency theory problems can affect market share prices and Jensen and Meckling (1976) identified two types of conflicts - conflicts between shareholders and managers, and, conflicts between debt holders and equity holders. Agency theory was therefore applicable where there existed conflict of interests among shareholders, debt holders and management. These conflicts arose as a result of agency problems which involved agency costs. Pandey (2010) explains the kind of conflicts that agency costs influences on the firm's capital structure to be shareholders – debt-holder's conflict, shareholders – managers conflict, and, monitoring and agency costs.

Studies on agency theory included that of Harris and Raviv (1991) and Freeman, Wicks, and Parmar (2004) who informed that stakeholder theory begins with the assumption that values are necessarily and explicitly a part of doing business. It asked managers to articulate the shared sense of the value they created, and what brought its core stakeholders together. It also pushed managers to be clear about how they wanted to do

business, specifically what kinds of relationships they wanted and needed to create with their stakeholders to deliver on their purpose. Their paper offered clarifying misconceptions about stakeholder theory and concluded that truth and freedom are best served by seeing business and ethics as connected. Studies conducted on agency theory include that of Zahra and Pearce, (1989), Finkelstein and Hambrick (1995), Dalton, Daily, Ellstrand, and Johnson (1998), Himmelberg, Hubbard and Palia (1999), Simpson and Gleason (1999), Denis (1999), Erhardt, Werbel, and Shrader (2003), O'Connell and Cramer (2010), Dalton and Dalton (2011)

#### **2.4.2 Pecking Order Theory**

The Pecking order theory was one of the most influential theories of capital structure and was based on the assertion that managers had more information about their firms than investors. Because of asymmetric information managers would issue debt when they were positive about their firm's future prospects and would issue equity when they were unsure. Asymmetric information therefore is the underlying assumption of this theory. Where equity was issued, the signal sent was that the current share price of the firm was overvalued. Therefore, as managers raise capital, it gives a signal that the firm has prospects to investors.

Myers (1984) called it the pecking order theory because there was not a well-defined debt–equity target and there were two kinds of equity, internal and external, one at the top of the pecking order and one at the bottom. Debt is cheaper than the cost of internal and external equity due to interest deductibility. Internal equity is cheaper and easier to use than external equity because personal taxes has to be paid by shareholders on

distributed earnings while no taxes are paid on retained earnings; and no transaction costs were incurred when the earnings were retained.

Managers, thus issued shares when they think the price was overvalued, so the announcement of new issues of shares causes the price to fall. Managers therefore raise capital through the following financing pecking order as stated by Myres (1984):

- a) Firms prefer internal finance.
- b) They adapt their target dividend pay-out ratios to their investment opportunities, although dividends are sticky and target pay-out ratios are only gradually adjusted to shifts in the extent of valuable investment opportunities.
- c) Sticky dividend policies, plus unpredictable fluctuations in profitability and investment opportunities, mean that internally – generated cash flow may be more or less than investment outlays. If it was less, the firm first draws down its cash balance or marketable securities portfolio.
- d) If external finance were required, firms would issue the safest security first. That is, they start with debt, then possibly hybrid securities such as convertible bonds, then perhaps equity as a last resort.

The pecking order story has been studied by many researchers. Graham and Harvey (2001) surveyed 392 chief finance officers about the cost of capital, capital budgeting and capital structure. They identified that large firms use present value techniques and the capital asset pricing model, small firms used payback period, and a number of firms used risk rather than projected risk in evaluating new investments. They further informed that firms are concerned about financial flexibility and credit ratings when issuing debt, and



earnings per share dilution and recent stock price appreciation when issuing equity. Their research found support for the pecking order and trade – off hypotheses with little evidence that executives were concerned about substitution, asymmetric information, transactions costs, free cash flows, or personal taxes.

Autore, and Kovacs (2004) in their study of capital structure, pecking order theory, time – varying adverse selection costs also found evidence in favour of multi – period pecking order in which time varying adverse selection costs made equity issues optimal even for firms with sufficient debt capacity. Chen, Jung, and Chen (2011) also agree with the pecking order theory when they used a hierarchical regression analysis model and examined 305 Taiwan electronic companies quoted on the Taiwan Stock Exchange. Their results indicate that the determinants of capital structure are profitability and growth rate, where profitability negatively affected capital structure, implying that firms preferred to use earnings to finance business activities and less of debt; and growth rate positively affected capital structure.

Tucker and Stoja (2011) also found evidence of pecking order in the short run with old economy firms in their study of the impact of industry membership on the capital structure dynamics of UK quoted firms over a period 1968 to 2006. Almeida and Campello (2010) supported the pecking order theory when they found ample evidence that point to a negative relationship between internal funds (profitability) and the demand for external funds (debt issuance). Their results also show that the negative effect of internal funds on the demand for external financing were concentrated among firms that were least likely to face high external financing costs (firms that distributed large

amounts of dividends, that were large, and whose debt was rated). They argue that the greater complementarity between internal funds and external financing for constrained firms were a consequence of the interdependence of their financing and investment decisions.

Miglo (2010) surveyed four major capital structure theories – pecking order, trade – off, signalling, and market timing theories, and for each theory, a basic model and its major implications compared to the available evidence were elaborated. The trade-off theory and signalling hypothesis are discussed in the preceding sections.

### **2.4.3 Trade-off Theory**

The trade-off theory allows for bankruptcy costs to exist and stands on the advantages of financing through debt, that firms seek debt levels that balance the tax advantages of additional debts against the costs of possible financial distress. Therefore, there existed a cost of financing identified as bankruptcy costs and financial distress costs of debt. Myers (1984) in the static trade-off hypothesis, stated that a firm's optimal debt ratio was usually viewed as determined by a trade-off of the costs and benefits of borrowing, holding the firm's assets and investment plans constant. That the firm is supposed to substitute debt for equity or equity for debt until the value of the firm was maximised.

The static trade-off theory was the first of the two main theories of capital structure outlining that the firm would borrow up to the point (target debt – to – assets ratio) where the tax benefit from an extra pound or euro was exactly equal to the cost that comes from the increased probability of financial distress. Dewaelheyns and Hulle (2009) in a study

of capital structure dynamics in private groups stated that company's trade-off the advantages of a leverage adjustment and its costs; and that companies that were part of a business group had access to both internal and external capital markets and may face relatively low adjustment costs. Their study was conducted on Belgian firms and they found significant differences in the leverage levels and dynamics of large, non-financial affiliates of Private Belgian business groups and comparable stand-alone companies. Their results indicate that group affiliates take advantage of their better access to financing to more frequently adjust their total leverage and external leverage ratios.

Hackbarth, Hennessy, and Leland (2007) identified that the existing models in the trade-off theory analysed the optimum amount of debt, but provided no guidance on debt structure, that was the mix of market versus non market debt and specification of priority. They further stated that three important questions were raised with the existing trade-off model – what was the optimal mix of nonmarket (bank) and market debt? Does choice between the two depend on firm characteristics? And, if it were indeed optimal to mix bank and market debt, what was the optimal contractual specification of priority? Their study addressed these questions which contributed to the growing literature on the testable implications of the trade-off theory.

#### **2.4.4 Market Signalling Hypothesis Theory**

The market signalling hypothesis was concerned about the relationship between a firm's financial leverage and cash flow under asymmetric information. The signalling theory as stated by Bini, Giunta, and Dainelli (2010) posit that the most profitable companies provided the market with more and better information. With the signalling theory, as a

firm decides to use debt or stock to raise new capital, it gave a signal to investors, and a stock issue sets off a negative signal and using debt was perceived as a positive (or neutral) signal. Companies were therefore reluctant to issue new stock by maintaining a reserve borrowing capacity.

Bini, Giunta, and Dainelli (2010) in their research on signalling theory and voluntary disclosure to the financial market, looked at the general disclosure market to assess the signals that companies made to the financial market. They used a sample of United Kingdom (UK) and Italian firms to verify if signalling policies were adopted in two very different cultural, economic, and legal contexts. Their research controlled for size, risk, industry, and country and their results reveal disaccording results. Because the general disclosure level depended on many factors, their paper centred on a focal point of the signal that companies send to the financial market: the profitability indicators. As several studies have shown the strong relevance of this type of data, the hypothesis was that the most profitable companies should disclose more profitability indicators. They concluded that the market was capable of controlling the production and use of information, concentrating it on the focal points of the agency relationship. They further stated that their results dismissed the relevance of the European directive which generally required a company to communicate performance indicators. The most profitable companies communicated such data independent of any legal requirement.

This research which examined financial performance and firm characteristics of non-financial quoted companies in Nigeria was guided by the relevance school of thought of capital structure. As stated earlier, the issue of debt and equity in capital structure

decisions are in two schools – the relevance and irrelevance schools of thought, and for the purpose of this study, the relevance school of thought guided the research because the school of thought agrees to the use of debt and equity in attaining the value of the firm. Financial performance of businesses is expected to increase as a result of the judicious use of debt and equity in capital structure decisions. It is the belief of the researcher that Nigerian companies adopted the best decision that created higher and better financial performance of companies. Over the years, quoted companies had approached the capital market for long term funding and these companies were large in size and operations and had more access of sourcing for funds through the use of the capital market.

## **2.5 Theoretical Framework**

In firm characteristics, the use of equity, debt and assets are identified as the main areas of concern. Under the relevance school of thought, the important theories identified in financing decisions are – Signalling hypothesis, Agency theory, Pecking order theory and the trade – off theory. In the light of the theories, the research adopted the four theories – the trade-off theory, signalling hypothesis theory, agency theory and pecking order theory and this was because it was believed that the use of debt, assets or equity, in firm characteristics was most likely to have an effect on the financial performance of the firm. Decisions made by management are one which was most likely to have a significant contribution to financial performance of companies in Nigeria. Companies in Nigeria plan their financing requirements to be one that brought increased financial performance and profit with the least cost of capital available. Organisations in Nigeria therefore seek to use debt, equity or the available assets to finance business activity. Managerial

decisions are therefore made with firm characteristics and which financing policy to adopt.

To be specific, the pecking order theory looked at corporate financing from three areas. As the cost of financing increases with asymmetric information companies' financing comes from internal financing then debt followed by new equity. The trend has been so with Nigerian companies. Several companies over the years looked at internal financing for their financing requirements, after that companies went for debt financing and to reduce the use of external funding, they decide to issue new shares to the public for subscription. It becomes necessary to investigate whether financing through issuance of equity or debt will lead to greater financial performance of the company. Managers in Nigerian companies know about the financing needs of the organization and will decide on which mode of financing to adopt.

With the trade-off theory, it is viewed that companies would decide the amount of debt or equity to choose that would bring the maximum return to the company and increase in financial performance. The costs associated are balanced off in favour of the policy that would bring about more returns and the least cost of capital. Several companies in Nigeria adopt more of the use of equity financing. Shares are frequently issued compared to the use of debt financing. The study adopts this theory because it is the belief that companies in Nigeria would trade-off which capital structure decision to use for the company. A decision that would bring the maximum returns to the company with the least cost of capital.

The signalling hypothesis theory looked at the asymmetric information between the firm and outsiders which lead companies to make decisions on its capital structure. Under the signalling hypothesis firms may prefer to seek for debt financing compared with financing using equity. The outcome of the prevailed information asymmetry is that outsiders do not know quite enough accurate information about the firm's decisions (Eldomiaty, Choi & Cheng, 2005). The study adopts the signalling theory because of the asymmetry between outsiders and its debt level and leverage.

Agency theory views the relationship between the shareholders who are the principals and the managers (agents); between the creditor (principal) and shareholders and managers (agents); and between an employer (principal) and employee (agent) and the conflicts that may arise in which financing decision to adopt for the company's best interest. Agency theory dominates the equity-financing decision for the firm and the study adopts this theory because of the equity-financing relationship.

The pecking order theory, trade-off theory, signalling hypothesis, and agency theory guided the study. The researcher was of the view that the Nigerian firm would look at all available options that would help attain maximum value. Flexibility therefore existed when choosing which policy to adopt. Would financing requirements be more of equity and less of debt, or more of debt and less of equity? That is what kind of financing decision to adopt that would bring about increased financial performance. Usually quoted companies have offered to seek funding from the Nigerian capital market by issuing either equity or debt to finance business activity.

## 2.6 Model Build-up

Financial performance measured symbolically was expressed as both Market value of shares and return on investment. These are expressed as following equation:

Market value of shares:

$$\text{Financial performance} = \text{market value of shares} \quad \text{.....equation 2.1}$$

Return on investment:

$$\text{Financial performance} = \text{profit after tax} \quad \text{.....equation 2.2}$$

The models adopted for the study include more variables compared with previous studies where fewer variables were involved, and performances measures were looked at from two perspectives of internal and external performances. In functional form, the relationships between firm characteristics and financial performances of the firm were expressed as follows:

$$MRKTV = f(\text{FirmCharact}) \quad \text{.....equation 2.3}$$

$$PTAX = f(\text{FirmCharact}) \quad \text{.....equation 2.4}$$

In linearity form the relationships were expressed as follows:

$$MRKTV_{it} = \alpha + \beta_n(\text{FirmCharact})_{it} + \varepsilon \quad \text{.....equation 2.5}$$

$$PTAX_{it} = \alpha + \beta_n(\text{FirmCharact})_{it} + \varepsilon \quad \text{.....equation 2.6}$$

Where,

$MRKTV$  = market value of shares of the companies



$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_n$  = beta of the independent variables

$FirmCharact$  = firm characteristics components of the companies

$i$  = companies

$t$  = number of years

$\varepsilon$  = error term

Firm characteristics are the independent variables of the study and their relevancies in the models are further elaborated.

**a) *Financial Performance and Total Debt- to-Total Assets***

Tauseef, Lohano and Khan (2015) stated that studies had been made to emphasize the importance and impact of debt financing on corporate financial performance. Debt plays an important role in financing decisions. It was expected that when firms adopted debt financing the cost of capital would be least thereby making financing using debt sources to be cheaper. By focusing on cost and benefit analysis of debt predicts that there is optimal debt ratio which helps to maximize the value of the firm (Jahanzeb, Saif-Ur-Rehman, Bajuri, Karami & Ahmadimousaabad, 2014). The trade-off theory of capital structure and signalling hypothesis would apply to financing using debt sources for the performances. The trade-off theory is applicable to internal performance (return on

investment) and debt, while the signalling hypothesis would apply to external performance (market value) and debt. This is expressed in functional form as:

$$MRKTV = f(TDTA) \quad \dots\dots\dots\text{equation 2.7}$$

Where,

$MRKTV$  = market value of shares of the companies

$f(TDTA)$  = function of total debt-to-total assets

$$PTAX = f(TDTA) \quad \dots\dots\dots\text{equation 2.8}$$

Where,

$PTAX$  = profit after tax of the companies

$f(TDTA)$  = function of total debt-to-total assets

In linearity form the relationships are expressed as follows:

$$MRKTV_{it} = \alpha + \beta_1 TDTA_{it} + \varepsilon \quad \dots\dots\dots\text{equation 2.9}$$

Where,

$MRKTV$  = market value of shares of the companies

$\alpha$  = constant

$\beta_1$  = coefficients of total debt-to-total assets

$TDTA$  = total debt-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

$$PTAX_{it} = \alpha + \beta_1 TDTA_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.10}$$

Where,

$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_1$  = coefficients of total debt-to-total assets

$TDTA$  = total debt-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

**b) *Financial Performance and Equity-to-Total Assets***

Equity capital is a significant contribution in capital structure decisions and financial performance. Dalton, Daily, Certo, and Roengpitya (2003) observed that Agency theory dominated the research on equity holdings-firm performance relationships. They express a fundamental shift where professional managers increasingly gained day-to-day management responsibility for firms that had previously been actively managed by their

owners. High ranking corporate officers acting as agents of shareholders pursue actions inconsistent with the interests of the shareholders. Equity was therefore introduced in the model to investigate its effect in the financial performance of the firms both internally and externally. Pecking order theory being one of the most influential theories of capital structure looked at financing decisions using internal sources. In assessing market value performance and equity, agency theory and pecking order theory are applicable to equity and financial performance in the two models. This is expressed in functional form as:

$$MRKTV = f(EQTYTA) \quad \dots\dots\dots\text{equation 2.11}$$

Where,

$MRKTV$  = market value of shares of the companies

$f(EQTYTA)$  = function of equity-to-total assets

$$PTAX = f(EQTYTA) \quad \dots\dots\dots\text{equation 2.12}$$

Where,

$PTAX$  = profit after tax of the companies

$f(EQTYTA)$  = function of equity-to-total assets

In linearity form the relationships are expressed as follows:

$$MRKTV_{it} = \alpha + \beta_2 EQTYTA_{it} + \varepsilon \quad \dots\dots\dots\text{equation 2.13}$$

Where,

$MRKTV$  = market value of shares of the companies

$\alpha$  = constant

$\beta_2$  = coefficients of equity-to-total assets

$EQTYTA$  = equity-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

$$PTAX_{it} = \alpha + \beta_2 EQTYT_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.14}$$

Where,

$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_2$  = coefficients of equity-to-total assets

$EQTYTA$  = equity-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

c) ***Financial Performance and Fixed Assets-to-Total Assets***

Fixed assets-to-total assets play an important role in determining financial performance. the degree to which the firm's assets are tangible result in the firm having greater liquidation value as stated by Titman and Wessels (1988) and Harris and Raviv (1991). Bradley, Jarrel and Kim (1984) assert that firms that invest heavily in tangible assets also had higher financial leverage since they borrowed at lower interest rates if their debts were secured with such assets. We therefore introduce fixed assets-to-total assets in the model and investigate its effect on financial performance both internally and externally. Campello (2007) found that corporate assets drive the relative performance of firms that rely more heavily on external financing making tangibility-driven dynamics not observed for internally funded investments. The trade-off theory is applicable to fixed assets-to-total assets and financial performance both internally and externally. This is expressed in functional form as:

$$MRKTV = f(FATA) \quad \text{.....equation 2.15}$$

Where,

$MRKTV$  = market value of shares of the companies

$f(FATA)$  = function of fixed assets-to-total assets

$$PTAX = f(FATA) \quad \text{.....equation 2.16}$$

Where,

$PTAX$  = profit after tax of the companies

$f(FATA)$  = function of fixed assets-to-total assets

In linearity form the relationships are expressed as follows:

$$MRKTV_{it} = \alpha + \beta_3 FATA_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.17}$$

Where,

$MRKTV$  = market value of shares of the companies

$\alpha$  = constant

$\beta_3$  = coefficients of fixed assets-to-total assets

$FATA$  = fixed assets-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

$$PTAX_{it} = \alpha + \beta_3 FATA_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.18}$$

Where,

$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_3$  = coefficients of fixed assets-to-total assets

$FATA$  = fixed assets-to-total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

**d) Financial Performance and Total Assets**

Total assets are introduced as a measure of firm size. Babalola (2013) agreed that the size of a firm played an important role in determining the kind of relationship the firm enjoyed within and outside its operating environment. The larger the firm is the greater its influence on its stakeholders. Niresh and Velnampy (2014) further added that firm size is a primary factor in determining profitability of a firm because of economies of scale. Size is therefore a fundamental variable in determining firm profitability and was introduced in the model to investigate its effect on financial performance both internally and externally. The trade-off theory is applicable to total assets firm size and financial performance in the two models and the relationships expressed in functional form are:

$$MRKTV = f(LngTA) \quad \dots\dots\dots\text{equation 2.19}$$

Where,

$MRKTV$  = market value of shares of the companies

$f(LngTA)$  = function of log of total assets

$$PTAX = f(LngTA) \quad \dots\dots\dots\text{equation 2.20}$$

Where,



$PTAX$  = profit after tax of the companies

$f(LngTA)$  = function of log of total assets

In linearity form the relationships are expressed as follows:

$$MRKTV_{it} = \alpha + \beta_4 LngTA_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.21}$$

Where,

$MRKTV$  = market value of shares of the companies

$\alpha$  = constant

$\beta_4$  = coefficients of log of total assets

$LngTA$  = log of total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

$$PTAX_{it} = \alpha + \beta_4 LngTA_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.2}$$

Where,

$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_4$  = coefficients of log of total assets

$LngTA$  = log of total assets

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

**e) *Financial Performance and Turnover***

Changes in turnover are introduced in the model as a measure of growth. Brito and de Vasconcelos (2009) opined that some firms grow at impressive rates whilst sometimes similar ones stagger or shrink in size and end up disappearing in the business. Because of the different growth rates experienced by companies, it becomes important to investigate its effect on the financial performance of companies both internally and externally and is introduced into the model. Changes in turnover as a growth variable are included as a control variable in the model. This is expressed in functional form as:

$$MRKTV = f(TURN) \quad \dots\dots\dots\text{equation 2.23}$$

Where,

$MRKTV$  = market value of shares of the companies

$f(TURN)$  = function of changes in turnover

$$PTAX = f(TURN) \quad \dots\dots\dots\text{equation 2.24}$$

Where,

$PTAX$  = profit after tax of the companies

$f(TURN)$  = function of changes in turnover

In linearity form the relationships are expressed as follows:

$$MRKTV_{it} = \alpha + \beta_5 TURN_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.25}$$

Where,

$MRKTV$  = market value of shares of the companies

$\alpha$  = constant

$\beta_5$  = coefficients of changes in turnover

$TURN$  = changes in turnover

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

$$PTAX_{it} = \alpha + \beta_5 TURN_{it} + \varepsilon \quad \dots\dots\dots \text{equation 2.26}$$

Where,

$PTAX$  = profit after tax of the companies

$\alpha$  = constant

$\beta_5$  = coefficients of changes in turnover

$TURN$  = changes in turnover

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

## 2.7 Summary

This chapter explained the various arguments for and against firm characteristics decisions of the companies. The relevance and irrelevance schools of thought of capital structure and theories of capital structure were extensively discussed being the relevance and irrelevance schools of thought. Other theories of capital structure discussed in the chapter were the agency theory, pecking order theory, trade-off theory, and signalling hypothesis. Studies of capital structure based on the variables of study were discussed, and the studies researched provided theories and bases for this study to agree or disagree with. The chapter identified the research framework of the study to be guided by the relevance school of thoughts on capital structure and identified signalling hypothesis order theory, trade-off theory and agency theory as the underpinning theories of the research and explained the model build-up for the research.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter is the methodology. The chapter discusses the procedures used in conducting the research and arriving at the results of the study. The research design, sources of data collection, population of the study, sampling technique, and techniques of data analysis procedure, specification of the model, model variables description and the a priori expectations of the research are discussed and is concluded with a summary of the chapter. The methodology outlines the investigation on the study so that the findings can be evaluated and interpreted and further recommendations made on the subject matter.

#### **3.2 Research Design**

This research is a quantitative study and a panel data. The research design was adopted because the intention was to apply the results to the specific problem at hand. Different non-financial sectors were investigated over a period of time. The financial performance indicators of the firms were illustrated in detail and were analysed over a period of time. Investigations on firm characteristics are made based on past trends to current situations which are expected to give explanations and solutions for the future. Relevant data was therefore collected from all sources of information so that theories can be interpreted which will determine the pattern of firm characteristics of quoted non-financial firms in Nigeria.

### 3.3 Population of the Study

The population of study comprised all 105 quoted non-financial firms listed in the First-tier securities market of The Nigerian Stock Exchange that have been quoted for eleven years from 2004 to 2014. The 105 equities have undefined capital structures and are in ten industrial sectors on the main board equities market grouped according to their peculiar business transactions. A detailed illustration of the sectors used in the study with their respective number of securities is shown in table 3.1 and the names of the companies used for the research are listed in Appendix 2.

**Table 3.1: Sectorial Distribution of Quoted Companies**

Sector	Number of listed equities
Agriculture	5
Conglomerates	6
Construction/Real Estate	7
Consumer Goods	22
Healthcare	9
ICT	6
Industrial Goods	20
Natural Resources	4
Oil and Gas	9
Services	17
Total	105

Source: The Nigerian Stock Exchange 2012/2013 Fact Book

### **3.4 Sample Size and Sampling Technique**

The study used non probability sampling technique over a panel data because the technique provides a range of alternative techniques to select samples, the majority of which include an element of subjective judgement as opined by Saunders, Lewis and Thornhill (2012). With this technique, accurate results and representation for the research will be achieved as data is excluded from companies that had incomplete or unavailable as a result of failure by companies to declare or publish their results. The results of companies that were incomplete were therefore exempted from the sample. In non-probability sampling technique, the sample elements have a known chance of being selected for the sample.

Using the recommended sample selection sizes for two different precision levels as identified by the sample selection chart of Isaac and Michael (1981) and Smith, MF (1983), 82 equities were used as sample for the research at 95 per cent confidence level. The sample of the research represents 78.10% of the population of study.

### **3.5 Sources of Data Collection**

The data of the study was sourced from secondary data because the study is quantitative in nature. All variables of the data were sourced and extracted from annual reports and accounts of the sampled companies, The Nigerian Stock Exchange 2009 Fact Book, The Nigerian Stock Exchange 2012/2013 Fact Book, annual report and accounts of companies, the web sites of the companies, and The Nigerian Stock Exchange and other publications from the sampled companies.

### **3.6 Techniques of Data Analysis**

Secondary data was used for the research. The data obtained was used to analyse the results. The nature of data involved in a research normally determines the tool to be adopted for analysis. In order to analyse the data and solve the research problem and achieve the objectives of the study, a multiple regression model using panel data was used to analyse the data. Regression provides numerical estimates for the influence of each explanatory variable, and forecasts the relationship between variables and estimates the line of ‘best fit’ of the observed data (Suleiman, 2013). The study made use of both descriptive and analytical tools.

Panel regression technique was used for the study because:

- i. It is consistent with the nature of study and the data of the study.
- ii. It determines the goal of the study and is used to estimate the relationship and impact of two or more theoretically tested variables.

STATA was used to analyse the data. The pooled ordinary least square (OLS), fixed effects, random effects models and the regression model were used to determine the effects of firm characteristics on the financial performance of Nigerian firms. Statistical tests of significance was conducted to test the reliability or otherwise of the particular estimates. The t-test, standard error and coefficient of determination were employed.

### **3.7 Specification of the Models**



In line with the formulated hypotheses, the study employed econometric techniques for the research analysis. A multiple linear regression model was formulated using financial performance as the dependent variable and firm characteristics as the independent variables. The financial performance of the companies used in the research, measured both external performance and internal performance. Market value and return on investment (PAT) are used as measures of financial performance because the investor looked at these variables when investing in securities which provided a basis in estimating how the company was performing. Market value measured the performance of the companies externally and return on investment measured the financial performance of the firms internally. Market value therefore measured the value of the company externally, while profit after tax internally looked at the ability of the company to generate profit using its available assets. The independent variables in the model are total debt-to-total assets, equity-to-total assets ratio, fixed assets-total assets, log of total assets and change in turnover.

### **Dependent Variable**

*LngMRKTV* = log of market value of shares

*ScalePTAX* = profit after tax scaled to total assets

### **Independent Variables**

*TDTA* = total-debt-to-total assets

*EQTYTA* = equity-to-total assets

*FATA* = fixed assets-to-total assets

*LngTA* = log of total assets

*TURN* = changes in turnover

The models identified for the research was the panel data models used by Lawal (2013), Al-Shubiri (2010), Baral (2004), Abor (2004; 2008) but modified to include market value and return on investment. The regression was used on the assumption that the financial performance of quoted non-financial firms was a function of the variables of firm characteristics represented by total debt-to-total assets, equity-to-total assets, fixed assets-total assets, log of total assets and change in turnover.

Log of market value of shares and log of total assets were employed because their data were large, in millions of Naira, which were regressed with ratios used in the other variables. Similarly, profit after tax was scaled to total assets so as to arrive at return on investment of quoted non-financial firms in Nigeria. The two the models of the study with the dependent variables and firm characteristics variables are therefore presented in the following parsimonious models:

**Model 1**

$$LngMRKTV_{it} = \alpha + \beta_1(TDTA)_{it} + \beta_2(EQTYTA)_{it} + \beta_3(FATA)_{it} + \beta_4(LngTA)_{it} + \beta_5(TURN)_{it} + \varepsilon$$

.....equation 3.1

Where,

*LngMRKTV*= log of market value of shares

*TDTA* = total-debt-to-total assets

*EQTYTA* = equity-to-total assets

*FATA* = fixed assets-to-total assets

*LngTA* = log of total assets

*TURN* = changes in turnover

$\alpha$  = constant

$\beta_1... \beta_5$  = coefficients of the regresses

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

## **Model 2**

$$ScalePTAX_{it} = \alpha + \beta_1(TDTA)_{it} + \beta_2(EQTYTA)_{it} + \beta_3(FATA)_{it} + \beta_4(LngTA)_{it} + \beta_5(TURN)_{it} + \varepsilon$$

.....equation 3.2

Where,

*ScalePTAX*= profit after tax scaled to total assets

*TDTA* = total-debt-to-total assets

*EQTYTA* = equity-to-total assets

*FATA* = fixed assets-to-total assets

*LngTA* = log of total assets

*TURN* = changes in turnover

$\alpha$  = constant

$\beta_1... \beta_5$  = coefficients of the regresses

$i$  = different companies in the sample

$t$  = the time period

$\varepsilon$  = error term

The model in equation 3.1 was used to test the first, second, third and fourth hypotheses, while the model in equation 3.2 was used to test the fifth, sixth, seventh and eighth hypotheses.

### **3.8 Measurement of Variables, Definitions and Relationship Predictions**

The dependent and independent variables of the study are defined with reference to data collection of the study.

**Financial performance of the firm (*LngMRKTV*; *ScalePTAX*):** In this study, market and accounting variables were used as a measure for financial performance. Market value and profit after tax of the companies were used as proxy to define financial performance. Market value measured the performance of companies externally return on assets or profit after tax was scaled with total assets to measure the performance of the firm internally. Investors look at both market and accounting variables when making decisions to invest in companies. The variables detect how well or poorly the organisation is doing and the interest of the investor when making decisions is centred on the performance and the ability of companies to make profit so that returns on investment can be realised.

**Firm Characteristics:** The variables of measurement of firm characteristics are the independent variables of the study. These are identified as total debt-to-total assets, equity-to-total assets, fixed assets-to-total assets, total assets, and changes in turnover.

**Total debt-to-total assets (*TDTA*):** In measuring financial leverage, leverage ratio was used because it enables comparisons of leverage that is made across the different companies, defining the total amount of debt relative to total assets. The a priori expectation of the research is that total debt to total assets ratio will have a positive impact on the financial performance of the firm.

**Equity-to-total assets (*EQTYTA*):** The number of issued share capital divided by the firm's total assets. Equity to total assets measures the amount of assets that are financed by owners' investments. The a priori expectation is that there will be a positive relationship between equity to total assets and financial performance of the firm.

**Fixed assets-to-total assets (*FATA*):** The ratio of fixed assets divided by total assets. The amount of fixed assets will be used to ascertain its relationship with financial performance. The a priori expectation of the research is that there will be a positive relationship between tangibility of assets and the financial performance of the firm.

**Log of total assets (*LngTA*):** The total amount of assets in the company. The a priori expectation of the research is that there will be a positive relationship between the size of the firm and the financial performance of the firm.

### ***Control Variable***

After forming the dependent and independent variables, the research plans to control firm characteristics by using changes in turnover.

**Turnover (TURN):** The measure of change in turnover of the companies. The expectation is that firm growth would have a positive relationship with financial performance of the company.

The variable attributes, measurement and sources of the variable measurement are explained in table 3.2

**Table 3.2: Variable Attributes and Measurement**

Variable Acronym	Variable Name	Variable Measurement and Source
<i>LngMRKTV</i>	Market value of shares of the companies	Log of issued share capital times the market share price of the stock Source: <a href="http://www.investopedia.com/terms/m/market-value-of-equity.asp">http://www.investopedia.com/terms/m/market-value-of-equity.asp</a>
<i>ScalePTAX</i>	Profit after tax of the companies	Profit after tax divided by total assets Source: <a href="http://blogbschool.com/2010/10/27/calculating-net-profit-after-tax/">http://blogbschool.com/2010/10/27/calculating-net-profit-after-tax/</a>
<i>TDTA</i>	Total debt-to-total assets	Amount of total debt (long term debt +short term debt) divided by total assets Source: <a href="http://www.investopedia.com/terms/t/totaldebttototalassets.asp">http://www.investopedia.com/terms/t/totaldebttototalassets.asp</a>
<i>EQTYTA</i>	Equity-to-total assets	Amount of total paid up equity divided by total assets Source: <a href="http://www.myaccountingcourse.com/financial-ratios/equity-ratio">http://www.myaccountingcourse.com/financial-ratios/equity-ratio</a>
<i>FATA</i>	Fixed assets-to-total assets	Amount of total fixed assets divided by total assets Source: <a href="http://www.businessplans.org/ratios.html">http://www.businessplans.org/ratios.html</a>
<i>LngLngTA</i>	Total assets	Amount of log of total assets
<i>TURN</i>	Turnover	Changes in turnover

The a priori expectation of the results of the independent variables and hypothesis prediction are explained in table 3.3

**Table 3.3: Independent Variables Acronym, Name and Hypothesis Predictions**

Variable Acronym	Variable Name	Predicted Relationship
<i>TDTA</i>	Total debt-to-total assets	Positive
<i>EQTYTA</i>	Equity-to-total assets	Positive
<i>FATA</i>	Fixed assets-to-total assets	Positive
<i>LngLngTA</i>	Total assets	Positive
<i>TURN</i>	Turnover	Positive

### 3.9 Diagnostic Tests

For the purpose of this study and to avoid making wrong inferences, the following diagnostic tests were conducted:

- i. **Multicollinearity Test:** Multicollinearity is a problem that can occur when fitting a regression model. It refers to predictors that are correlated with other predictors in the model (Frost, 2013). In our result, the variance inflation factor (VIF) figure are greater than 10 (mean VIF = 102.09), showing that there is multicollinearity between the variables. There is a strong colinearity between the variables (see Appendix 4). There is multicollinearity problem because of the relationship of the ratio between fixed assets-to-total assets and total assets. This is obvious because the models cannot fully be reasonable if total assets are not included as a separate variable. The use of total assets in

determining financial performance of quoted non-financial companies is important because there is the need to investigate how relevant quoted non-financial companies make use of all their assets in financing decisions and hence investigate its relevance in financing behaviour.

- ii. Heteroskedasticity Test: The Breusch-pagan / Cook-weisberg tests for heteroskedasticity, tests the null hypothesis that the error variances are all equal versus the alternative that the error variances are a multiplicative function of one or more variables. In the test, if  $\text{prob} > \chi^2$  is greater than 0.05, then it is not significant. From our results of model 1,  $\text{prob} > \chi^2 = 0.0000$  ( $0.0000 < 0.05$ ) revealing that it is significant at 5%. We reject the null hypothesis then state that the error variance is homoskedastic and that there is no problem of heteroskedasticity. From our results of model 2,  $\text{prob} > \chi^2 = 0.0000$  ( $0.0000 < 0.05$ ) revealing that it is significant at 5%. We reject the null hypothesis then state that the error variance is homoskedastic and that there is no problem of heteroskedasticity (See Appendix 4).
- iii. Normality Test: The normality in the regression was checked using the Shapiro-wilk test. It tests the goodness-of-fit of the residuals and assesses whether the residuals have the skewness and kurtosis matching a normal distribution (Suleiman, 2013). The normality test in the results shows the panel variables are unbalanced over eleven years period from 2005 to 2014 and this is because there are some years that data is not available (see Appendix 4).

### **3.10 Econometric Techniques**



The econometric techniques used to analyse the coefficients of the research is determined by the Durban-Wu-Hausmantest (Hausmanspecification test). The test evaluates the consistency of an estimator when compared to an alternative, less efficient, estimator that is known to be consistent and helps in evaluating if a statistical model corresponds to the data.

The Hausmantest indicates if a given application is correlated with the explanatory variables. In the Hausman test, the null hypothesis ( $H_0$ ) is that the model is random effect (RE) against the alternative hypothesis ( $H_1$ ) that the model is fixed effect (FE) if tested. The aim is to ascertain that the coefficients estimated by the fixed effects model correspond with the coefficients estimated by the random effects model. If the  $p$ -value is greater than 0.05 ( $p > 0.05$ ) they are termed insignificant and the random effects model is used. However if the  $p$ -value is less than 0.05 ( $p < 0.05$ ), the fixed effect estimator is significant and should be employed.

### **3.11 Summary**

This chapter discussed the research design which was a quantitative study on panel data. The population of the study were identified as 105 companies that were quoted for eleven years from 2004 to 2014 and the sample of the study were 82 companies representing 78.10% of the population. The sources of data and techniques of data analysis were discussed and the model explaining the multiple regression equation was highlighted with market value and profit after tax as the dependent variables, and the independent variables consisting of equity, debt, tangibility, growth and size all being the components

of capital structure. The chapter elaborated the a priori expectation of the research, and explained the measurement of the variables of study. The robustness tests conducted on the research was explained and the econometric techniques, the Hausman test used in the study were explained.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS OF RESULTS**

#### **4.1 Introduction**

This chapter is the data presentation and analysis of the results. The results are interpreted and hypotheses are tested. A detailed presentation of the data used for the study is presented, the descriptive statistics of the two models are presented and discussed, the Shapiro-Wilk normality test of the variables of study describing the distribution of the dependent variables of the two models with the explanatory or independent variables are also presented. The correlation analysis looks at the correlation of the variables of study, followed by a summary of regression results where the OLS, fixed effect and random effect results of the models are presented. The test of hypothesis followed by the result of

each hypothesis was elaborated. The discussion of findings are elaborated, followed by the policy implication of research findings, and concluded with a summary.

## 4.2 Data Presentation

The data collected for the research are market value of shares (MRKTV), profit after tax scaled to total assets (ScalePTAX), total-debt-to-total assets (TDTA), equity-to-total assets (EQTYTA), fixed assets-to-total assets (FATA), total assets (TA), and change in turnover (TURN) for the selected companies in the ten sectors of The Nigerian Stock Exchange. The numbers of variables are seven over a period of eleven years from 2004 to 2015 and the details of the data used for the study are attached as appendix 3.

## 4.3 Normality Test

**Table 4.1: Shapiro-Wilk Test**

Variable	Obs	Z	Prob> z
<i>LngMRKTV</i>	902	3.865	0.00006
<i>ScalePTAX</i>	902	15.475	0.00000
<i>TDTA</i>	902	15.616	0.00000
<i>EQTYTA</i>	902	15.278	0.00000
<i>FATA</i>	902	15.626	0.00000
<i>LngTA</i>	902	2.786	0.00267
<i>TURN</i>	902	15.614	0.00000

Source: STATA version 13.0, output generated from secondary data

Table 4.1 is the Shapiro-Wilk test for normal data for the two models. From the result, the data are normally distributed and eligible for estimate with the prob> z values of 0.00. The highest z value was fixed assets-to-total assets (FATA)with 15.626, followed by, total debt-to-total assets (TDTA)with 15.616, change in turnover (TURN)with 15.614; profit after tax scaled to total assets (ScalePTAX)with 15.475, and equity-to-total assets (EQTYTA)with 15.278. The least z value was log of total assets (LngTA)with 2.786 and followed by log of market value of shares (LngMRKTV)with 3.865.

#### 4.4 Descriptive Statistics

**Table 4.2: Descriptive Statistics**

	Min	Max	Mean	Std. Dev.	N
<i>LngMRKTV</i>	8.55642	24.16972	15.10538	2.20363	902
<i>ScalePTAX</i>	.00029	35.57340	.24692	1.91032	902
<i>TDTA</i>	.00000	671.98500	1.43696	22.39774	902
<i>EQTYTA</i>	.00064	35.22119	.32612	1.28038	902
<i>FATA</i>	.00635	704.77600	1.34926	23.44958	902

<i>LngTA</i>	7.95128	20.19884	15.48111	1.82913	902
<i>TURN</i>	.00000	464.32520	.85930	15.49265	902

Source: STATA version 13.0, output generated from secondary data

Table 4.2 presents the descriptive statistics for the study. From the descriptive statistics, there were 902 numbers of observations in log of market value of shares (*LngMRKTV*), profit after tax scaled to total assets (*ScalePTAX*), total debt-to-total assets (*TDTA*), equity-to-total assets (*EQTYTA*), fixed assets-to-total assets (*FATA*), log of total assets (*LngTA*), and turnover (*TURN*). Log of market value of shares (*LngMRKTV*) has a maximum value of 24.16972, with a mean value of 15.10538, and a standard deviation of 2.20363, profit after tax scaled to total assets (*ScalePTAX*) has a standard deviation value of 1.91032, mean value of .24692 and a maximum value of 35.5734. The standard deviation for fixed assets-to-total assets (*FATA*) was 23.44958 with a mean value of 1.34926 and a maximum value of 704.776. The standard deviation for turnover (*TURN*) was 15.49265, with a mean value of .85930 and a maximum value of 464.3252. The mean value for total debt-to-total assets (*TDTA*) was 1.43696; maximum value was 671.985 and standard deviation of 22.39774. Equity-to-total assets (*EQTYTA*) and log of total assets (*LngTA*) have standard deviations of 1.28038 and 1.82913; mean values of .32612 and 15.48111; and maximum values of 35.22119 and 20.19884 respectively. The economic implication of mean is that all the variables are distributed significantly.

#### 4.5 Correlation Matrix

**Table 4.3: Correlation Matrix**

	<i>LngMRKTV</i>	<i>ScalePTAX</i>	<i>TDTA</i>	<i>EQTYTA</i>	<i>FATA</i>	<i>LngTA</i>	<i>TURN</i>
<i>LngMRKTV</i>	1.0000						

<i>ScalePTAX</i>		1.0000					
<i>TDTA</i>	-0.0448	0.6435*	1.0000				
	0.1785	0.0000					
<i>EQTYTA</i>	-0.1325*	0.6859*	0.9156*	1.0000			
	0.0001	0.0000	0.0000				
<i>FATA</i>	-0.0437	0.6175*	.9979*	0.9101*	1.0000		
	0.1899	0.0000	0.0000	0.0000			
<i>LngTA</i>	0.7835*	-0.2455*	-.1465*	-0.3164*	-0.1386*	1.0000	
	0.0000	0.0000	0.0000	0.0000	0.0000		
<i>TURN</i>	0.0161	0.0130	-0.0003	0.0332	-0.0003	-0.0291	1.0000
	0.6292	0.6959	0.9928	0.3193	0.9934	0.3829	

\*Correlation is significant at 0.05 levels

Source: STATA version 13.0, output generated from secondary data

The correlations for the dependent and independent variables of the model are presented in table 4.3. From the results, there is a significant positive correlation at 0.05 levels between profit after tax scaled to total assets (*ScalePTAX*) and total debt-to-total assets (*TDTA*), a positive correlation between equity-to-total assets (*EQTYTA*) and profit after tax scaled to total assets (*ScalePTAX*), a positive correlation also exist between equity-to-total assets (*EQTYTA*) and total debt-to-total assets (*TDTA*), positive correlations between fixed assets-to-total assets (*FATA*) and profit after tax scaled to total assets (*ScalePTAX*); fixed assets-to-total assets (*FATA*) with total debt-to-total assets (*TDTA*); fixed assets-to-total assets (*FATA*) and equity-to-total assets (*EQTYTA*); and between log of total assets (*LngTA*) with log of market value of shares (*LngMRKTV*). There is an inverse correlation between total debt-to-total assets (*TDTA*) with log of market value of shares (*LngMRKTV*), fixed assets-to-total assets (*FATA*) with log of market value of shares (*LngMRKTV*), turnover (*TURN*) with total debt-to-total assets (*TDTA*), turnover (*TURN*) with fixed assets-to-total assets (*FATA*), and turnover (*TURN*) with log of total assets (*LngTA*). The correlation coefficients of the variables revealed that

variables with the highest positive relationship were total debt-to-total assets (TDTA) and fixed assets-to-total assets (FATA) with 99.79%, followed by fixed assets-to-total assets (FATA) and equity-to-total assets (EQTYTA) with 91.01%, and profit after tax scaled to total assets (ScalePTAX) and equity-to-total assets (EQTYTA) with 68.59%. The highest insignificant inverse relationship was between log of total assets (LngTA) and turnover (TURN) with -2.91%. The variables relationship ranges between - 31.64% and 99.79%.

#### **4.6 Summary of Regression Results**

*Regression Model 1 Estimates for OLS, Fixed Effect and Random Effect*

The summaries of the OLS, fixed effect and random effect regression for model 1 are shown in table 4.4. Model 1 was used to test hypotheses 1, 2, 3, and 4. The Hausman's test analysis in model 1 yields  $\chi^2_3$  of 0.00 (see appendix 4) and  $p$  - value of 0.00 less than 0.05 ( $p < 0.05$ ) which is significant at a 5% level, hence there is fixed effect amongst the variables, therefore we take the fixed effect and interpret the results of the fixed effect regression for model 1. The fixed effect model is preferred in the presence of correlation as it allows for cross sectional heterogeneity by letting the intercept differ across entities.

**Table 4.4: Regression Model 1 Estimates for OLS, Fixed Effect and Random Effect**

Parameters	OLS (P value)	Fixed effect (P value)	Random effect (P value)
Constant	-1.43252	4.46472	2.97076
<i>TDTA</i>	.07170(0.022*)	-.03798(0.087)	-.02615(0.242)
<i>EQTYTA</i>	.67754(0.000*)	.69185(0.000*)	.70698(0.000*)
<i>FATA</i>	-.09471(0.001*)	.00619(0.762)	-.00505(0.806)
<i>LngTA</i>	1.05536(0.000*)	.67570(0.000*)	.77175(0.000*)
<i>TURN</i>	.00405(0.154)	.00087(0.629)	.00110(0.546)
R <sup>2</sup>	0.6460	0.6338	0.6388
Adj R <sup>2</sup>	0.6440		
F Stat	327.00	65.50	
Prob> F	0.0000	0.0000	
Wald > chi2			502.39
Prob> Chi2			0.000
Root MSE	1.3148		
N	902	902	902

\*Correlation is significant at 0.05 levels



Source: STATA version 13.0, output generated from secondary data

From the summaries of the regression for model 1 as shown in table 4.4, the  $P$  values are illustrated in parentheses; the OLS result shows that total debt-to-total assets (TDTA), equity-to-total assets (EQTYTA), fixed assets-to-total assets (FATA), and, log of total assets (LNgTA) have significant parameters with  $P$  values  $< 0.05$ . Turnover has insignificant parameter of  $P$  values  $> 0.05$ . There is a model fit of 64.60% with an  $R^2$  value of 0.6460. The fixed effect result shows that equity-to-total assets (EQTYTA), and log of total assets (LNgTA) have significant parameters with  $P$  values 0.000 ( $0.000 < 0.05$ ), while total debt-to total assets (TDTA), fixed assets-to-total assets (FATA) and turnover (TURN) have insignificant parameters with  $P$  values  $> 0.05$ . The fixed effect regression has a model fit of 63.38% ( $R^2 = 0.6338$ ). The random effect results show that equity-to-total assets (EQTYTA), and log of total assets (LNgTA) have significant parameters with  $P$  values 0.000 ( $0.000 < 0.05$ ), while total debt-to-total assets (TDTA), fixed assets-to-total assets (FATA) and turnover (TURN) are insignificant with  $P$  values  $> 0.05$ . The  $R^2$  value of the random effect result is 0.6338, indicating that there is a model fit of 63.38%.

#### 4.6.1 Regression Results for Model 1

The summary of the fixed effect regression results for the model 1 is shown in table 4.5.

**Table 4.5: Summary of Fixed Effect Regression Results for Model 1**

	Coefficients	T	P>[t]
Constant	4.46472		
<i>TDTA</i>	-.03798	1.71	0.087
<i>EQTYTA</i>	.69186	8.40	0.000*
<i>FATA</i>	.00619	0.30	0.762
<i>LngTA</i>	.67570	17.77	0.000*
<i>TURN</i>	.00087	0.48	0.629
R <sup>2</sup>	0.6338		
F Stat	65.50		
Prob> F	0.0000		

\*Correlation is significant at 0.05 levels

Source: STATA version 13.0, output generated from secondary data

Substituting the coefficients into model 1 as follows

$$LngMRKTV_{it} = a + \beta_1(TDTA)_{it} + \beta_2(EQTYTA)_{it} + \beta_3(FATA)_{it} + \beta_4(LngTA)_{it} + \beta_5(TURN)_{it} + \varepsilon$$

Revealed the following with the respective t values inserted in parenthesis:

$$LngMRKTV = 4.46472 - .03798TDTA + .69186EQTYTA + .00619FATA +$$

(-1.71)	(8.40)	(0.30)
<b>.67570LngTA+ .00087TURN</b>		
(17.77)	(0.48)	

From the summary of regression results, the coefficient of the constant is 4.46472. There is an inverse relationship between total debt-to-total assets (TDTA) and log of market value of shares (LngMRKTV) with a beta coefficient of -.03798. If market value of shares (LngMRKTV) were to increase by 1%, total debt-to-total assets (TDTA) will drop by 3.79%. Equity to-total assets (EQTYTA) have the highest positive beta coefficient of .69186, followed by log of total assets (LngTA) with .67570. An increase in market value of shares (LngMRKTV) of 1% will lead to corresponding increases in equity-to-total assets (EQTYTA) by 69.18% and 67.56% in log of total assets (LngTA), respectively. The beta coefficients for fixed assets-to-total (FATA) assets and turnover (TURN) are .00619 and .00087. There is a model fit with Prob> F (0.0000 < 0.05) with an R<sup>2</sup> value of 0.6338, indicating that 63.38% of the independent variables are explained in the dependent variable.

***Decision rule***

The decision rule is that if  $p < 0.05$  and t-value is  $> 1.96$  we reject the null hypothesis, otherwise we fail to reject the null hypothesis.

***Test of Hypothesis One***

H<sub>01</sub>: Total debt-to-total assets have no significant impact on market value of quoted non-financial firms in Nigeria.

From the summary of regression result, the  $p$  value is 0.087 ( $0.087 > 0.05$ ) and t-value is -1.71 ( $-1.71 < 1.96$ ). We fail to reject the null hypothesis and conclude that total debt-to-total assets has no significant impact on market value of quoted non-financial firms in Nigeria. The outcome of this hypothesis did not provide evidence in support of total debt as a determinant factor on market value of quoted non-financial firms in Nigeria. This result did not conform to the a priori expectation of the study.

### ***Result of Test of Hypothesis One***

As concluded, total debt-to-total assets has no significant effect on market value of quoted non-financial firms in Nigeria, signifying that total debt is not a significant determinant in market value of the quoted firms under study. The implication of the result statistically is that if market value were to increase by 1%, total debt-to-total assets will drop by 3.79%, or alternatively, a drop in total debt-to-total assets by 3.79% will lead to increase in market value by 1%. The result conforms to the signalling hypothesis theory of capital structure. The use of debt sets off a negative signal to the market and thus not having an effect on market value. The reality of this result is that financing using total debt has not contributed to market performances of the quoted firms and companies may likely use less of debt in financing decisions. The use of stock to finance operations might be a better option than debt. The managerial implication of this result is that corporate debt has a negative impact on financial performance. Managers can avoid as much as possible the use of debt as a financing source because using debt implies paying interest charges (especially on short term instruments) and having less retained earnings for

company operations. This eventually has an effect on financial performance and market value.

### ***Test of Hypothesis Two***

H<sub>02</sub>: Equity-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

From the summary of regression result, the  $p$  value is 0.000 ( $0.000 < 0.05$ ) and  $t$ -value is 8.40 ( $8.40 > 1.96$ ). We reject the null hypothesis and conclude that equity-to-total assets have a significant impact on market value of quoted non-financial firms in Nigeria. The outcome of this hypothesis provides evidence in support of equity-to-total assets as a determinant factor in firm market value performance. The result conform to the expectation of the study where there was supposed to be a positive effect of equity on market value.

### ***Result of Test of Hypothesis Two***

The positive association between equity-to-total assets and market value signifies that quoted non-financial firms make heavy use of equity in their financing decisions which leads to increases in market value. If market value were to increase by 1%, equity-to-total assets will increase by 69.18%. Alternatively, if equity-to-total assets were to increase by 69.18%, market value of quoted non-financial firms will increase by 1%. The reality of the position is that the companies are making use of equity in their financing decisions and equity could be a cheaper source of financing than debt. The result agrees with agency theory and pecking order theory of capital structure. Managers have more information about their companies and are acting in the best interest of the owners or

principals, and that financing using internal sources has been most appropriate in determining the financial performance of quoted non-financial firms in Nigeria. This result explains the reality of the behaviour of equities. When stocks are in demand, share prices increase, likewise, the firm is most likely to issue additional shares when there is demand of the stock. On the other hand, when the company is not posting favourable results, the effect will be reflected in the shares of the company. Market value is therefore an explanation of equities behaviour in the Nigerian capital market. The implication of this finding is that managers will continue to make use of equity in their financing decisions since it has a positive impact on financial performance and equity is major in determining market value.

### ***Test of Hypothesis Three***

H<sub>03</sub>: Fixed assets-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

From the summary of regression results, the  $p$  value is 0.762 ( $0.762 > 0.05$ ) and  $t$ -value is 0.30 ( $0.30 < 1.96$ ). We fail to reject the null hypothesis and conclude that fixed assets-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria. The outcome of this hypothesis did not provide evidence in support of the use of fixed assets as a determinant factor on market value performance. This result did not conform to the a priori expectation of the research.

### ***Result of Test of Hypothesis Three***

Contrary to the expectation of the research, the use of fixed assets-to-total assets has no significant effect on the market value of quoted non-financial firms in Nigeria. From the

regression results there is a positive correlation between fixed assets-to-total assets and market value. A 1% increase in market value will lead to an increase in fixed assets-to-total assets by 0.61%, or, an increase in fixed assets-to-total assets by 0.61% will lead to a corresponding increase in the dependent variable by 1%. The implication of this finding is that the use of fixed assets has no significant impact on market value performance of the companies. Financial managers are not making judicious use of fixed assets in their financing decisions and this could be associated with higher costs associated with financing using debt. The findings of the study conform to the trade-off theory of capital structure. Where the use of fixed assets is not having greater effect in market performance, the company can decide to switch to other sources of financing.

#### ***Test of Hypothesis Four***

H<sub>04</sub>: Total assets have no significant effect on market value of quoted non-financial firms in Nigeria.

From the summary of regression results, the  $p$  value is 0.000 ( $0.000 < 0.05$ ) and  $t$ -value is 17.77 ( $17.77 > 1.96$ ). We reject the null hypothesis and conclude that total assets have a significant effect on the market value of quoted non-financial firms in Nigeria. The outcome of this hypothesis provides evidence in support of total assets as a determinant factor on market value performance. The result conforms to the a priori expectation of the research where a positive effect was expected on market financial performance.

#### ***Result of Test of Hypothesis Four***

If total assets were to increase by 67.56%, market value will increase by 1%. The reality of this result is that total assets are contributing to market value of quoted non-financial

firms in Nigeria. As firms grow in total assets, their financial performances also increase. This result implies that the firms are making efficient use of their total assets in financing decisions and recording improved performance. The managerial implication is that companies will continue to use total assets because financing through assets is having a positive impact on market value. This result agrees with the trade-off theory of capital structure.

***Regression Model 2 Estimates for OLS, Fixed Effect and Random Effect***

The summaries of the OLS, fixed effect and random effect regression for model 2 are shown in table 4.6. Model 2 was used for testing hypotheses 5, 6, 7, and 8. The summary of regression results for model 2 is shown in table 4.7. The Hausman’s test analysis in the model 2 yields  $\chi^2_3$  of 0.00 (see appendix 4) and  $p$  - value of 0.00 less than 0.05 ( $p < 0.05$ ) which is significant at a 5% level, hence there is fixed effect amongst the variables. We therefore take the fixed effect and interpret the results of the fixed effect and interpret the results of the fixed effect regression on model 2 overleaf.

**Table 4.6: Regression Model 2 Estimates for OLS, Fixed Effect and Random Effect**

Parameters	OLS (P value)	Fixed effect (P value)	Random effect (P value)
Constant	.40579	1.33564	.49476
<i>TDTA</i>	.48159(0.000*)	.29020(0.000*)	.41588(0.000*)
<i>EQTYTA</i>	.66468(0.000*)	.78877 (0.000*)	.70410(0.000*)
<i>FATA</i>	-.44207(0.000*)	-.26642(0.000*)	-.38149(0.000*)



<i>LngTA</i>	-0.03042(0.229)	-0.09063(0.088)	-0.036356 (0.216)
<i>TURN</i>	-0.00030(0.911)	-0.00058 (0.816)	-0.00039(0.880)
R <sup>2</sup>	0.5955	0.5736	0.5935
Adj R <sup>2</sup>	0.5932		
F Stat	263.78	232.48	
Prob> F	0.0000	0.0000	
Wald > chi2			1278.88
Prob> Chi2			0.000
Root MSE	1.2184		
N	902	902	902

\*Correlation is significant at 0.05 levels

Source: STATA version 13.0, output generated from secondary data

From the summaries of the regression for model 2 as shown in table 4.6, the *P* values are illustrated in parentheses, the OLS result shows that total debt-to-total assets (TDTA), equity-to-total assets (EQTYTA), and fixed assets-to-total assets (FATA) are significant with *P* values of 0.000 ( $0.000 < 0.05$ ). Log of total assets (*LngTA*) and turnover are insignificant with *P* values  $> 0.05$  and there is a model fit 59.32% ( $R^2$  0.5932). In the fixed effect result, there are significant with *P* values of 0.000 ( $0.000 < 0.05$ ) in total debt-to-total assets (TDTA), equity-to-total assets (EQTYTA), and fixed assets-to-total assets (FATA). However, log of total assets (*LngTA*) and turnover (*TURN*) are insignificant with *P* values  $> 0.05$ . The fixed effect result shows a model fit of 57.36% ( $R^2$  0.5736). In the random effect results, total debt-to-total assets (TDTA), equity-to-total assets (EQTYTA), and fixed assets-to-total assets (FATA) are significant with *P* values of 0.000 ( $0.000 < 0.05$ ). Log of total assets (*LngTA*) and turnover (*TURN*) are

insignificant with  $P$  values  $> 0.05$ . The  $R^2$  value is 0.5935 indicating a model fit of 59.35%. From these regression results, it is seen that log of total assets ( $LngTA$ ) and turnover ( $TURN$ ) do not impact significantly with profit after tax scaled to total assets.

#### 4.6.2 Regression Results for Model 2

**Table 4.7: Summary of Fixed Effect Regression Results for Model 2**

	Coefficients	T	P>[t]
Constant	1.33564		
<i>TDTA</i>	.29012	9.38	0.000*
<i>EQTYTA</i>	.78878	6.87	0.000*
<i>FATA</i>	-.26642	-9.34	0.000*
<i>LngTA</i>	-.09063	-1.71	0.088
<i>TURN</i>	-.00058	-0.23	0.816
$R^2$	.05736		
F Stat	232.48		
Prob> F	0.0000		

\*Correlation is significant at 0.05 levels

Source: STATA version 13.0, output generated from secondary data

From the summary of the fixed effect regression results for model 2 shown in table 4.7, substituting the coefficients into model 2 as follows:

$$ScalePTAX_{it} = \alpha + \beta_1(TDTA)_{it} + \beta_2(EQTYTA)_{it} + \beta_3(FATA)_{it} + \beta_4(LngTA)_{it} + \beta_5(TURN)_{it} +$$

$\varepsilon$

Revealed the following with the respective t values inserted in parenthesis:

$$\begin{aligned}
 \text{ScalePTAX} = & 1.33564 + .29012\text{TDTA} + .78878\text{EQTYTA} - .26642\text{FATA} - \\
 & \quad \quad \quad (9.38) \quad (6.87) \quad (-9.34) \\
 & \quad \quad \quad .09063\text{LngTA} - .000585\text{TURN} \\
 & \quad \quad \quad (-1.71) \quad \quad (-0.23)
 \end{aligned}$$

From the summary of regression results, the coefficient of the constant is 1.33564. Total debt-to-total assets(TDTA) is a significant determinant in profit after tax scaled to total assets(ScalePTAX) and impacts positively with a beta coefficient value of .29012, indicating that a 1% increase in profit after tax scaled to total assets (ScalePTAX) will lead to a corresponding increase by 29.01% increase in total debt-to-total assets (TDTA). The beta coefficient for equity-to-total assets (EQTYTA) is .78878 indicating that it is a significant determinant that is explained in the model. A 1% increase in profit after tax scaled to total assets (ScalePTAX) will lead to a corresponding increase in equity-to-total assets (EQTYTA) by 78.87%. There is a significant inverse relationship between fixed assets-to-total assets(FATA) and profit after tax scaled to total assets(ScalePTAX) with a coefficient of -.26642. If profit after tax scaled to total assets (ScalePTAX) were to increase by 1%, fixed assets-to-total asset(FATA) will drop by 26.64%. The beta coefficients of log of total assets (LngTA) and turnover(TURN) are also inversely related with return on investment with values of -.09063 and -.00058 showing that if profit after tax scaled to total assets(ScalePTAX) were to increase by 1%, there will be a drop of 9.06% in log of total assets(LngTA) and a drop of .05% in turnover (TURN). There is a model fit with Prob> F (0.0000 < 0.05) with R<sup>2</sup> statistics of 0.5736(57.36%) indicating that 57.36% of the independent variables are accounted for and explained in the dependent variable.

### ***Decision rule***

The decision rule is that if  $p < 0.05$  and t-value is  $> 1.96$  we reject the null hypothesis, otherwise we fail to reject the null hypothesis.

### ***Test of Hypothesis Five***

H<sub>05</sub>: Total debt-to-total assets have no significant impact on return on investment of quoted non-financial firms in Nigeria.

From the summary of regression result, the  $p$  value is 0.000 ( $0.000 < 0.05$ ) and t-value is 9.38 ( $9.38 > 1.96$ ). We reject the null hypothesis and conclude that total debt-to-total assets have a significant impact on return on investment of quoted non-financial firms in Nigeria. The outcome of the study provides evidence in support of total debt as a determinant factor on return on investment. This result conforms to the expectation of the study where total debt was expected to have a positive impact on profit after tax.

### ***Result of Test of Hypothesis Five***

As concluded in the results of the test on hypothesis five, total debt-to-total assets have a significant impact on return on investment of quoted non-financial firms in Nigeria and the relationship is significant. This result implies that quoted non-financial firms in using total debt in their financing decisions is impacting positively on profitability of the companies. The statistical implication of the result is that if return on investment were to increase by 1%, total debt-to-total assets of the sampled companies will increase by 29.01%, or an increase in total debt-to-total assets of 29.01% will lead to an increase in return on investment of 1%. This result is in line with the pecking order theory. The

reality of this result is that the companies make use of total debt to finance company operations and by doing so it has a positive effect on the financial performance of the firms internally. The result is in line with the trade-off theory where firms choose either debt, or equity financing to achieve maximum financial performance. The possible reason for using debt to finance their operations is that debt financing could be a cheap source of finance for the companies.

### ***Test of Hypothesis Six***

H<sub>06</sub>: Equity-to-total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

From the summary of regression results, the  $p$  value is 0.000 ( $0.000 < 0.05$ ) and t-value is 6.87 ( $6.87 > 1.96$ ). We reject the null hypothesis and conclude that equity-to-total assets have significant effect on return on investment of quoted non-financial firms in Nigeria. The outcome of the study provides evidence in support of the use of equity-to-total assets as an important determinant on return on investment of quoted non-financial firms in Nigeria. The result of this hypothesis conforms to the a priori expectation of the study.

### ***Result of Test of Hypothesis Six***

From the outcome of the research, there is a significant effect and positive correlation between equity-to-total assets and return on investment of quoted non-financial firms in Nigeria. The statistical implication of the result is that if equity-to-total assets were to increase by 78.87% return on investment will increase by 1%. Alternatively, if return on

investment were to increase by 1%, it will lead to a corresponding increase in equity-to-total assets by 78.87%. The implication of this result signifies a strong relationship that is positively correlated with the dependent variable. The implication of this result is that the quoted non-financial firms in Nigeria contribute 78.87% in financing using equity to increase their profit after tax. Financing using equity therefore plays an important role in return on investment. The result is in conformity with Agency theory and pecking order theory where professional managers increasingly gained day-to-day management responsibility for firms that had previously been actively managed by their owners, and, firms make use of internal financing to achieve greater financial performance. Equity financing may be a cheaper source of financing compared with financing using debt sources and thereby more preferable to debt sources of financing because the implications of interest payments or high cost of debt is not incurred. With this result, it further indicates that the owners of the companies are showing interest in their investment and financing the companies. The positive association between equity-to-total assets and return on investment is that increase in equity signifies an increase in profitability of the sampled companies. The result confirms financing through equity is appropriate in determining financial performance. This result confirms with reality and behaviour of equities. When stocks are in demand and the company issues additional shares, the expectation is that market values of the shares are likely to increase. It also explains the performance of such stocks. This has been the reality with stock behaviour in Nigeria. On the other hand, when the company is not posting favourable results, the effect will be reflected in the shares of the company. Profitability is therefore an explanation of equities

behaviour in the Nigerian capital market. Investors will not tie their funds in companies where return on investment is not good, improving or bringing back the expected returns.

### ***Test of Hypothesis Seven***

H<sub>07</sub>: Fixed assets-to-total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

From the summary of regression results, the  $p$  value is 0.000 ( $0.000 < 0.05$ ) and  $t$ -value is -9.34 ( $-9.34 < 1.96$ ). We reject the null hypothesis and conclude that fixed assets-to-total assets have a significant effect on return on investment of quoted non-financial firms in Nigeria. The outcome of the study provides evidence in support of the use of fixed assets as an important determinant of return on investment. There is a relationship with fixed assets-to-total assets and return on investment and this relationship confirms the a priori expectation of the research.

### ***Result of Test of Hypothesis Seven***

The statistical implication of the result is that fixed assets-to-total assets is significantly having an effect in determining return on investment of quoted non-financial firms in Nigeria, and there is an inverse correlation between fixed assets-to-total assets and return on investment of the companies. If return on investment were to increase by 1%, there will be a drop in fixed assets-to-total assets of 26.64% or, a drop in fixed assets-to-total assets of 26.64% will lead to an increase in return on investment by 1%. The implication of this result is that return on investment of the companies increase, the use of fixed assets-to-total assets are reduced. The significant effect translates that quoted non-financial companies in Nigeria issue collateral in their financing needs and by so doing

there was a significant return on investment. The result is in line with the trade-off theory where firms choose the amount of debt or equity to balance costs and benefits and those firms with tangible assets already have stable income and there may not be any need to seek for external financing.

### ***Test of Hypothesis Eight***

H<sub>08</sub>: Total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria.

From the summary of regression result the *p* value of total assets is 0.088 (0.088 > 0.05) and t-value is -1.71 (-1.71 < 1.96). We fail to reject the null hypothesis and conclude that total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria. The results of this hypothesis did not conform to the expectation of the research where a positive significant relationship was expected between the return on investment and total assets.

### ***Result of Test of Hypothesis Eight***

The findings of this result imply that the relationship between total assets and return on investment is inverse and not significant. Total assets does not influence return on investment of quoted non-financial firms in Nigeria. The statistical implication is that if return on investment were to increase by 1% total assets will drop by 9.06%, or alternatively if total assets were to drop by 9.06%, return on investment will increase by 1%. Total assets of quoted non-financial firms in Nigeria are not contributing to the profitability of quoted non-financial firms in Nigeria. The reality of the situation is that the total assets of the companies are not generating profit for the companies. Profits are



therefore not realised from total assets. Total assets have been seen to influence profitability but it may not be so in many circumstances. Total assets therefore cannot be seen to be a major factor in determining profitability because there are instances where smaller firms make profits and larger firms experience losses. The findings of this hypothesis agree with the trade-off theory of capital structure.

### ***Summaries of Tests of Hypotheses***

The summaries of the result of tests of hypotheses and the decisions adopted by the research are presented in table 4.8

**Table 4.8: Summary of Tests of Hypotheses and Decisions**

Hypothesis	$p$ value	t statistics	Decision
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H <sub>01</sub>	0.097	-1.71	We fail to reject the null hypothesis
H <sub>02</sub>	0.000	8.40	We reject the null hypothesis
H <sub>03</sub>	0.762	0.30	We fail to reject the null hypothesis
H <sub>04</sub>	0.000	17.77	We reject the null hypothesis
H <sub>05</sub>	0.000	9.38	We reject the null hypothesis
H <sub>06</sub>	0.000	6.87	We reject the null hypothesis
H <sub>07</sub>	0.000	-9.34	We reject the null hypothesis
H <sub>08</sub>	0.088	-1.71	We fail to reject the null hypothesis

Source: STATA version 13.0, output generated from secondary data

#### **4.7 Discussion of Findings**

From the data analysed and outcome of the results, it shows that there was no significant impact between total debt-to-total assets and market value of quoted non-financial firms in Nigeria. The findings of the study conforms to the findings of Kimathi, Galo and Melissa (2015) who found negative relationship between leverage and financial performances of both large and small firms. The results however, but contrary to the research of Anake, Obim and Awara (2014) and Idris and Bala (2015) who found positive and significant impact of debt-equity, tangibility, and growth on capital structure. Financing using total debt-to-total assets does not contribute to the market performance of the companies and revealing that the use of debt sets off a negative signal to the

market and thus not have an effect on the external financial performance of the companies. As corporate debt has a negative influence on financial performance, managers are likely to avoid as much as possible the use of debt as financing sources.

Equity-to-total assets were positively correlated and significant and were a determinant factor in market value of quoted non-financial firms in Nigeria. The findings of this study conform to the results of Idris and Bala (2015) who found evidence of equity in financial performance and did not agree with the research of Dalal (2013) who concludes that leverage is a cheaper source of financing than equity. The positive association signified that managers have more information about their companies, are acting in the best interest of the owners or principals and are making heavy use of equity in the financing decisions of quoted non-financial firms in Nigeria. Market value of quoted non-financial firms in Nigeria is an explanation of equities behaviour in the Nigerian capital market and managers would continue to make use of equity in their financing decisions because of its relationship with external financial performance.

Fixed assets-to-total assets were positively correlated but insignificant in determining the market value of quoted non-financial firms in Nigeria. The findings of the study did not agree with the findings of Campello and Giambona (2013) and Docherty, Chan, and Easton (2010) who also found significance in the use of tangibility, in financial performance. The findings of the study agree with the research of Mwaangi and Birundu (2015) who found no significant effect of capital structure, asset turnover and asset tangibility on the financial performance of SMEs in Thika sub-country, Kenya. As fixed assets-to-total assets have no significant effect on market value (external financial

performance of the companies) the implication is that financial managers are not making judicious use of fixed assets in their financing decisions. This could be associated with high costs such as interest rates and other bank charges associated with financing using debt that are in place in the Nigerian banking system.

Total assets were positively correlated and significant in determining market value of quoted non-financial firms in Nigeria. The findings of the study agree with the findings of Pervan and Visic (2012) and did not agree with the findings of the research carried out by Israel and Moskowitz (2013). Total assets were contributing to and a determinant factor in market value of quoted non-financial firms in Nigeria. Firms are making efficient use of total assets in financing decisions and recording improvements and explaining the financial performance of the firm externally and as a result of this finding, company will continue to use total assets in their financing decisions.

Total debt-to-total assets have a significant impact on return on investment of quoted non-financial firms in Nigeria. This result conforms to the findings of the research carried out by Anake, Obim and Awara (2014) and Idris and Bala (2015) who found positive and significant impact of debt-equity, tangibility, and growth on capital structure, and, debt-equity variables on market returns. The results also agree to the findings of Salawu, (2009) who found presence in relationship between profitability and debt, and Dalal (2013) who conclude that leverage is a cheaper source of financing than equity. The findings of this research did not agree with the study of Mule and Mukras (2015), Kajirwa (2015) who conclude that the use of debt in a firm's structure negatively affects performance, Onaolapo, Kajola, and Nwidobie (2015) also found negative and significant

relationship between total debt (leverage ratios) with profitability, Onoja and Ovayioza(2015) found no significance between debt usage and the value of small scale manufacturing firms, and Ebimobowei, Okay and Binaebi (2013) also found significant negative relationship between debt with firm performance. Quoted non-financial companies in Nigeria are making use of total debt in their financing decisions and in doing so are having an effect on financial performance internally. Debt financing could be a cheap source of finance for the companies and having an effect on return on investments.

Equity-to-total assets are an important determinant on return on investment of quoted non-financial firms in Nigeria. The outcome of the study is consistent with the results of Akeem, Terer, Kiyanjui, and Kayode (2014) who found evidence of equity in financial performance and did not agree with the research of Mubin, Iqbal and Hussain (2014) who conclude on lower effects of return on equity on profit margin, and that profit margin does not affect returns on equity, and also the research of Dalal (2013) who concludes that leverage is a cheaper source of financing than equity. Financing using equity may be cheaper than financing using debt and having an effect on return on investment of the companies. Financing using equity further indicates that shareholders have interest in their investment and contributing equity in their financing decisions. The reality of equities behaviour is explained in the use of equity as a contributor to financial performance where if shareholders have confidence in the investment, they will commit more shares in the company which is expected to increase the company's financial performance.

Fixed assets-to-total assets are an important determinant of return on investment of quoted non-financial firms in Nigeria and the significant effect means that the firms issue collateral in their financing needs and by so doing is having an effect on financial performance of the company internally. The results of this hypothesis is in line with the research of Smith (2012) who found the use of financing with assets prominent in capital structure decisions. The results of the research did not confirm with the study carried out by Koralun–Bereźnicka (2013) who concludes that the relationship between tangibility and debt was negative but statistically significant.

Total assets have no significant effect on return on investment of quoted non-financial firms in Nigeria. Total assets are therefore not contributing to the profitability of quoted non-financial firms in Nigeria implying that total assets are not a determining factor for the financial performance of the firm internally. The result of findings of the hypothesis agree with the research of Israel and Moskowitz (2013) who found little evidence to support firm size with monumental returns, and did not conform to the outcome of the findings of the study of Kurshev and Strebulaev (2008) whose findings revealed a consistent and positive relationship of leverage and firm size.

The major findings of the results of the research show an overall and consistent prediction of the theoretical framework of the research. The result was consistent with previous empirical studies on firm characteristics, capital structure and financial performance showing that firm characteristics decisions of developed countries are

equally applicable to decisions in Nigeria and are relevant in determining the financial performance of quoted non-financial firms in Nigeria.

#### **4.8 Policy Implication of the Research Findings**

The study established that equity-to total assets and total assets have significant effect on market value, total debt-to-total assets and fixed assets-to-total assets have no effect on market value; total debt-to-total assets, equity-to-total assets and fixed assets-to-total assets have significant effect on return on investment, and total assets have no significant effect on return on investment. The results of this study provides an insight for managers and policy makers and it will serve as a guide in developing, implementing and maintaining the appropriate firm characteristics that will maximize the wealth of shareholders and provide value for the organisation.

The outcome of this research should also be a guide for policy makers and government regulators when implementing policies and guidelines to take into consideration the factors that affect financial performance and make policies in favour of these factors so that companies are encouraged to continue to make profit.

Government when implementing political and economic decisions should take into consideration the outcome of the research so that policies made regarding taxation policy, inflation, company regulations, tariffs, import restrictions, and so on are made in the best interest of companies operating in Nigeria.

Quoted non-financial firms are making use of equity in their financing decisions. The Nigerian Stock Exchange and the Securities and Exchange Commission should continue to ensure that the policies put in place are ones that would further attract investing in equities and the capital market. Listing requirements which are high should be reduced to encourage the quotation of more firms on the Exchange and leverage the number of tradable equities in the capital market because with increased capital market activities, funds are channelled into organisations which ensure continued profitability and growth for the companies.

The Central Bank of Nigeria and banks should implement reasonable interest rates and bank charges to encourage financing using short term debt sources. The banking reforms introduced in 2005 has not been helpful for external financing with high interest rates currently being experienced in the money market. As debt financing is significant in determining financial performance, banks in Nigeria should look into issues of multiple bank charges, inflation, high interest rates, and high bank charges so that financing through debt increase, further external financial performance of the quoted non-financial firms in Nigeria.

#### **4.9 Summary**

The results of the study were presented in this chapter. The Shapiro-Wilk test for normality showed that the data were normally distributed. The descriptive statistics showed that in the 902 numbers of observations the highest mean value was market value of shares and the correlations showed that most of the variables were significantly correlated. The results of the OLS, fixed effect and random effect were illustrated and



from the Hausman test the fixed effect regression was interpreted for the two models. The test of hypotheses showed significant relationship between market value of shares with equity-to-total assets, and total assets and an insignificant relationship between market value of shares with total debt-to-total assets and fixed assets-to-total assets. There was insignificant relationship between return on investment with total debt-to-total assets, equity-to-total assets, and fixed assets-to-total assets; and an insignificant relationship between return on investment and total assets. The results revealed an overall consistent with the theoretical framework of the study and the relevance school of thought in capital structure.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary of Findings**

Firm characteristics decisions are important factors in financing decisions which have not been given much attention. The objective of the study was to examine firm characteristics on the financial performance of quoted non-financial firms in Nigeria. Studies on firm characteristics have not been done to analyse its effect both internally and externally on the financial performance of quoted non-financial firms and this research in addition to debt and equity included more variables of fixed assets-to-total assets and total assets, with turnover as controlling variable in the two models. The study focuses on a span of eleven years from 2004 to 2014.

The result of model 1 evaluated the financial performance of the companies externally and firm characteristics of quoted non-financial firms in Nigeria. Hypothesis one looked at the significance of total debt-to-total assets on market value of quoted non-financial firms in Nigeria. The results revealed that total debt-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria and the outcome of the result did not agree with the a priori expectation of the study.

Hypothesis two looked at the significant effect of equity-to-total assets on market value of quoted non-financial firms in Nigeria. The results revealed that equity-to-total assets have a significant effect on market value of quoted non-financial firms in Nigeria. The outcome of the result agreed with the a priori expectation of the study.

Hypothesis three evaluated the significant effect of fixed assets-to-total assets on market value of quoted non-financial firms in Nigeria. The results revealed that fixed assets-to-total assets have no significant effect on market value of quoted non-financial firms in Nigeria. The findings of the study did not agree with the a priori expectation of the research.

Hypothesis four looked at the effect of total assets on market value of quoted non-financial firms in Nigeria. The results showed that total assets have a significant effect on market value of quoted non-financial firms in Nigeria. The outcome of the result provided evidence of total assets on market value of quoted non-financial firms in Nigeria and agrees with the a priori expectation of the study.

Model 2 looked at financial performance internally from the perspective of profit after tax, and firm characteristics of quoted non-financial firms in Nigeria. Hypothesis five evaluated the effect of total debt-to-total assets on return on investment of quoted non-financial firms in Nigeria. The results showed that total debt-to-total assets have significant effect on return on investment of quoted non-financial firms in Nigeria, and the outcome of the result agreed with the a priori expectation of the study.

Hypothesis six evaluated the effect of equity-to-total assets on return on investment of quoted non-financial firms in Nigeria. The outcome of the results provided evidence in support of equity-to-total assets on return on investment of quoted non-financial firms in Nigeria, and the results agreed with the a priori expectation of the study.

Hypothesis seven looked at the effect of fixed assets-to-total assets on return on investment of quoted non-financial firms in Nigeria. The result revealed that fixed assets-to-total assets have significant effect on return on investment of quoted non-financial firms in Nigeria. The outcome of the result agreed with the a priori expectation of the study.

Hypothesis eight evaluated the effect of total assets on return on investment of quoted non-financial firms in Nigeria. The results revealed that total assets have no significant effect on return on investment of quoted non-financial companies in Nigeria and we fail to reject the null hypothesis. The result did not agree with the a priori expectation of the study.

## **5.2 Conclusion**

The research established that firm characteristics factors of equity-to-total assets, and total assets were significant in determining market value; total debt-to-total assets and fixed assets-to-total assets were insignificant in determining the external financial performance of the quoted non-financial companies in Nigeria. Total debt-to-total assets, equity-to-total assets, and fixed assets-to-total assets were a significant factor in determining return on investment, and total assets were not significant in determining

return on investment of quoted non-financial firms in Nigeria. The outcome of the study conforms and identifies with the relevance school of thought as agreed with the signalling hypothesis theory, agency theory, pecking order theory, and trade off theories of capital structure.

Based on the findings of the research, it can be concluded that with regards to firm characteristics and the financial performance of quoted non-financial firms in Nigeria, equity-to-total assets and total assets are the determinants of market value, while total debt-to-total assets, equity-to-total assets and fixed assets-to-total assets are the determinants of return on investment; and firms are encouraged to make more use of these variables in their firm characteristics decisions. Total debt-to-total assets and fixed assets-to-total assets are not determinants of market value and total assets and turnover are not determinants of return on investment. The outcome of this research differs from other studies carried out. It should be encouraged that companies put in place measures that would improve on sales to impact positively on their return on investment and total debt and tangibility for more effective performance on market value of quoted non-financial firms in Nigeria. It is further concluded that listing requirements in the capital market should be reviewed and made easier for companies seeking quotation so that activities in the capital market improves and encouraging investments in the Nigerian capital market. The Central Bank of Nigeria and banks should also put in place measures that are attractive for seeking funding using the money markets. This will further improve financial performances both internally and externally.

### **5.3 Recommendations**

Based on the findings of the study, the following recommendations are proposed:

- i. Management of all quoted non-financial firms in Nigeria should consider the effects on the outcome of this research for consideration of their financing decisions.
- ii. Policy makers of the Nigerian capital market such as the Securities and Exchange Commission and the Nigerian Stock Exchange should consider and implement policies that are favourable to the investors. Such policies include ensuring that listing requirements are reduced to encourage quotation of more firms on the Exchange and higher number of tradable equities in the capital market. This will ensure continued investment in the capital market. They should also safeguard the capital market by ensuring proper monitoring and supervision of activities so that investments are protected against any unfavourable circumstances.
- iii. Policy makers of the Nigerian money market should put in place instruments that are favourable for companies when seeking for funds. High bank charges and interest rates should be addressed so that firms can secure funds from the money market profitably. High interest rates and bank charges make funding unprofitable and difficult for companies to operate.
- iv. Quoted non-financial firms should continue to finance activity using debt since debt financing has an effect on return on investments. Debt financing could be through the issuance of short term debt or long debt. Long term debt instruments like debentures and corporate bonds or commercial papers.
- v. Quoted non-financial firms should continue to finance activity using equity. The use of retained earnings, rights issues and public offers as financing decisions should be encouraged and exercised often by the companies when seeking for funds.

- vi. Quoted non-financial firms should continue to finance their operations through the use of assets since fixed assets and total assets have significant effect on return on investments of the firms.

#### **5.4 Limitations of the study**

The limitations of the study are as follows:

- i. The secondary data used for the study were from the financial reports of the companies. Many companies were excluded because they had not declared and made public their results and the financial performance of some companies were not too profitable most probably related to the performance of the Nigerian capital market.
- ii. Many companies used in the research have different financial year end and are guided and regulated by different authorities.
- iii. From the managerial point of view, the variables used in the study were scaled with total assets and the year-end of view. The problem is that different companies have different financial year-end, the results of which may vary based on the timings of the year-end, activity and profitability ratios could also have been used against accounting variables to have a contrary view.
- iv. The proxy for accounting variables may have different operational definitions amongst researchers, making the interpretation of the results of the research different in relation to the fields of expertise.

- v. The proxies for the dependent variables are far larger than the proxy for the independent variables of the research.

Overall, the limitations of the study will not affect the findings of the study.

### **5.5 Suggestions for Further Studies**

- i. Further studies can be carried out on the use of activity and market ratios to identify their effect on financial performance of quoted non-financial companies.
- ii. Further studies can be carried out on the financial sector of the Nigerian Stock Exchange to investigate the variables of study and financial performance.
- iii. Apart from the use of secondary data further studies can also be carried out using primary data, so as to have information from the management perspectives on firm characteristics and financial performance.

### **5.6 Contributions to Knowledge**

This study is an update on the existing literature on capital structure and financial performance in Nigeria. Many studies reviewed capital structure based on either external performance or internal performance. This study used both external performance through market value and internal performance through return on investment to investigate and analyse firm characteristics and its effect on the financial performance of quoted non-financial firms in Nigeria.



Many studies on firm characteristics were conducted on one sector or industry; this study looked at quoted non-financial sectors of The Nigerian Stock Exchange to have a wider and holistic view of firm characteristics and financial performance.

Many studies on characteristics use debt and equity as variables of study; this study looked at a wider range of variables consisting of total debt-to-total assets, equity-to-total assets, fixed assets-to-total assets, total assets and turnover

The research was in line with the relevance school of thought and the trade-off theory, signalling hypothesis theory, pecking order theory and agency theory, of capital structure on quoted non-financial companies in Nigeria and serves as a guiding pattern on choice of firm characteristics that is appropriate in attaining financial performance.

The research investigated and used a cross section of quoted non-financial companies in Nigeria to determine firm characteristics and financial performance of the companies, as against many researches which were conducted on a particular sector, industry or business.

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## Appendix

### AGRICULTURE SECTOR

#### FTN Cocoa Processors Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	14.22098	0.007924	0.759553	1.590457	0.139305	13.35149	2.597761
2005	14.22098	0.005953	0.616715	1.231498	0.100471	13.60728	0.434258
2006	14.22098	0.012969	0.719123	0.79522	0.675581	14.04465	0.24
2007	14.91412	0.053241	0.111277	0.745823	0.610584	14.80193	0.32
2008	14.91412	0.061353	0.22338	0.625969	0.640468	14.97711	1.003497
2009	13.89247	0.074584	0.313709	0.574478	0.559197	15.06295	0.404672
2010	13.99783	0.014724	0.477472	0.462685	0.662957	15.27937	0.121015
2011	13.99783	0.053281	0.480395	0.437069	0.780193	15.33632	0.300647
2012	13.81551	0.092491	0.548768	0.455643	0.865127	15.2947	0.667633
2013	13.81551	0.062829	0.627837	0.439244	0.80688	15.33136	0.768336
2014	13.88005	0.069228	0.552256	0.443833	0.816759	15.32097	0.088982

#### Okomu Oil Palm Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	15.39101	0.133661	0.456976	0.06392	0.905024	15.41983	0.081944
2005	15.39101	0.140786	0.212836	0.063832	0.927073	15.42121	0.066818

2006	15.39101	0.073599	0.404343	0.059137	0.947829	15.49762	0.111584
2007	15.79647	0.021453	0.369595	0.073193	0.88129	15.68984	0.024419
2008	15.79647	0.204173	0.351279	0.08065	0.993957	15.59282	0.721756
2009	15.79647	0.087421	0.515804	0.075877	0.994869	15.65383	0.019233
2010	15.79647	0.187983	0.35715	0.055024	0.740115	15.97516	0.284024
2011	16.21501	0.32559	0.425198	0.039577	0.584535	16.30468	0.826759
2012	16.7464	0.288341	0.177877	0.015359	0.815813	17.25126	0.087658
2013	17.5937	0.014146	0.247365	0.031743	0.871863	17.21839	0.126722
2014	17.00111	0.047244	0.29342	0.029011	0.923793	17.30842	0.023104

**Presco Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	15.39552	0.55189	1.641787	0.455098	0.302799	13.90961	0.102318
2005	15.59046	0.079301	0.460927	0.116386	0.778681	15.27321	0.000658
2006	15.59046	0.041586	0.449605	0.095878	0.703	15.46704	0.103452
2007	15.59046	0.006975	0.506358	0.093624	0.731198	15.49083	0.077064
2008	16.28361	0.037282	0.167053	0.055309	0.23358	16.71032	0.748809
2009	15.53828	0.031548	0.654359	0.131765	0.626379	15.84225	0.010107
2010	15.73976	0.050507	0.3875	0.046123	0.937259	16.89194	0.344993
2011	15.97538	0.067778	0.249541	0.040048	0.886549	17.03319	0.584865
2012	17.46617	0.124545	0.389853	0.035706	0.912051	17.14795	0.318099
2013	17.46617	0.040939	0.467841	0.030615	0.872356	17.30176	0.245867
2014	17.01418	0.074554	0.434357	0.028616	0.908548	17.36929	0.076906

**Ellahlakes Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	11.0021	0.000731	0.396188	0.144482	1	13.62985	0.333895
2005	11.0021	0.001479	0.397791	0.124012	0.88329	13.78263	0.687993
2006	11.0021	0.004713	0.504622	0.124781	0.882565	13.77644	0.018507
2007	11.0021	0.005445	0.573027	0.124183	0.883128	13.78125	0.329175
2008	11.0021	0.003616	0.594063	0.123468	0.883802	13.78702	0.25987
2009	11.0021	0.024354	0.536104	0.114031	0.892683	13.86653	0.523392
2010	11.0021	0.021145	0.59392	0.125169	0.8822	13.77333	0.151614
2011	11.0021	0.026287	0.631786	0.12427	0.883046	13.78054	1.31893
2012	11.0021	0.02764	0.45403	0.106199	0.990983	13.93769	0.906338
2013	11.0021	0.021107	0.497335	0.101881	0.968004	13.9792	1.135737
2014	11.0021	0.011628	0.516396	0.100385	0.963025	13.99399	3.477329

**Livestock Feeds Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	11.15726	0.783658	3.7636	0.08147	0.765824	12.62451	0.013441
2005	11.15726	2.420283	4.50596	0.08007	0.703344	12.64184	0.433919
2006	10.06569	0.039478	4.313915	0.117429	0.991544	12.2589	0.009038
2007	13.94654	0.130832	0.139002	4.528353	0.982011	12.48747	0.601988
2008	13.94654	0.142672	0.140576	3.742947	0.950465	12.67796	1.541471
2009	13.94654	0.034329	0.548519	1.375557	0.34657	13.67897	0.080283
2010	13.56705	0.078544	2.067163	3.330003	0.963511	12.79486	0.081556
2011	13.66933	0.227732	2.418703	2.792425	0.960543	12.97092	0.811275
2012	14.36248	0.248166	2.567675	2.141148	0.975907	13.23649	0.499213

2013	15.96727	0.057415	0.528761	0.544869	0.201499	15.11587	0.125308
2014	15.33283	0.044182	0.655141	0.347658	0.135945	15.56519	0.294515

## CONGLOMERATES SECTOR

### A G Leventis Nigeria Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	0	0.038137	0.368898	0.325131	0.536672	15.65909	0.091336
2005	14.92881	0.058383	0.348637	0.336924	0.475476	15.69462	0.1495
2006	14.92881	0.06316	0.368201	0.297725	0.421767	15.81831	0.016385
2007	14.92881	0.069607	0.307331	0.203962	0.516514	16.19655	0.012151
2008	15.11113	0.088352	0.320376	0.192003	0.632289	16.43929	0.550368
2009	15.11113	0.075154	0.372679	0.161097	0.627266	16.61479	0.211048
2010	15.11113	0.033148	0.462147	0.135371	0.542991	16.78879	0.017423
2011	15.11113	0.015673	0.509533	0.126246	0.56857	16.85857	0.355134
2012	15.08915	0.012472	0.551059	0.116187	0.517775	16.9416	0.099045
2013	15.31968	0.032766	0.51566	0.127066	0.571026	16.8521	0.268935

2014	15.05907	0.016645	0.598811	0.111414	0.590916	16.98355	0.010472
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**Chellarams Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	13.52788	0.015107	0.605685	0.048645	0.375336	15.12798	0.355297
2005	13.52788	0.009022	0.596371	0.050729	0.393933	15.08603	0.244772
2006	14.22103	0.014988	0.588843	0.074727	0.416215	15.39183	0.118958
2007	14.22103	0.046159	0.622511	0.062373	0.385215	15.57254	0.261776
2008	14.22103	0.026866	0.717066	0.039606	0.313076	16.0267	0.299683
2009	14.91417	0.042261	0.748898	0.081883	0.346136	15.99353	0.111486
2010	14.91417	0.046699	0.698861	0.076741	0.370048	16.05838	0.202687
2011	14.91417	0.020682	0.741499	0.067865	0.33344	16.1813	0.202523
2012	14.91417	0.015694	0.860985	0.048981	0.279092	16.5074	0.070632
2013	14.91417	0.005865	0.705968	0.046896	0.386933	16.55089	0.067567
2014	14.91417	0.002614	0.741509	0.043063	0.352329	16.63617	0.708093

**John Holt Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	14.09768	0.008499	0.706654	0.047353	0.422292	15.92403	0.357385
2005	14.09768	0.003784	0.663387	0.059028	0.442258	15.70364	0.440159
2006	14.09768	0.059189	0.712634	0.048495	0.439692	15.90019	0.300229
2007	14.09768	0.003498	0.754971	0.035898	0.37905	16.20097	0.387692
2008	14.09768	0.028812	0.708186	0.028812	0.388667	16.42086	0.261616
2009	14.09768	0.301929	1.266817	0.054922	0.998873	15.77575	0.116278
2010	14.09768	0.00126	1.036538	0.049137	0.998992	15.88705	0.44383

2011	14.09768	0.130178	0.6365	0.032441	0.701131	16.30225	0.421904
2012	14.09768	0.006053	0.833755	0.035237	0.67519	16.21957	0.534131
2013	12.98723	0.015388	0.738031	0.047631	0.927333	15.91818	0.099132
2014	12.98723	0.057351	0.675885	0.037846	0.871616	16.14814	0.073404

**SCOA Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	13.52449	0.056459	0.839744	0.112228	0.044993	15.57195	0.103909
2005	13.40453	0.246428	0.776316	0.18475	0.053806	15.07348	0.171823
2006	13.37468	0.208345	0.780045	0.184754	0.13088	15.07346	0.497984
2007	14.92589	0.531306	1.576685	0.387597	0.119857	14.33252	0.470021
2008	14.92589	0.133564	1.547182	0.374208	0.507772	14.36767	0.108886
2009	14.92589	0.302414	1.235009	0.275307	0.340534	14.6746	0.208867
2010	14.92589	0.085714	1.183375	0.261569	0.436191	14.72578	0.116816
2011	14.92589	0.030415	0.572415	0.107049	0.131977	15.6192	0.181323
2012	14.92589	0.008568	0.539043	0.091878	0.17606	15.77203	0.611748
2013	14.92589	0.014175	0.654525	0.0832	0.159432	15.87123	0.898719
2014	14.92589	0.019415	0.741755	0.070314	0.161251	16.03951	9.27267

**Transnational Corporation Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	15.65047	0.087646	0.819948	0.133419	0.865934	18.35789	0.083801
2005	15.83213	0.077913	0.801251	0.156976	0.869058	18.37694	0.083801
2006	10.12663	0.118985	0.99416	0.000635	0.906551	18.18122	0.20763
2007	16.23649	0.073343	0.708857	0.20979	0.83336	18.49128	0.231328
2008	16.23649	0.050799	0.749167	0.222599	0.877759	18.43202	0.262688
2009	16.23649	0.035294	0.339702	0.647825	0.729373	17.36377	0.174541
2010	16.37328	0.125444	0.379996	0.600805	0.705904	17.57591	0.07175
2011	16.50431	0.027271	0.174692	0.30222	0.883053	18.26303	0.010716



2012	17.11522	0.025392	0.356186	0.259287	0.752753	18.41625	0.122983
2013	18.94207	0.046546	0.420086	0.259065	0.817664	18.82257	0.595964
2014	18.65055	0.019351	0.474366	0.226763	0.789099	18.95574	0.638517

**UACN Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	16.59972	0.068341	0.483769	0.049725	0.597618	16.94982	0.204979
2005	16.89921	0.061715	0.448675	0.048639	0.594447	17.08931	0.08413
2006	17.34122	0.115736	0.371365	0.046257	0.553661	17.13636	0.254361
2007	18.02172	0.098319	1.021814	0.041172	0.531219	17.25281	0.087835
2008	17.60668	0.043939	0.498151	0.013422	0.601363	18.37365	0.439376
2009	17.66696	0.043689	0.53378	0.013921	0.59214	18.33721	0.058433
2010	17.91057	0.03186	0.566968	0.015982	0.514916	18.42224	0.075806
2011	17.89009	0.060061	0.53069	0.013165	0.502763	18.6162	0.215506
2012	18.02363	0.057759	0.507209	0.013017	0.563212	18.6275	0.095054
2013	18.67298	0.079236	0.43404	0.015415	0.605179	18.64069	0.13043
2014	17.99465	0.0829	0.430761	0.014845	0.60065	18.67837	0.088051

**CONSTRUCTION/REAL ESTATE SECTOR**

**Julius Berger Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	15.22308	0.010086	0.879469	0.005857	0.190649	17.46393	0.031867
2005	15.69069	0.011517	0.944922	0.005512	0.246992	17.81242	0.351184
2006	17.01826	0.018057	1.364847	0.004841	0.321626	17.94223	0.42732
2007	17.01826	0.021338	0.998416	0.00362	0.289612	18.23278	0.378236
2008	18.01602	0.017728	0.959855	0.008674	0.206551	18.74522	0.435051
2009	17.24782	0.021612	0.961479	0.007858	0.318849	18.844	0.336804
2010	17.90986	0.015711	0.715239	0.006723	0.417528	18.99999	0.155178
2011	17.45099	0.025614	0.943418	0.006967	0.414542	18.96445	0.024625
1012	17.49434	0.045765	0.918931	0.006703	0.53983	19.00309	0.189784
2013	18.27852	0.037073	0.907444	0.00528	0.500528	19.24161	0.055426
2014	18.10312	0.032182	0.898081	0.004687	0.473113	19.36087	0.074875

**UACN Property Development Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	16.00156	0.017983	0.360499	0.039257	0.811299	17.05313	0.214111
2005	16.07987	0.031041	0.381081	0.040508	0.865035	17.11707	0.140258
2006	16.53549	0.024155	0.474873	0.027502	0.799533	17.50431	0.205459
2007	17.06227	0.021803	0.567856	0.022419	0.744554	17.70867	0.034896
2008	17.20071	0.057658	0.479664	0.017221	0.920239	17.97243	1.348138
2009	16.68091	0.038314	0.520838	0.017661	0.684106	17.94721	0.000228
2010	16.93793	0.03369	0.573157	0.020335	0.574795	18.02939	0.385342
2011	16.61887	0.024199	0.565873	0.019923	0.631978	18.04985	0.172252
1012	16.53186	0.030554	0.56212	0.019269	0.674274	18.08323	0.775015

2013	17.0784	0.047413	0.49774	0.020661	0.725505	18.01349	0.061522
2014	16.38526	0.052713	0.470495	0.020195	0.720967	18.03631	0.035544

**Roads Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	12.06566	0.012997	0.927591	0.054347	0.293704	12.81585	3.846031
2005	12.06566	0.005682	0.953129	0.030914	0.177423	13.38003	3.846031
2006	12.06566	0.012056	0.957371	0.020165	0.12186	13.80729	0.035108
2007	12.06566	0.016658	0.955306	0.013262	0.090829	14.22634	0.317785
2008	12.06566	0.017339	0.955582	0.008388	0.139652	14.68448	0.381377
2009	12.06566	0.023357	0.93651	0.007812	0.398725	14.75557	0.287876
2010	12.06566	0.029109	0.919789	0.007258	0.333078	14.8291	0.228181
2011	12.06566	0.027468	0.953042	0.007505	0.341137	14.79565	0.0582
1012	12.06566	0.035308	1.034051	0.007461	0.283924	14.80161	0.076972
2013	12.47113	0.011373	0.869641	0.01011	0.463551	14.90321	0.096443
2014	12.47113	0.03816	0.855707	0.008358	0.373887	15.0935	0.080019

**CONSUMER GOODS SECTOR**

**DN Tyre & Rubber Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	14.56184	0.050446	1.694823	0.131862	0.998023	15.5618	0.012915
2005	14.56184	0.018951	0.748008	0.058133	0.999675	16.38082	0.012915
2006	14.9685	0.040583	0.667796	0.047439	0.958331	16.5841	0.012704

2007	16.7894	0.132918	0.589633	0.303093	0.999795	16.57213	0.188207
2008	16.54157	0.132918	0.573926	0.303093	0.999795	16.57213	0.148958
2009	14.68527	2.22515	1.712855	0.953009	0.995936	15.42655	0.373343
2010	14.68527	0.068555	1.419294	0.842992	0.841829	15.54921	0.595731
2011	14.68527	0.080654	1.509456	0.825293	0.835858	15.57043	0.325925
1012	14.68527	0.021084	1.627018	0.794443	0.824418	15.60853	0.271849
2013	14.68527	0.053343	1.374318	0.778396	0.885009	15.62894	0.242715
2014	14.68527	0.051342	1.50263	0.798908	0.848838	15.60293	0.378004

**Champion Breweries Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	16.53806	0.040763	0.001576	0.378344	0.975368	14.6821	0.098043
2005	16.53806	0.040763	1.216657	0.378344	0.975368	14.6821	0.071568
2006	16.53806	0.110767	0.996123	0.235928	0.782812	15.15438	0.118531
2007	16.53806	0.090231	0.168477	0.245536	0.919327	15.11446	0.47062
2008	16.53806	0.257107	1.21279	0.271902	0.880886	15.01246	0.078561
2009	16.53806	0.338133	1.57705	0.29959	0.83151	14.91549	0.179848
2010	16.53806	0.441613	2.24111	0.321252	0.741086	14.84568	0.527698
2011	16.53806	0.258191	1.287046	0.127274	0.895836	15.77156	0.044128
1012	16.53806	0.196595	1.504471	0.132369	0.879286	15.73232	0.003218
2013	18.20632	0.128919	1.504326	0.522304	0.889205	16.02792	0.250884
2014	17.32147	0.078656	0.388005	0.497547	0.83956	16.07648	0.478781

**Guinness Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
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2004	19.06238	0.317556	1.287828	0.047349	0.996087	17.03118	0.248212
2005	18.44688	0.164385	1.073764	0.039918	0.98717	17.20189	0.010767
2006	18.6714	0.250393	1.150398	0.03971	0.993882	17.20712	0.144953
2007	19.04476	0.351759	1.321701	0.048528	0.991174	17.22973	0.160547
2008	19.0244	0.161612	0.495	0.020097	0.525657	18.11131	0.110935
2009	19.06393	0.324815	0.866754	0.035379	0.91401	17.54575	0.288774
2010	19.26994	0.342816	0.33815	0.03681	0.954463	17.50612	0.226799
2011	19.70538	0.37502	0.321213	0.030853	0.964298	17.68265	0.130717
1012	19.62465	0.225915	0.196468	0.022712	0.981031	17.98899	0.021228
2013	19.75063	0.097998	0.619702	0.012439	0.733699	18.6118	0.030285
2014	19.52321	0.072346	0.65947	0.01138	0.691373	18.7008	0.108289

**International Breweries Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	15.00728	1.307446	1.669942	1.127256	0.658408	13.02808	0.315711
2005	15.00728	1.307446	3.068534	1.280623	0.640873	12.90052	0.325044
2006	15.00728	0.390085	2.284428	0.553686	0.263334	13.73902	0.220108
2007	15.00728	0.193605	3.183204	0.840018	0.331668	13.3222	0.794195
2008	16.423	0.038371	0.998676	1.276667	0.575687	14.31933	0.6592
2009	16.423	0.05609	1.05566	0.41504	0.602867	15.44296	0.734592
2010	16.423	0.020091	1.008497	0.213174	0.681453	16.10922	1.966246
2011	16.30404	0.011476	0.898546	0.164559	0.784784	16.36806	1.066377
1012	17.60858	0.152075	0.889188	0.147877	0.786297	16.47495	0

2013	18.36459	0.101027	0.592817	0.143	0.712446	16.9526	0.75498
2014	18.15914	0.086395	0.53756	0.135173	0.771237	17.00889	0.063563

**Nigerian Breweries Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	19.59625	0.062924	0.671624	0.093558	0.673578	18.20791	0.168625
2005	19.49568	0.114465	0.621703	0.104871	0.727022	18.09377	0.088823
2006	19.45742	0.146445	0.529429	0.101603	0.667407	18.12543	0.077262
2007	19.73171	0.209202	0.523094	0.083521	0.559006	18.32139	0.294551
2008	19.54885	0.246687	0.692852	0.072591	0.610057	18.46166	0.301691
2009	19.80941	0.260872	0.564716	0.070688	0.648284	18.48823	0.128866
2010	20.18384	0.265165	0.561392	0.066114	0.647832	18.55512	0.131882
2011	20.96211	0.163063	0.747199	0.032086	0.754683	19.27808	0.115357
1012	20.96211	0.149991	0.749718	0.029817	0.775792	19.3514	0.218862
2013	21.65529	0.1232	0.508452	0.043257	0.837191	19.67252	0.063082
2014	21.63969	0.121755	0.507589	0.043313	0.836979	19.67124	0.008343

**7-Up Bottling Company Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	16.58742	0.108557	0.200768	0.038904	0.476894	16.17052	0.050292
2005	16.58742	0.068232	0.247725	0.029314	0.520735	16.45356	0.161293
2006	16.58742	0.068256	0.673912	0.023975	0.473597	16.65462	0.272391
2007	16.58742	0.05633	0.709879	0.018939	0.519247	16.89039	0.23729
2008	16.58742	0.067088	0.698816	0.017095	0.593805	16.99282	0.119487
2009	16.81056	0.047982	0.749559	0.016075	0.583215	17.27748	0.140391

2010	16.81056	0.055518	0.36184	0.01618	0.648127	17.271	0.177971
2011	17.10184	0.067521	0.436992	0.018991	0.662289	17.33392	0.244201
1012	24.0096	0.042663	0.787409	0.013212	0.690517	17.69678	0.171555
2013	24.16972	0.055606	0.75515	0.01247	0.698338	17.75457	0.070568
2014	18.47851	0.115185	0.689801	0.011467	0.684495	17.83842	0.215321

**Flour Mills Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	16.84796	0.046509	0.797807	0.024705	0.472648	17.19879	0.267767
2005	17.31796	0.036636	0.708692	0.029192	0.52625	17.50193	0.24723
2006	17.31796	0.167651	1.251095	0.041837	0.946765	17.14203	0.295873
2007	18.60537	0.098165	0.698376	0.020397	0.577896	18.14811	0.220592
2008	18.79904	0.058296	0.678823	0.014229	0.466128	18.50824	0.208133
2009	17.00429	0.028931	0.744347	0.0127	0.521655	18.71723	0.410509
2010	18.58516	0.397075	2.310471	0.050734	0.758885	17.33221	0.127581
2011	18.85977	0.061948	0.695662	0.011531	0.157711	18.90909	0.029927
1012	18.72387	0.033372	0.648659	0.010039	0.201516	19.26474	0.596256
2013	19.04363	0.026915	0.705555	0.008516	0.606717	19.45079	0.1691
2014	18.9045	0.018058	0.718891	0.008026	0.660744	19.51008	0.100024

**National Salt Co Nig Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
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2004	13.14397	0.205162	0	1.098206	1	11.19555	0.668246
2005	13.14397	0.115681	0.859098	0.800881	0.658957	11.51127	0.422711
2006	13.14397	0.060796	0.375276	0.325588	0.882659	12.41135	1.140672
2007	16.46227	0.876449	0.913399	1.535932	0.985423	14.1784	464.3252
2008	16.64459	0.169754	0.456775	0.346418	0.253371	15.84997	0.261604
2009	16.64459	0.223709	0.375847	0.324885	0.356578	15.91414	0.111441
2010	16.64459	0.21949	0.366629	0.352798	0.344587	15.83172	0.014447
2011	16.8693	0.21934	0.436191	0.263706	0.33204	16.12278	0.158863
1012	16.8693	0.258786	0.384671	0.247853	0.342995	16.18478	0.301471
2013	17.49724	0.236156	0.397032	0.231773	0.502928	16.25185	0.192104
2014	16.61763	0.148695	0.497662	0.211011	0.4677	16.3457	0.038131

**N. Nigeria Flour Mills Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	14.53191	0.086515	0.560716	0.069571	0.084397	14.28606	0.107572
2005	14.8196	0.07617	0.597463	0.077053	0.112147	14.4716	0.429882
2006	14.8196	0.028698	0.586377	0.077385	0.149337	14.4673	0.097584
2007	14.8196	0.052845	0.692044	0.075163	0.169082	14.49643	0.020918
2008	14.8196	0.024418	0.717592	0.062968	0.138812	14.67347	0.149718
2009	14.8196	0.085619	0.686494	0.053811	0.127709	14.83062	0.551315
2010	14.8196	0.159784	0.52635	0.057844	0.162145	14.75834	0.197711
2011	15.00192	0.111172	0.597564	0.043483	0.207737	15.22604	0.120219
2012	15.00192	0.006463	0.598368	0.052892	0.228381	15.03016	0.10707
2013	15.23309	0.062136	0.55685	0.04918	0.236712	15.10293	0.076753
2014	15.23309	0.071494	0.456957	0.054552	0.211133	14.99926	0.026468



**UTC Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	13.7315	0.051764	1.214171	0.783106	0.960314	14.17444	0.322581
2005	13.65552	0.305762	1.32017	2.056159	0.908176	13.20912	0.690559
2006	13.54429	0.056547	1.355912	1.206279	0.94613	13.74241	0.553379
2007	13.54429	0.019183	1.149274	0.572564	0.97443	14.48759	0.529133
2008	13.6396	0.044433	0.975013	0.587683	0.969008	14.55683	0.480313
2009	13.6396	0.028	0.486943	0.461888	0.748019	14.7977	0.195089
2010	13.6396	0.0313	0.493019	0.483756	0.795923	14.75144	0.09687
2011	13.73758	0.107267	0.467289	0.42835	0.81708	14.87308	0.008318
2012	13.73758	0.228673	0.651584	0.464034	0.897439	14.79306	0.415541
2013	13.66859	0.027098	0.535974	0.457547	0.836822	14.80714	0.478772
2014	13.66859	0.045183	0.549276	0.44943	0.849487	14.82504	0.055578

**Cadbury Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	17.15496	0.134756	0.546775	0.052742	0.298525	16.85392	0.329601
2005	17.15496	0.084544	0.66106	0.034331	0.248391	17.28328	0.329601
2006	17.15496	0.157276	0.926282	0.03711	0.503964	17.20545	0.347626
2007	17.15496	0.029938	0.998566	0.045334	0.658245	17.00527	0.037567
2008	17.15496	0.115152	1.126049	0.046058	0.610343	16.98944	0.218764
2009	18.19966	0.104623	1.010162	0.120588	0.584749	17.07166	0.129567
2010	18.19966	0.072616	0.54629	0.110054	0.49164	17.16307	0.030497

2011	17.42437	0.10906	0.507101	0.092975	0.398868	17.33171	0.565046
2012	18.32357	0.086038	0.500969	0.077925	0.34844	17.5083	0.016419
2013	19.03399	0.139515	0.44421	0.072481	0.392405	17.58072	0.065878
2014	18.64516	0.052488	0.599516	0.108577	0.571955	17.17658	0.14659

**Nestle Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	18.40879	0.286234	0.673411	0.039436	0.297057	16.41076	0.155454
2005	18.40879	0.314258	0.645613	0.031315	0.366417	16.64135	0.206416
2006	18.63727	0.299358	0.663612	0.027948	0.38798	16.75511	0.119027
2007	19.02383	0.256057	0.706544	0.031081	0.49105	16.87198	0.14587
2008	18.6554	0.285725	0.690282	0.022653	0.473853	17.18829	0.175226
2009	18.87938	0.221096	0.761721	0.014927	0.574111	17.60537	0.320338
2010	19.3104	0.208827	0.753669	0.010946	0.666838	17.91562	0.210912
2011	19.6827	0.212232	0.701396	0.010198	0.714256	18.16873	0.184162
2012	20.13422	0.237597	0.615734	0.00891	0.703741	18.30373	0.191363
2013	20.67322	0.2057	0.624843	0.007325	0.614113	18.49956	0.140323
2014	20.50258	0.209647	0.661145	0.007474	0.647477	18.47954	0.076981

**Nigerian Enamelware Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	11.32244	0.016789	0.869406	0.030277	0.03555	13.7655	8.52422
2005	11.35669	0.027814	0.829542	0.033452	0.022298	13.66578	0.895116

2006	11.91486	0.024729	0.859219	0.034334	0.012297	13.63974	0.114427
2007	11.97288	0.020499	0.880856	0.024058	0.007273	13.99541	0.002825
2008	14.63631	0.015337	0.887486	0.022328	0.006377	14.07006	0.037564
2009	14.29402	0.051111	0.859868	0.023187	0.033638	14.03227	0.59794
2010	14.53073	0.059283	0.818555	0.050146	0.031721	14.04941	0.023203
2011	14.53073	0.075617	0.769373	0.054365	0.080876	13.96862	0.003456
2012	14.53073	0.029043	0.636059	0.029236	0.551583	14.58894	0.052978
2013	14.53073	0.033571	0.462674	0.028756	0.520526	14.60551	0.010304
2014	14.53073	0.027936	0.597415	0.020545	0.357476	14.94174	0.021348

**Vitafoam Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	15.62777	0.131984	0.530392	0.317555	0.271234	14.53949	0.034374
2005	15.62777	0.057534	0.544209	0.337835	0.258719	14.47759	0.034374
2006	15.85122	0.113939	0.560785	0.339185	0.219437	14.69705	0.134865
2007	15.85122	0.128358	0.590491	0.239295	0.184065	15.0459	0.537013
2008	15.85122	0.150994	0.590885	0.177094	0.290301	15.34692	0.328885
2009	15.11992	0.093962	0.602608	0.150663	0.310964	15.50855	0.194143
2010	15.51196	0.088876	0.698818	0.13821	0.284606	15.59482	0.079915
2011	15.23721	0.079394	0.834625	0.096615	0.280298	15.95287	0.326516
2012	14.9133	0.053297	0.722834	0.079835	0.323285	16.14363	0.010528
2013	15.20507	0.041192	0.687781	0.08222	0.375191	16.11419	0.156606
2014	15.00961	0.043302	0.747181	0.068359	0.353955	16.29882	0.022895

**Vono Products Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	11.83754	0.876458	0.30584	0.193719	0.506331	12.42806	0.355934
2005	13.66236	0.176684	0.109555	0.602367	0.411343	13.11843	0.066342
2006	13.66236	0.00037	0.089264	0.82777	0.616975	12.80056	2.784647
2007	13.66236	0.567347	0.031015	0.310511	0.808428	13.78107	0.402035
2008	13.66236	0.126689	0.308506	0.316286	0.783142	13.76265	0.551426
2009	13.66236	0.293435	0.155874	0.395243	0.767424	13.53979	0.606441
2010	13.66236	0.207478	0.23523	0.156795	0.901165	14.46435	0.377506
2011	12.72487	0.044525	0.811719	0.154131	0.856048	14.48149	0.28894
2012	12.72487	0.042135	0.440442	0.158949	0.833848	14.45071	0.023407
2013	12.72487	0.002633	0.552762	0.161186	0.176929	14.43673	0.92371
2014	12.72487	0.002802	0.554334	0.161629	0.205323	14.43399	0.057404

**P Z Cussons Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	17.14403	0.075808	0.887229	0.063282	0.429292	17.13097	0.165017
2005	17.12049	0.102522	0.807664	0.066161	0.36407	17.30962	0.219309
2006	17.79073	0.08293	0.352586	0.06513	0.368308	17.47948	0.237027
2007	18.03838	0.077557	0.325031	0.056111	0.361389	17.62853	0.283986
2008	18.3031	0.086908	0.350873	0.063027	0.360003	17.73545	0.216323
2009	18.02573	0.097109	0.352133	0.057862	0.391863	17.82095	0.2279
2010	18.42883	0.089908	0.34359	0.053866	0.419507	17.89251	0.226074
2011	18.5266	0.075697	0.402359	0.046084	0.363212	18.04855	0.051224

2012	18.32989	0.037426	0.334417	0.061647	0.378226	17.98073	0.095276
2013	19.12622	0.073602	0.357688	0.054919	0.337091	18.09629	0.011247
2014	18.36408	0.016945	0.104911	0.014653	0.828463	19.4175	0.021903

**Unilever Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	17.92964	0.350707	0.338119	0.489775	1	15.63677	0.246828
2005	17.92964	0.066076	0.765036	0.123719	0.312511	17.0127	0.409262
2006	17.67184	0.073801	0.787711	0.203158	0.41737	16.73988	0.23469
2007	18.23259	0.063703	0.75282	0.185885	0.424557	16.82874	0.330136
2008	18.33452	0.110525	0.717926	0.161042	0.38549	16.9722	0.099634
2009	18.33452	0.109643	0.653626	0.159756	0.421221	16.98021	0.190055
2010	18.33452	0.161376	0.679382	0.146039	0.437598	17.06999	0.052305
2011	18.5134	0.171015	0.70125	0.117312	0.484414	17.28903	0.169136
2012	18.99625	0.153369	0.724817	0.103659	0.595089	17.41276	0.01504
2013	19.13138	0.018949	0.794429	0.094293	0.575659	17.50745	0.71293
2014	18.72405	0.052744	0.836478	0.08272	0.593951	17.6384	2.496417

## HEALTH CARE SECTOR

### Ekocorp Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	12.49301	0.129183	0	0.598571	1	13.00622	0.055991
2005	12.71616	0.069181	0.325872	0.369763	0.644511	13.71105	0.064718
2006	12.71616	0.045923	0.337156	0.233141	0.869217	14.17227	0.082385
2007	12.71616	0.066832	0	0.360135	0.817248	13.73743	0.069462
2008	13.11956	0.046838	0	0.403444	0.911866	14.02728	0.645316
2009	13.11956	0.024284	0	0.383863	0.949945	14.07703	0.037184
2010	13.11956	0.021485	0	0.367124	0.869962	14.12162	0.103824
2011	13.11956	0.046238	0	0.384239	0.909953	14.07605	0.22156
2012	13.11956	0.042334	0.341039	0.161499	0.885111	14.94282	0.147347
2013	13.11956	0.012301	0.219602	0.169355	0.915896	14.89532	0.753351
2014	13.11956	0.017139	0.315827	0.147563	0.825116	15.03306	0.101683

### Union Diagnostics & Clinical Serv Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	12.57795	0.410753	0	7.738106	0.878736	11.22494	0.466044
2005	12.57795	0.045369	0	2.381447	1	12.40339	0.069971
2006	12.57795	0.236138	0	2.307686	0.811135	12.43485	0.631855
2007	12.86109	1.14184	0	3.447187	0.787445	12.31668	1.534033
2008	12.6815	0.453071	0	2.687021	0.867814	12.38621	0.454515

2009	14.39019	0.103944	0	1.956738	0.989316	14.41206	1.300169
2010	14.39019	0.139103	0	2.31715	0.987348	14.243	0.196686
2011	14.39019	0.16604	0	2.63937	0.985589	14.1128	0.277226
2012	14.39019	0.00111	0.110011	0.710579	0.85615	15.42502	0.286925
2013	14.39019	0.261455	0.093128	0.932807	0.752904	15.1529	0.046054
2014	14.39019	0.029603	0.05062	0.946082	0.787707	15.13877	0.158147

**Morison Industries Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	12.7804	0.052819	0.398006	0.498896	0.206557	12.11735	0.087437
2005	12.7804	0.055164	0.314117	0.46803	0.214655	12.18122	0.087437
2006	12.7804	0.036386	0.464264	0.407794	0.297186	12.31899	0.083719
2007	13.29123	0.023732	0.45773	0.65784	0.293335	12.35161	0.049348
2008	13.29123	0.024514	0.211182	0.258188	0.699233	13.28689	0.66497
2009	13.29123	0.035166	0.263335	0.256582	0.665087	13.29313	0.267859
2010	13.29123	0.059398	0.27678	0.272864	0.660879	13.2316	0.000381
2011	13.29123	0.045255	0.25038	0.263492	0.69292	13.26655	0.238414
2012	13.29123	0.003471	0.049338	0.264145	0.67303	13.26408	0.977639
2013	13.29123	0.041999	0.215317	0.289206	0.639681	13.17344	0.166339
2014	13.29123	0.183296	0.26392	0.338931	0.778619	13.01478	0.35809

**Evans Medical Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
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2004	13.09494	0.030827	0.559152	0.131273	0.403189	15.0301	0.54044
2005	13.09494	0.023734	0.531173	0.132571	0.401756	15.02027	0.068032
2006	13.09494	0.034614	0.570375	0.115791	0.367667	15.1556	0.14982
2007	13.09494	0.072916	0.695502	0.101719	0.367687	15.28517	0.083647
2008	13.19024	0.108596	0.845912	0.103566	0.369477	15.36248	0.416747
2009	13.19024	0.22424	1.016336	0.122625	0.424409	15.19356	0.210859
2010	13.19024	0.002182	1.033333	0.121125	0.402272	15.20586	0.118903
2011	12.69446	0.025005	0.697045	0.070102	0.622225	15.75274	0.159635
2012	14.44301	0.038949	0.667307	0.066598	0.60603	15.80401	0.063957
2013	14.44301	0.025563	0.759114	0.079923	0.567369	15.62163	0.083203
2014	13.91911	0.030182	0.704943	0.071783	0.599983	15.72904	0.038647

**Fidson Healthcare Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	13.20999	0.603575	0.138697	0.491445	1	12.80198	0.503818
2005	13.20999	0.555028	0.121034	0.403541	1	12.99905	0.503818
2006	13.20999	0.739154	0.179194	0.355903	1	13.12467	0.35439
2007	13.20999	0.185518	0.046885	0.065484	0.347949	14.81752	0.503259
2008	15.33939	0.027185	0.035589	0.215415	0.375828	15.75617	0.361679
2009	15.33939	0.042189	0.465052	0.334303	0.424305	15.31668	0.361679
2010	15.33939	0.085168	0.530255	0.297738	0.426883	15.43252	0.114603
2011	13.98525	0.005904	0.448716	0.159319	0.592466	16.05782	0.419954
2012	14.27924	0.01919	0.51503	0.139134	0.557506	16.19329	0.005764
2013	15.24702	0.001266	0.571614	0.122522	0.610405	16.32044	0.289884
2014	15.58195	0.040057	0.634463	0.095103	0.704902	16.57377	0.051703



**GlaxoSmithkline Consumers Nig Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	16.428	0.158893	0.582879	0.13261	0.353048	15.60927	5.577101
2005	16.61033	0.117612	0.578924	0.115317	0.32482	15.93132	0.201535
2006	16.61033	0.122028	0.527232	0.107868	0.351128	15.9981	0.20952
2007	16.95346	0.095981	0.472203	0.109724	0.403224	15.98103	0.045637
2008	16.88209	0.132928	0.43273	0.099553	0.412279	16.07831	0.265217
2009	16.88209	0.140899	0.420539	0.079208	0.396447	16.30693	0.191892
2010	17.02934	0.167011	0.373696	0.064914	0.466871	16.50593	0.127811
2011	16.90674	0.128329	0.49809	0.053333	0.404847	16.70244	0.276471
2012	17.58013	0.129563	0.510705	0.0439	0.405413	16.89709	0.175713
2013	17.99075	0.111361	0.529035	0.036496	0.462425	17.08179	0.153133
2014	17.68327	0.051063	0.566473	0.032958	0.43934	17.18376	0.204631

**May & Baker Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	13.78513	0.099236	0.73752	0.197063	0.329502	13.73039	0.067633
2005	13.96745	0.052288	0.537577	0.111596	0.330979	14.48136	0.050561
2006	15.53828	0.05334	0.322735	0.176564	0.419756	15.19291	0.128402
2007	16.05633	0.046764	0.376986	0.157138	0.399137	15.30947	0.712864
2008	14.89392	0.072941	0.519446	0.122162	0.401453	15.56125	0.409395
2009	14.89392	0.037713	0.560323	0.11375	0.569786	15.63259	0.153578

2010	15.23039	0.044426	0.893291	0.225609	0.957465	15.28426	0.007546
2011	14.48344	0.031571	0.551764	0.139259	0.715719	15.76673	0.042759
2012	14.23356	0.009411	0.611831	0.121446	0.617524	15.90359	0.171756
2013	14.6914	0.012633	0.628776	0.120097	0.587681	15.91476	0.123342
2014	14.25273	0.007819	0.618032	0.121052	0.567165	15.90684	0.102298

**Neimeth International Pharm Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.69528	0.039029	0.723652	0.108302	0.036143	14.23171	0.05387
2005	13.81477	0.060484	0.85558	0.113713	0.04438	14.30245	0.23944
2006	15.07888	0.031198	0.865769	0.248534	0.02837	14.78466	0.030934
2007	15.07888	0.042636	0.405331	0.239908	0.075876	14.81998	0.249539
2008	15.81175	0.029456	0.4763	0.197015	0.108963	15.02031	0.294346
2009	14.31213	0.15758	0.595327	0.284407	0.139166	14.87633	0.040661
2010	13.67725	0.046446	0.675815	0.302527	0.172058	14.81456	0.012513
2011	13.69594	0.038757	0.553212	0.281593	0.135099	14.88627	0.00411
2012	14.06378	0.020685	0.453921	0.451401	0.192039	14.87938	0.227391
2013	14.22374	0.045166	0.384241	0.452412	0.175087	14.87714	0.134615
2014	14.32457	0.082133	0.414039	0.564082	0.203592	14.83886	0.192473

**Pharma-Deko Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.20168	0.037502	0.699943	0.116306	0.457369	13.61274	0.167498
2005	13.20168	0.006559	0.662056	0.075814	0.413687	14.04068	0.207075
2006	13.24856	0.01877	0.099824	0.144298	0.430925	13.44397	0.113791

2007	13.24856	0.01877	0.099824	0.108224	0.430925	13.73165	0.010047
2008	13.24856	0.198087	0.233284	0.099576	0.622918	13.81493	0.739544
2009	13.24856	0.507078	0.280153	0.109347	0.64224	13.72132	0.545999
2010	13.24856	0.188875	1.230855	0.040502	0.570276	14.71451	0.014889
2011	13.24856	0.052049	2.191701	0.067725	0.904474	14.20039	1.403649
2012	13.24856	0.266258	0.660979	0.035762	0.764735	14.83897	0.127083
2013	13.25339	0.048509	0.667673	0.04003	0.808708	14.73106	0.02202
2014	12.27373	35.5734	671.9851	35.22119	704.776	7.951278	0.477118

## ICTI SECTOR

### NCR (Nigeria) Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.82098	0.069636	0.866317	0.273789	0.120949	12.88528	0.080401
2005	13.82098	0.079666	0.822943	0.274369	0.098077	12.88317	0.308692
2006	13.82098	28.0917	29.189	4.869252	1	10.00695	0.847661
2007	13.82098	0.985078	27.53374	3.343446	1	10.38288	1.646221
2008	13.82098	1.391471	0	0.723034	0.207734	11.91419	0.472525
2009	13.82098	24.57637	12.1654	2.809135	1	10.55701	0.92302
2010	13.82098	14.09898	0	2.110199	1	10.8431	0.521801
2011	13.82098	3.113556	0.152396	1.709997	1	11.05339	0.398417
2012	13.82098	20.91188	0	2.120641	1	10.83817	1.263363
2013	13.82098	0.0035	0.975051	0.019483	0.271169	15.52812	0.054944
2014	13.82098	0.156917	0	0.057269	0.285867	14.44988	0.158118

**Tripple Gee and Company Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	13.38479	0.020264	0.551257	0.225306	0.793366	14.19705	0.034456
2005	13.38479	0.029311	0.528099	0.222217	0.773113	14.21086	0.003024
2006	13.38479	0.013939	0.556966	0.22234	0.084172	14.2103	0.06533
2007	13.38479	0.033921	0.524157	0.214912	0.7242	14.24429	0.644776
2008	14.28367	0.068507	0.473048	0.222936	0.645644	14.20763	0.228176
2009	14.28367	0.19567	0.741323	0.451506	1	13.50192	0.289634
2010	14.68913	0.055424	0.462767	0.539476	1	13.72938	0.482074
2011	14.34186	0.053134	0.452928	0.534296	1	13.73903	0.045719
2012	14.19063	0.005545	0.373229	0.440278	1	13.93257	0.144399
2013	13.83977	0.011281	0.352635	0.296498	0.795451	14.32794	0.618341
2014	13.83977	0.008851	0.373675	0.282729	0.753727	14.37549	0.152557

**IHS Nigeria Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	11.99535	0.126795	0.97676	0.076459	0.101657	13.57311	0.787477
2005	11.99535	0.308485	3.12071	0.148459	0.249033	12.90955	0.787477
2006	11.99535	0.006285	0.176066	0.00448	0.006354	16.41017	0.008581
2007	11.99535	0.076701	1.666586	0.022804	0.029785	14.78293	0.127917
2008	11.99535	0.13991	1	0.011058	0.106233	15.50674	2.202215
2009	16.29037	0.044562	0.596261	0.187142	0.326316	16.973	0.560653
2010	16.29037	0.046255	0.597382	0.167465	0.439063	17.0841	0.520927
2011	16.29037	0.064694	0.669048	0.17213	0.591982	17.05662	0.138871

2012	16.29037	0.042582	0.473249	0.091878	0.650749	17.68441	0.023123
2013	16.29037	0.119602	0.989082	0.079738	0.847592	17.82613	0.086098
2014	16.29037	0.080016	0.73344	0.102618	0.723512	17.57386	0.059785

## INDUSTRIAL GOODS SECTOR

### African Paints (Nigeria) Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	11.77529	0.169943	0.715044	0.345273	0.848683	12.83871	0.113648
2005	11.77529	0.202345	0.866451	0.392968	0.922307	12.70932	0.113648
2006	11.77529	0.069744	0.923272	0.406599	0.906238	12.67522	0.109793
2007	11.77529	0.055736	0.965709	0.44111	0.944128	12.59375	0.233118
2008	11.77529	0.16385	0.868486	0.345754	0.975715	12.83732	0.289225
2009	12.46844	0.083666	0.780705	0.688392	0.953645	12.84183	0.196388
2010	12.46844	0.392836	0.810925	0.729552	0.977552	12.78376	0.024774
2011	12.46844	0.143678	0.948276	0.747126	0.968391	12.75996	0.130203
2012	12.46844	0.066906	0	0.644277	0.981799	12.90806	0.610169
2013	12.46844	0.020845	0	0.658455	0.973578	12.8863	0.546391
2014	12.46844	0.027129	0	0.677555	0.970849	12.8577	1.953225

### Ashaka Cement Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	16.96235	0.172413	0.454283	0.066337	0.188931	16.39784	0.232204
2005	17.47318	0.256061	0.524072	0.084537	0.235664	16.66622	0.258459

2006	17.47318	0.182819	0.371126	0.079163	0.436871	16.7319	0.060468
2007	17.47318	0.072034	0.518182	0.065702	0.571964	16.91829	0.017745
2008	17.62733	0.082848	0.488306	0.068288	0.66386	17.03383	0.297697
2009	17.78148	0.036833	0.487028	0.077703	0.744231	17.05883	0.195724
2010	17.78148	0.160006	0.227499	0.106005	0.995867	16.74823	0.113975
2011	17.04655	0.04009	0.283459	0.034341	0.760092	17.99315	0.084923
2012	17.50933	0.046414	0.264551	0.033263	0.718215	18.02505	0.050322
2013	17.66579	0.041889	0.300511	0.033215	0.722713	18.0265	0.006014
2014	17.70823	0.063845	0.283323	0.031309	0.696712	18.08558	0.025844

**Berger Paints Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	13.62435	0.068723	0.66272	0.147113	0.189212	14.2059	0.028898
2005	13.68311	0.021669	0.572578	0.104887	0.617128	14.54422	0.039705
2006	13.51018	0.040871	0.515639	0.108769	0.626014	14.50787	0.201845
2007	14.56147	0.053704	0.3619	0.103655	0.615167	14.55603	0.010979
2008	14.38368	0.07625	0.422416	0.111431	0.514182	14.48369	0.113989
2009	13.4525	0.084723	0.410527	0.095283	0.465029	14.64025	0.061101
2010	14.41281	0.169822	0.35576	0.083428	0.404015	14.77311	0.158313
2011	14.42588	0.093599	0.335368	0.08132	0.454458	14.79871	0.066113
2012	14.48435	0.063284	0.390656	0.07632	0.459831	14.86217	0.023577
2013	14.65647	0.071069	0.311295	0.081949	0.440473	15.07869	0.07749
2014	14.77425	0.032351	0.31279	0.0857	0.459161	15.03393	0.32883

**CAP Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	14.22058	0.157799	0.633938	0.205245	0.215217	13.83841	0.219215
2005	14.41242	0.148062	0.52305	0.154254	0.157714	14.12402	0.039996
2006	15.47374	0.202412	0.445304	0.135913	0.141963	14.2506	0.288982
2007	16.34921	0.177683	0.494122	0.106146	0.087671	14.4978	0.022216
2008	16.34921	0.331157	0.690982	0.094534	0.106676	14.61366	0.333309
2009	15.58707	0.157627	0.651239	0.097078	0.113329	14.5871	0.129763
2010	16.06979	0.35104	0.566866	0.111333	0.184706	14.73777	0.203901
2011	15.90984	0.327758	0.478775	0.18258	0.132836	14.93626	0.183224
2012	16.5679	0.387911	0.61104	0.194728	0.157186	14.87184	0.212985
2013	17.33937	0.466817	0.58216	0.230642	0.158295	14.92573	0.184369
2014	17.08318	0.054019	0.616807	0.227208	0.163836	14.94073	0.127793

**Cement Co. of North. Nig Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	16.52694	0.162057	0.776671	0.190381	0.423318	15.44547	0.672962
2005	16.63568	0.039032	0.820407	0.188519	0.372452	15.56404	0.069735
2006	16.63576	0.005235	0.975238	0.16226	0.41236	15.71412	0.077443
2007	16.78418	0.015855	0.692623	0.145791	0.465993	15.96957	0.261771
2008	16.78418	0.174014	0.547899	0.142879	0.529631	15.98974	0.228169
2009	16.78418	0.184849	0.569788	0.128178	0.511753	16.09832	0.201526
2010	16.78418	0.118369	0.279078	0.117216	0.506949	16.18771	0.057912
2011	15.51416	0.183349	0.286578	0.099982	0.46384	16.34674	0.244482

2012	16.34657	0.083345	0.463629	0.088237	0.456607	16.47171	0.087021
2013	16.50784	0.02501	0.39819	0.083453	0.471692	16.52745	0.66811
2014	16.38483	0.041554	0.41973	0.074704	0.424286	16.6382	0.0272

**DN Meyer Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	12.17729	0.057747	1.064998	0.179031	0.253084	13.89749	0.173769
2005	12.40044	0.21486	1.071096	0.249966	0.258538	13.78687	0.222582
2006	12.40044	0.05537	0.361345	0.221385	0.237803	13.90829	0.467414
2007	12.58276	0.033189	0.104263	0.151688	0.398815	14.46869	0.042433
2008	12.58276	0.099476	0.187789	0.097822	0.696613	14.90736	0.082558
2009	12.69158	0.211352	0.18925	0.10954	0.674684	14.90304	0.164288
2010	12.69158	0.081032	0.230116	0.111414	0.654388	14.88608	0.374715
2011	12.69158	0.019823	0.751125	0.119104	0.745027	14.81934	0.150365
2012	12.69158	0.010439	0.748046	0.1259	0.76588	14.76385	0.091559
2013	12.69158	0.017913	0.736254	0.123689	0.765932	14.78157	0.067314
2014	12.69158	0.014852	0.736543	0.131976	0.80111	14.71672	0.1559

**First Aluminium Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	14.03239	0.021743	0.680259	0.29257	0.432738	15.26145	0.323426
2005	14.03239	0.032231	0.68937	0.251674	0.402126	15.41201	0.26704



2006	14.03239	0.00131	0.114678	0.297999	0.57143	15.24306	0.073211
2007	14.03239	0.104995	0.716478	0.265316	0.491245	15.35923	0.003249
2008	14.03239	0.023722	0.524809	0.270314	0.483584	15.34057	0.024824
2009	14.56251	0.010402	0.880087	0.454426	0.146176	15.35124	0.025517
2010	14.56251	0.031841	0.403273	0.200864	0.63853	16.16764	0.056754
2011	14.56251	0.039787	0.396848	0.214126	0.655159	16.1037	0.015205
2012	14.56251	0.113283	0.490947	0.238056	0.682188	15.99776	0.00138
2013	14.56251	0.011323	0.462074	0.246263	0.68692	15.96387	0.02879
2014	14.56251	0.047612	0.447897	0.231991	0.673913	16.02357	0.019289

**IPWA Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA</b>	<b>TA</b>	<b>TURN</b>
2004	0	0.060884	0.710979	0.586951	0.633888	13.25753	0.280861
2005	12.79049	0.072216	0.801593	0.586951	0.633888	13.3233	0.129937
2006	12.79049	0.098111	0.861018	0.701398	0.490152	13.14517	0.196658
2007	13.14745	0.104418	0.419187	0.781332	0.370577	13.3942	0.598023
2008	13.15025	0.039552	0	0.945387	0.449828	13.20641	0.158795
2009	13.15025	0.00817	0.067578	0.946485	0.402914	13.20525	0.289478
2010	13.15025	0.095206	0.231769	0.820262	0.285637	13.34838	0.030299
2011	13.15025	0.107077	0.1523	0.307555	0.128121	14.32935	0.070373
2012	13.15025	0.072069	0.215166	0.329868	0.78354	14.25931	0.217446
2013	13.15025	0.06242	0.23294	0.348633	0.793124	14.20399	0.109513
2014	13.15025	0.081483	0.198401	0.327822	0.553674	14.26554	0.119462

**Lafarge WAPCO Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	18.06127	0.086016	0.931654	0.04338	0.663777	17.4928	0.609376
2005	18.62088	0.064903	0.659815	0.070508	0.663777	17.56668	0.205014
2006	18.62088	0.224524	0.475999	0.061567	0.663777	17.70228	0.484173
2007	18.62088	0.211057	0.351605	0.059325	0.659263	17.73938	0.02158
2008	18.62088	0.182166	0.345032	0.048595	0.698114	17.9389	0.119204
2009	18.62088	0.058033	0.498806	0.034456	0.799889	18.28272	0.053519
2010	18.62088	0.0412	0.592409	0.025334	0.850363	18.59026	0.038352
2011	18.68165	0.056649	0.632188	0.019682	0.837935	18.84272	0.425649
2012	18.9842	0.09682	0.550115	0.019754	0.843317	18.83905	0.407391
2013	19.65959	0.175484	0.422829	0.018634	0.77717	18.89742	0.123154
2014	19.68632	0.113315	0.373469	0.014398	0.816077	19.5387	0.306864

**Cutix Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	12.58431	0.110596	0.617929	0.412471	0.268768	12.6769	0.150601
2005	12.58431	0.108929	0.618512	0.329853	0.202901	12.90042	0.32708
2006	13.27744	0.129777	0.56835	0.631183	0.181445	12.94461	0.243801
2007	13.27744	0.190776	0.538049	0.414183	0.26996	13.36589	0.489877
2008	13.27744	0.149043	0.48686	0.343957	0.419142	13.55169	0.228676
2009	13.27744	0.159213	0.523451	0.434401	0.312457	13.31823	0.21328
2010	13.97059	0.138072	0.345202	0.528438	0.556635	13.81543	0.350772
2011	13.61586	0.090347	0.471216	0.566122	0.38704	13.74655	0.033269
2012	14.26504	0.083914	0.459276	0.935274	0.35561	13.75535	0.095769

2013	14.26504	0.141007	0.443549	0.820086	0.332634	13.88677	0.226641
2014	13.95079	0.118714	0.598948	0.504773	0.444008	14.37208	0.158324

**Avon Crowncaps& Containers Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	SIZE	GROWTH
2004	13.60401	0.020012	0.424451	0.175322	0.277984	14.99449	0.263699
2005	13.30214	0.02211	0.732425	0.122384	0.215964	15.35394	0.143199
2006	13.2433	0.040642	0.654166	0.146413	0.310887	15.17467	0.194396
2007	15.77024	0.04179	0.632078	0.13797	0.336065	15.23407	0.003739
2008	15.95256	0.045616	0.68863	0.124248	0.240034	15.52115	0.117655
2009	15.63733	0.033621	0.734423	0.097214	0.161034	15.76651	0.386841
2010	15.63733	0.009589	0.784017	0.079021	0.143656	15.97371	0.162458
2011	15.63733	0.014719	0.72338	0.095821	0.149927	15.78095	0.056709
2012	15.63733	0.007561	0.812626	0.06118	0.250941	16.22961	0.025464
2013	15.63733	0.010613	0.799142	0.069025	0.27713	16.10896	0.021784
2014	15.63733	0.014054	0.773589	0.074269	0.31913	16.03574	0.157325

**Beta Glass Co. Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA	TA	TURN
2004	14.53772	0.018754	0.431808	0.052424	0.649569	15.97538	0.150673
2005	14.99271	0.025157	0.421126	0.052294	0.659054	15.97787	0.20326
2006	14.4692	0.040407	0.430932	0.048193	0.653823	16.05953	0.064892
2007	16.09179	0.07146	0.491425	0.037495	0.72889	16.31055	0.369247
2008	15.77977	0.09986	0.425603	0.041861	0.734457	16.29571	0.29062
2009	15.77977	0.104667	0.355715	0.03779	0.60119	16.39802	0.163653

2010	15.8683	0.09105	0.392968	0.030916	0.541146	16.59878	0.05746
2011	15.6647	0.086317	0.37612	0.027919	0.511162	16.70077	0.139516
2012	15.47368	0.059162	0.445338	0.022264	0.440494	16.92709	0.016212
2013	15.79162	0.054013	0.493745	0.018404	0.356827	17.11749	0.089973
2014	15.79162	0.088761	0.407577	0.018567	0.356601	17.10869	0.179963

**Poly Products (Nig) Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.00897	0.01325	0.733319	0.260459	0.48966	13.7337	0.179233
2005	13.00897	0.006668	0.746089	0.254501	0.459652	13.75684	0.039052
2006	13.00897	0.000953	0	0.315586	0.570534	13.54172	0.074052
2007	13.00897	0.01692	0	0.296946	0.461202	13.6026	0.125156
2008	13.00897	0.014162	0.720231	0.258091	0.335959	13.74284	0.001669
2009	13.00897	0.053421	0.716994	0.219911	0.477216	13.90293	0.237176
2010	13.00897	0.036012	0.792047	0.142463	0.464156	14.33707	0.152507
2011	13.00897	0.02911	0.757991	0.136986	0.567352	14.37627	0.072413
2012	13.00897	0.03644	0	0.159011	0.507233	14.22718	0.13967
2013	13.00897	0.033698	0	0.145573	0.513856	14.31547	0.058869
2014	13.00897	0.032904	0	0.14664	0.530909	14.30817	0.001705

**Grief Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	10.66055	0.390493	0.343852	0.133978	1	12.67063	0.279779

2005	10.66055	0.013915	0.331593	0.134023		1	12.67029	0.279779
2006	10.66055	0.095254	0.106682	0.13442		1	12.66733	0.008896
2007	10.66055	0.050424	0.137205	0.137825		1	12.64232	0.100442
2008	10.66055	0.24904	0.86239	0.155716	0.926963		12.52027	0.208568
2009	10.66055	0.067991	0.88129	0.167988		1	12.44441	0.278897
2010	10.66055	0.158422	0.92908	0.154816		1	12.52606	0.046841
2011	10.66055	0.143447	0	0.159286	0.975096		12.4976	0.120842
2012	10.66055	0.06159	0.470234	0.067511	0.417078		13.35601	0.148721
2013	10.66055	0.044842	0.475088	0.062485	0.390718		13.43337	0.062108
2014	10.66055	0.065381	0.438686	0.064236	0.397248		13.40574	0.009557

**Niger Ropes Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	14.492	0.028169	0.510833	0.517405	0.323768	13.14138	0.145123
2005	14.492	0.022716	0.5796	0.420692	0.236707	13.3483	0.183944
2006	14.492	0.03367	0.576395	0.390161	0.223665	13.42364	0.079372
2007	14.492	0.034793	0.512746	0.416739	0.18939	13.35774	0.185438
2008	14.492	0.030489	0.138581	0.408738	0.216683	13.37713	0.121677
2009	14.492	0.198417	0.29734	0.407374	0.205441	13.38047	0.032919
2010	14.492	0.002857	0.279385	0.424856	0.176914	13.33845	0.107096
2011	14.492	0.008748	0.289601	0.449033	0.13124	13.2831	0.295707
2012	14.492	0.250515	0.890729	0.425818	0.214414	13.33619	0.219355
2013	14.492	0.302824	1.211032	0.357715	0.140322	13.51046	0.114552
2014	14.492	0.0449	1.259832	0.364324	0.142854	13.49216	0.707371

## NATURAL RESOURCES SECTOR

### B. O. C Gasses Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.96028	0.095781	0.765354	0.33692	0.661439	13.96978	0.113502
2005	13.92919	0.102881	0.744655	0.294611	0.648357	14.10397	0.123964
2006	14.0229	0.084387	0.693316	0.256482	0.641559	14.24257	0.168849
2007	15.13316	0.12963	0.643715	0.223143	0.627852	14.38181	0.419592
2008	15.73604	0.115441	0.475304	0.20492	0.566156	14.46701	0.0006
2009	15.48308	0.122331	0.553472	0.192761	0.546651	14.52817	0.188258
2010	15.10107	0.163591	0.460269	0.185505	0.486053	14.56655	0.040809
2011	14.80612	0.15904	0.398682	0.173816	0.594111	14.63163	0.020038
2012	14.77161	0.115025	0.379281	0.157168	0.503726	14.78947	0.014945
2013	14.78433	0.091005	0.368462	0.144165	0.491393	14.87583	0.100656
2014	14.78433	0.065992	0.410051	0.121759	0.66185	15.04474	0.057985

### Aluminium Extrusion Industries Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	14.71262	0.011784	0	0.814281	0.996298	12.50663	0.19345
2005	14.71262	0.020569	0.966261	0.536752	0.643321	12.9234	0.19345
2006	14.71262	0.057978	0.903284	0.616279	0.809633	12.78524	0.109418
2007	14.71262	0.11544	0.807484	0.491134	0.773383	13.01222	0.206072
2008	14.71262	0.132352	0	0.407452	0.937073	13.19902	0.258539

2009	14.71262	0.106977	0	0.490756	0.848724	13.01299	0.182206
2010	14.71262	0.088887	0.153607	0.324135	0.900155	13.42778	0.502405
2011	14.71262	0.041228	0.497201	0.179433	0.764266	14.01913	0.074619
2012	14.65731	0.028106	0.360764	0.13701	0.821913	14.28888	0.0059
2013	14.65731	0.080387	1.166483	0.13053	0.769447	14.33733	0.087398
2014	14.65731	0.097013	1.119687	0.125463	0.742111	14.37692	0.013257

**Multiverse Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	9.998798	0.025202	0.026449	0.037288	1	13.28789	1.050672
2005	9.998798	0.025202	0.020434	0.036439	1	13.31092	1.050672
2006	9.998798	0.108418	0.01455	0.034598	1	13.36275	1.050672
2007	12.50618	0.087656	0.008356	0.365763	1	13.51195	0.281443
2008	15.21644	0.021429	0.110399	0.999851	0.554541	15.21659	0.374857
2009	15.26523	0.022501	0.061209	1.022287	0.894293	15.24319	0.202877
2010	15.26523	0.00967	0.17009	0.956125	0.871212	15.3101	0.231963
2011	15.26523	0.007183	0.257814	0.846736	0.87664	15.4316	0.141544
2012	15.26523	0.005584	0.313689	0.776575	0.879296	15.5181	0.043919
2013	15.26523	0.056304	0.519938	0.816354	0.918696	15.46814	0.575697
2014	15.26523	0.04816	0.559721	0.825658	0.922144	15.45681	0.947586

**OIL AND GAS SECTOR**

**Japaul Oil & Maritime Serv. Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
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2004	13.05224	0.104008	0.422831	0.39547	0.755017	13.64345	0.131422
2005	13.05224	0.097589	0.349448	0.312466	0.713106	13.87903	0.083533
2006	14.30915	0.087652	0.467847	0.540024	0.711247	14.58882	1.628077
2007	14.30573	0.077488	0.686199	0.23899	0.573609	15.40059	0.661852
2008	15.98659	0.029056	0.104762	0.267044	0.876303	16.97047	0.7054
2009	15.98659	0.030349	0.11607	0.260048	0.823908	16.99701	0.17331
2010	15.98659	0.031686	0.137474	0.25032	0.831552	17.03514	0.531014
2011	15.54476	0.035947	0.172862	0.229617	0.816197	17.12146	0.436596
2012	15.05229	0.008322	0.476945	0.191748	0.883387	17.30169	0.198477
2013	15.03394	0.006183	0.607044	0.161507	0.735052	17.47333	0.060921
2014	14.95698	0.068202	0.677788	0.161884	0.786353	17.471	0.18862

**Oando Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	17.44707	0.024858	0.700706	0.00967	0.362027	17.89614	0.20046
2005	17.44707	0.02773	0.732813	0.008948	0.463428	17.97379	0.773323
2006	17.44707	0.03869	0.980889	0.007201	0.258885	18.19102	0.143987
2007	17.7229	0.033687	0.708538	0.004635	0.45445	18.90732	0.1109
2008	17.90544	0.028992	0.844051	0.003145	0.444248	19.4777	0.8259
2009	17.90544	0.032	0.831018	0.002868	0.559093	19.56977	0.007544
2010	18.59858	0.008011	0.714913	0.005509	0.656199	19.61036	0.695975
2011	17.72814	0.006489	0.771315	0.005606	0.61287	19.82099	0.002109
2012	17.15076	0.020942	0.795453	0.004415	0.716436	20.0598	0.175842
2013	18.92413	0.00236	0.70164	0.011526	0.61835	20.19884	0.331721
2014	18.51516	0.009795	0.75227	0.013531	0.65028	20.03849	0.256328



**Conoil Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	17.75961	0.092046	0.073296	0.028862	0.314023	16.9954	0.739835
2005	17.75961	0.090519	0.104709	0.023937	0.275924	17.18249	0.258245
2006	17.75961	0.083775	0.086621	0.020698	0.30881	17.32787	0.198427
2007	17.75961	0.088785	0.1078	0.023757	0.307796	17.19004	0.040606
2008	17.04583	0.057791	0.790605	0.012218	0.144766	17.85497	0.430249
2009	17.04583	0.058138	0.6603	0.017448	0.204635	17.49871	0.180016
2010	16.90015	0.067245	0.632196	0.016726	0.184865	17.54096	0.010067
2011	17.09063	0.048468	0.728003	0.011221	0.128829	17.94009	0.53105
2012	17.09063	0.008604	0.811528	0.008351	0.08603	18.23551	0.047735
2013	17.09063	0.037271	0.781025	0.008425	0.068849	18.22676	0.063629
2014	17.09063	0.029838	0.77775	0.009159	0.091448	18.14321	0.024172

**Eterna Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	14.00778	0.367765	1.106024	0.537112	0.735027	13.00994	0.640155
2005	14.74175	0.284871	1.147701	0.604551	0.553847	13.62563	6.864794
2006	14.74175	0.018735	0.914512	0.401378	0.346462	14.03521	1.477606
2007	15.00412	0.041336	0.638476	0.198318	0.218024	15.00261	0.39728
2008	15.18644	0.048128	0.721174	0.092315	0.678686	15.94959	1.450367
2009	15.70045	0.164451	0.701993	0.143438	0.671283	16.02291	0.232829
2010	15.70045	0.077895	0.501663	0.140556	0.70834	16.04321	0.532567

2011	15.16625	0.082326	0.603381	0.088646	0.429031	16.50416	1.904716
2012	14.76919	0.028494	0.807391	0.039266	0.194076	17.31845	1.182626
2013	15.58736	0.038525	0.610439	0.071448	0.347821	16.71985	0.096605
2014	15.17298	0.069457	0.546494	0.07024	0.347538	16.73689	0.166378

**Forte Oil AP Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	16.06267	0.050692	1.560076	0.024602	0.443306	16.6811	0.264135
2005	16.40571	0.207381	1.099958	0.035373	0.479085	16.66104	0.264135
2006	16.66474	0.076599	0.156177	0.027952	0.380319	17.1555	0.916093
2007	16.66474	0.174609	0.053771	0.024047	0.291442	17.30601	0.250986
2008	16.66474	0.187196	0.306936	0.028935	0.39236	17.12096	0.493307
2009	16.87978	0.104254	0.623426	0.011133	0.154735	18.29117	0.044405
2010	16.87978	0.0398	0.632349	0.014168	0.161943	18.05004	0.169952
2011	16.24432	0.431975	0.869779	0.021626	0.337954	17.62717	0.118252
2012	15.93641	0.023699	0.821634	0.025374	0.418546	17.56532	0.222355
2013	18.47371	0.047808	0.595433	0.010305	0.529175	18.4664	0.407142
2014	19.3326	0.032007	0.681591	0.007844	0.407944	18.7517	0.328837

**Mobil oil Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	17.33881	0.146079	0.926727	0.019959	0.482216	16.30413	0.254356
2005	17.33881	0.167576	0.6949	0.016629	0.467313	16.48664	0.093846
2006	17.33881	0.098545	0.677772	0.013804	0.466674	16.67287	0.002069
2007	17.33881	0.064738	0.933637	0.013759	0.497807	16.67611	0.073457

2008	17.56196	0.090815	0.902442	0.015879	0.533269	16.75594	0.223662
2009	17.56196	0.132668	0.84534	0.014028	0.555909	16.87991	0.070554
2010	17.56196	0.167859	0.802053	0.012982	0.609137	16.95742	0.059469
2011	17.51036	0.125022	0.796698	0.010006	0.527766	17.21778	0.064385
2012	17.56589	0.085756	0.803658	0.011601	0.651823	17.32896	0.301169
2013	17.64801	0.085463	0.765824	0.00956	0.732106	17.52244	0.025468
2014	17.85572	0.129865	0.724752	0.007308	0.750929	17.71194	0.010662

**MRS Oil Chevron Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	16.64315	0.050464	0.826686	0.015546	0.197071	16.60897	0.297196
2005	16.64315	0.073263	0.781734	0.017796	0.253684	16.47383	0.225299
2006	16.64315	0.076378	0.802374	0.014779	0.230497	16.65962	0.268994
2007	16.64315	0.093584	0.806781	0.012131	0.190449	16.85701	0.101854
2008	16.64315	0.019928	0.83071	0.022453	0.31482	16.24138	0.329492
2009	16.64315	0.065918	0.848222	0.015931	0.207062	16.58452	0.531962
2010	16.64315	0.044969	0.548961	0.006183	0.45227	17.53103	0.002398
2011	16.52258	0.015354	0.733661	0.003764	0.267959	18.02742	0.051202
2012	15.61305	0.00369	0.657275	0.004568	0.402879	17.83362	0.123665
2013	16.4191	0.018815	0.661572	0.004642	0.359774	17.81775	0.057361
2014	16.4191	0.012772	0.68759	0.004285	0.338403	17.89756	0.001651

**Total Nigeria Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	17.94199	0.109972	0.892327	0.013436	0.255768	17.04509	0.423336
2005	17.94483	0.124866	0.857284	0.011727	0.311398	17.18112	0.333752
2006	17.95576	0.095706	0.780738	0.012911	0.397049	17.08493	0.001169
2007	18.05189	0.090864	0.821423	0.009565	0.323643	17.38496	0.085053
2008	18.05189	0.105173	0.825979	0.008128	0.310856	17.5477	0.291777
2009	17.73924	0.079839	0.85904	0.006831	0.298377	17.72153	0.006529
2010	18.19062	0.09957	0.836466	0.006218	0.307405	17.81557	0.100611
2011	17.97227	0.064939	0.829253	0.005782	0.31151	17.88829	0.083092
2012	17.52752	0.061405	0.851422	0.004463	0.248221	18.14713	0.252343
2013	17.87109	0.067177	0.833247	0.004276	0.293192	18.19005	0.093275
2014	17.69464	0.046316	0.854158	0.003555	0.26361	18.37477	0.01031

## SERVICES SECTOR

Afromedia Plc.

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	9.903488	0.043897	0	0.101238	1	12.19377	0.108646
2005	9.903488	0.085062	0	0.122736	1	12.00121	0.108646
2006	9.903488	1.118129	0	0.113969	1	12.07531	0.28414
2007	9.903488	0.04006	0.363506	0.007938	0.81645	14.73952	3.319243
2008	15.21064	0.078022	0.17573	0.717997	0.385608	15.54193	1.594406
2009	15.21064	0.047327	0.315569	0.560431	0.343838	15.78969	0.22523
2010	15.21064	0.048289	0.433123	0.442761	0.360384	16.02537	0.557602
2011	15.21064	0.028434	0.370615	0.380978	0.457289	16.17565	0.131953
2012	15.30595	0.910653	0.840858	0.900258	0.655025	15.41102	0.492665
2013	15.30595	0.202708	1.022388	1.056978	0.704781	15.25054	0.548127
2014	15.27518	0.286102	0.626964	0.654745	0.559424	15.69869	1.525011

**R. T. Briscoe Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	14.77921	0.05585	0.358623	0.130448	0.11892	14.83913	29.55277
2005	14.79023	0.062382	0.419649	0.113423	0.168111	14.97899	0.384043
2006	15.44141	0.111317	0.499804	0.076002	0.113837	15.37935	0.70359
2007	16.42336	0.082605	0.61837	0.061463	0.107615	15.81481	0.233812
2008	16.08772	0.087619	0.550896	0.079148	0.132954	15.78509	0.23473
2009	15.24742	0.056139	0.361191	0.132569	0.204216	15.45162	0.240208
2010	14.678	0.016117	0.634144	0.086639	0.114356	16.05929	0.006721
2011	13.99446	0.009962	0.76596	0.065142	0.105994	16.52679	0.295564
2012	14.39664	0.020606	0.778023	0.083341	0.166267	16.46274	0.121149
2013	14.36319	0.000285	0.738166	0.091444	0.130081	16.36995	0.139867

2014	13.71656	0.003266	0.761504	0.08397	0.133609	16.45523	0.06653
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**Red Star Express Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	0	0.808064	0	0.342452	1	12.61314	0.078267
2005	12.5993	0.808064	0.108503	0.342452	1	12.61314	0.078267
2006	12.5993	0.488345	0.121971	0.217177	1	13.06856	0.078267
2007	14.34481	0.246586	0.339561	1.227899	1	13.08172	0.18637
2008	14.34481	0.099374	0.401927	0.299365	0.336047	14.49312	0.161242
2009	14.34481	0.1056	0.456225	0.250722	0.294338	14.67043	0.27803
2010	14.34471	0.071419	0.492918	0.233203	0.293859	14.74277	0.045414
2011	14.15821	0.12041	0.48008	0.212755	0.323568	14.83453	0.01644
2012	14.38553	0.104041	0.494017	0.187498	0.269234	14.96091	0.195282
2013	14.6581	0.100254	0.433302	0.19405	0.280622	14.92656	0.052532
2014	14.6581	0.117099	0.447998	0.171002	0.316201	15.053	0.212062

**Trans-Nationwide Exp Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	11.38922	0.056595	0.513184	0.650826	0.322342	11.81873	0.56323
2005	11.38922	0.137555	4.456547	0.557206	0.287841	11.97404	0.56323
2006	11.79469	0.152506	0.270411	0.707304	0.280486	12.14098	0.494188
2007	11.79469	0.199295	0.31983	0.577898	0.245196	12.34304	0.381152
2008	11.79469	0.216199	0	0.603353	0.361363	12.29994	0.254183
2009	11.79469	0.191353	0	0.624787	0.295685	12.26503	0.208458
2010	11.79469	0.060904	0	0.244269	0.486895	13.20417	0.380467
2011	12.20016	0.803544	0	3.283676	4.498398	11.01119	0.08547
2012	12.20016	0.056838	0.215345	0.328592	0.439383	13.31309	0.06826
2013	12.20016	0.116451	0.426242	0.299008	0.422121	13.40744	0.191932
2014	12.20016	0.106415	0.366496	0.316864	0.332056	13.34944	0.001536

**C & I Leasing Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	13.72995	0.01196	0.79079	0.303569	0.948029	14.49683	0.363863
2005	13.72995	0.022017	0.775456	0.304029	0.972224	14.49532	0.091767
2006	13.72995	0.012919	0.806555	0.259853	0.986222	14.65233	0.15305
2007	14.71115	0.030376	0.577706	0.413255	0.889746	15.16957	0.19928
2008	14.71115	0.009981	0.648733	0.312096	0.976264	15.45033	0.53831
2009	14.47748	0.008513	0.656629	0.336071	0.94867	15.14265	0.269297
2010	14.72136	0.008275	0.837201	0.124837	0.822271	16.37683	3.569514
2011	13.83405	0.012359	0.863221	0.127357	0.971835	16.35685	0.043387

2012	13.83405	0.006605	0.89738	0.080226	0.977396	16.81899	0.213742
2013	13.60294	0.009602	0.732156	0.084616	0.540623	16.76572	0.141508
2014	13.60294	0.013272	0.751239	0.069298	0.635909	16.96542	0.139947

**Tantalzers Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	8.556414	0.119412	0.649194	0.006994	1	14.17307	0.085365
2005	8.556414	0.024994	0.597466	1.293173	1	14.21249	0.028795
2006	13.81566	0.094153	0.08475	1.186196	1	14.72656	0.06807
2007	14.24339	0.094703	0.266727	0.574078	0.764741	15.45231	0.21024
2008	14.24339	0.059432	0.358617	0.512408	0.798937	15.56595	0.18966
2009	14.24339	0.009837	0.323324	0.547031	0.827549	15.58554	0.09303
2010	14.32836	0.010449	0.426174	0.489017	0.783767	15.69765	0.058244
2011	14.28914	0.015511	0.44484	0.532409	0.846929	15.61263	0.088244
2012	14.28914	0.050308	0.534359	0.560653	0.885092	15.56094	0.171068
2013	14.28914	0.098601	0.46613	0.525688	0.836224	15.62534	0.1765
2014	14.28914	0.041816	0.649194	0.006994	1	14.17307	0.085365

**Capital Hotels Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	15.04179	0.011729	0.346613	0.87194	1	13.9849	0.112935
2005	15.4469	0.011485	0.231366	0.839218	1	14.42826	0.112935



2006	15.4469	0.137802	0.313933	0.907232	1	14.35033	0.278877
2007	15.4469	0.096235	0.285868	0.84193	1	14.42504	0.013802
2008	15.4469	0.053815	0.510833	0.398537	0.369335	15.17293	0.409247
2009	15.4469	0.169558	0.493293	0.314919	0.351946	15.40842	0.187048
2010	15.4469	0.105789	0.472645	0.274593	0.327152	15.54544	0.069696
2011	15.4469	0.135493	0.482263	0.293377	0.338701	15.47927	0.032578
2012	15.4469	0.055546	0.578087	0.240631	0.449468	15.67747	0.112735
2013	15.4469	0.026172	0.495077	0.24225	0.470083	15.67076	0.078977
2014	15.4469	0.040908	0.536721	0.241438	0.459741	15.67412	0.036598

**DAAR Communications Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	15.52389	0.007319	0.292863	0.362705	0.603101	15.23514	0.716629
2005	15.52389	0.014062	0.05859	0.14369	0.810892	16.16107	0.618093
2006	15.52389	0.016524	0.064132	0.146936	0.819952	16.13873	0.383443
2007	16.93821	0.023027	0.0725	0.51579	0.816322	16.29735	0.134887
2008	16.93821	0.016426	0.059451	0.51579	0.819373	16.29735	0.018082
2009	17.19786	0.160691	0.56246	0.668715	1.957287	16.29735	1.607973
2010	17.19786	0.18796	0.496382	0.668715	1.870303	16.29735	0.344423
2011	17.19786	0.065418	0.517742	0.332905	0.881786	16.99485	0.019785
2012	17.19786	0.010834	0.558502	0.316458	0.897335	17.04552	0.139646
2013	17.19786	0.15003	0.472512	0.351157	0.864533	16.94147	0.324625
2014	15.2018	0.065418	0.517742	0.332905	0.881786	16.99485	0.122535

**Academy Press Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.7997	0.223339	2.115274	0.716096	0.579313	12.2603	0.22292
2005	14.08738	0.083546	1.697031	0.859196	0.574178	12.3658	0.027795
2006	14.08738	0.108907	1.577587	0.459179	0.790215	12.99235	0.159991
2007	14.08738	0.141042	1.504897	0.459785	0.782296	12.99104	0.192996
2008	14.08738	0.233837	1.915861	0.421749	0.836329	13.07738	0.445614
2009	14.49285	0.108583	2.370666	0.703068	0.884456	12.97181	0.156691
2010	14.49285	0.122478	1.602642	0.332144	0.945415	13.72169	0.204226
2011	14.2101	0.037409	0.731559	0.170523	0.445284	14.67607	0.420069
2012	13.86829	0.032702	0.75624	0.178746	0.37663	14.85291	0.009069
2013	13.83916	0.018671	0.787828	0.142162	0.407653	15.08191	0.003798
2014	13.71891	0.026901	0.788757	0.133022	0.704799	15.14837	0.026942

**University Press Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	13.65163	0.079608	0.335981	0.237472	0.36775	13.17241	0.215442
2005	13.65163	0.124272	0.354916	0.172554	0.353111	13.49175	0.743338
2006	13.82725	0.108017	0.322616	0.228372	0.351174	13.38711	0.115812
2007	13.82725	0.137589	0.381379	0.187094	0.354698	13.58648	0.261963
2008	14.52709	0.115642	0.318324	0.211878	0.3194	14.16191	0.38336
2009	14.70941	0.138001	0.370845	0.205554	0.308341	14.37454	0.68676
2010	14.89174	0.03799	0.362607	0.213337	0.262709	14.5197	0.191955
2011	14.19859	0.087807	0.263348	0.179211	0.442144	14.69401	0.028944
2012	14.4722	0.084819	0.310511	0.160895	0.380239	14.80182	0.114454
2013	14.40513	0.092374	0.232658	0.152861	0.460315	14.85304	0.110746

2014	14.41465	0.078672	0.245897	0.14509	0.444582	14.90522	0.054291
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**Associated Bus Company Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	10.36722	0.065854	0.502908	0.060867	0.992316	13.80117	0.221271
2005	12.31313	0.098038	0.837432	0.292991	0.994716	14.17562	0.187109
2006	13.59075	0.080671	0.252235	0.85015	0.718923	14.38797	0.289568
2007	13.59075	0.06532	0.237989	0.696888	0.391353	14.58676	0.181858
2008	13.59075	0.070008	0.299939	0.631294	0.372562	14.68561	0.235888
2009	13.59075	0.033409	0.380826	0.587702	0.471219	14.75717	0.027255
2010	13.59075	0.018422	0.317632	0.48278	0.373372	14.95383	0.134759
2011	13.53248	0.014002	0.626087	0.297097	0.815486	15.43933	0.27456
2012	13.53248	0.065236	0.558687	0.302016	0.772174	15.42291	0.110555
2013	14.02718	0.054166	0.595312	0.267565	0.690937	15.54402	0.019623
2014	13.72586	0.044705	0.593614	0.288063	0.757019	15.47021	0.045375

**Airline Services & Logistics Plc.**

YEAR	MKTV	PTAX	TD/TA	EQ/TA	TFA/TA	TA	TURN
2004	14.18404	0.003444	1.745315	0.0662	0.087906	15.87666	0.808464
2005	14.18404	0.041626	1.603521	0.108033	0.164102	15.3869	0.808464
2006	14.18404	0.062071	1.566789	0.180078	0.282049	14.87595	0.122238
2007	14.38226	0.172831	0.96649	0.339493	0.428172	14.44011	0.878868
2008	14.38226	0.125433	1.155817	0.372842	0.481079	14.3464	0.037413
2009	14.38226	0.205495	1.282782	0.719183	0.860592	13.68944	0.065937
2010	13.90213	0.108029	0.295528	0.284173	0.368407	14.61798	0.043799

2011	14.13453	0.095948	0.308569	0.255423	0.378347	14.72464	0.016012
2012	14.79012	0.164701	0.268799	0.21206	0.35653	14.91069	0.027535
2013	14.52296	0.026137	0.377435	0.183328	0.402757	15.05628	0.086259
2014	13.89043	0.040079	0.456194	0.147774	0.654395	15.27188	0.015292

**Nigerian Aviation Han. Co. Plc.**

<b>YEAR</b>	<b>MKTV</b>	<b>PTAX</b>	<b>TD/TA</b>	<b>EQ/TA</b>	<b>TFA/TA</b>	<b>TA</b>	<b>TURN</b>
2004	15.13326	0.026705	0.807177	0.107554	0.746318	14.8413	0.05665
2005	15.13326	0.092069	0.781897	0.086932	0.557852	15.05417	0.301637
2006	15.13326	0.110166	0.718396	0.076131	0.570528	15.18684	0.063928
2007	16.83031	0.119683	0.655194	0.152153	0.625162	15.4107	0.12809
2008	16.75377	0.134078	0.295806	0.164318	0.52489	15.60533	0.209971
2009	15.9942	0.148042	0.308494	0.181935	0.510108	15.72701	0.369413
2010	16.34529	0.119356	0.314917	0.168831	0.61528	15.80176	0.045988
2011	15.65996	0.08019	0.475284	0.12365	0.618714	16.1132	0.125456
2012	15.88977	0.05416	0.503193	0.134803	0.8016	16.20917	0.035631
2013	16.02978	0.055857	0.571134	0.108577	0.641722	16.42552	0.094204
2014	15.76337	0.039679	0.599246	0.10304	0.664361	16.47787	0.005025

## **LIST OF COMPANIES USED**

### **AGRICULTURE SECTOR**

FTN Cocoa Processors Plc.

Okomu Oil Palm Plc.

Presco Plc.

Ellahlakes Plc.

Livestock Feeds Plc.

### **CONGLOMERATES SECTOR**

A. G. Leventis (Nigeria) Plc.

Chellarams Plc.

John Holt Plc.

SCOA Nigeria Plc.

Transnational Corporation of Nigeria Plc.

UAC of Nigeria Plc.

### **CONSTRUCTION/REAL ESTATE SECTOR**

Julius Berger Nigeria Plc.  
UACN Property Development Co. Plc.  
Roads Nigeria Plc.

### **CONSUMER GOODS SECTOR**

DN Tyre & Rubber Plc.  
Champion Breweries Plc.  
Guinness Nigeria Plc.  
International Breweries Plc.  
Nigerian Breweries Plc.  
Seven-Up Bottling Company Plc.  
Flour Mills of Nigeria Plc.  
National Salt Company of Nigeria Plc.  
Northern Nigeria Flour Mills Plc.  
UTC Nigeria Plc.  
Cadbury Nigeria Plc.  
Nestle Nigeria Plc.  
Nigerian Enamelware Plc.  
Vitafoam Nigeria Plc.  
Vono Products Plc.  
P Z Cussons Nigeria Plc.  
Unilever Nigeria Plc.

### **HEALTH CARE SECTOR**

Ekocorp Plc.  
Union Diagnostics and Clinical Services Plc.  
Morison Industries Plc.  
Evans Medical Plc.  
Fidson Healthcare Plc.  
GlaxoSmithkline Consumer Nigeria Plc.  
May & Baker Nigeria Plc.  
Neimeth International Pharmaceuticals Plc.  
Pharma-Deko Plc.

### **ICT SECTOR**

NCR (Nigeria) Plc.  
Tripple Gee and Company Plc.  
IHS Nigeria Plc.

### **INDUSTRIAL GOODS SECTOR**

African Paints (Nig.) Plc.  
Ashaka Cement Plc.  
Berger Paints Nigeria Plc.  
Chemical and Allied Products Plc.  
Cement Company of Northern Nigeria Plc.  
DN Meyer Plc.  
First Aluminium Nigeria Plc.  
IPWA Plc.  
Lafarge Cement WAPCO Nigeria Plc.  
Cutix Plc.  
Avon Crowncaps & Containers (Nigeria) Plc.  
Beta Glass Plc.  
Poly Products Nigeria Plc.  
Grief Nigeria Plc.  
Nigerian Ropes Plc.

#### **NATURAL RESOURCES SECTOR**

B. O. C Gasses Nigeria Plc.  
Aluminium Extrusion Industries Plc.  
Multiverse Plc.

#### **OIL AND GAS SECTOR**

Japaul Oil & Maritime Services Plc.  
Oando Plc.  
Conoil Plc.  
EternaOil & Gas Plc.  
Forte Oil Plc.  
Mobil Oil Nigeria Plc.  
MRS Oil Chevron Plc.  
Total Nigeria Plc.

#### **SERVICES SECTOR**

Afromedia Plc.  
R. T. Briscoe (Nigeria) Plc.  
Red Star Express Plc.  
Trans-Nationwide Express Plc.  
C & I Leasing Plc.  
Tantalzers Plc.  
Capital Hotels Plc.

DAAR Communications Plc.  
Academy Press Plc.  
University Press Plc.  
Associated Bus Company Plc.  
Airline Services & Logistics Plc.  
Nigerian Aviation Handling Company Plc.



## Summary of review of some empirical studies

<b>Author(s)/Year</b>	<b>Title</b>	<b>Variables of Study</b>	<b>Country</b>	<b>Methodology</b>	<b>Outcome</b>
Sheik Jibrán, Shakeel Ahmed Wajid, Iqbal Waheed, & Tahir Masood Muhammad (2012)	Pecking at pecking order theory: Evidence from Pakistan's non-financial sector.	Deficit of funds; Dividends, capital investments, net increase in working capital of firms, long term debt.	Pakistan	Quantitative, regression	Weak form of pecking order supported by Pakistani firms.
Faris Al-Shubri (2010)	Determinants of capital structure choice: A case study of Jordanian industrial companies	Leverage; Number of years, size of firm, tangible assets, cash, market capitalisation, sales, depreciation	Jordan	Quantitative, simple regression, multiple regression	Positive and significant relationship
Salawu Rafiu Oyesola (2007)	An empirical analysis of the capital structure of selected quoted companies in Nigeria	Leverage; Liabilities, profitability, tangibility, growth of firm, size of firm, non-debt tax shield, dividend	Nigeria	Secondary data, quantitative, panel data, fixed effect, random effect, ordinary least square	Nigerian firms are financed by either equity capital or mix of equity and short-term financing
Olayina Akinlo	Determinants of	Leverage;	Nigeria	Quantitative, panel	Negative relationship

(2011)	capital structure: evidence from Nigerian panel data	Sales growth, tangibility, liquidity, profitability, size, gross domestic product		data, fixed effect, random effect, ordinary least square	between leverage and growth opportunities, leverage and tangibility, but positively related to liquidity as well as size
Ishaya Luka Chechet, Sannomo Larai Garba, & Abu Senni Odudu (2013)	Determinants of capital structure in the Nigerian chemical and paints sector	Debt ratio; Age, tangibility, growth, size, profit	Nigeria	Secondary data, ordinary least squares	Tangibility and profitability have significant impact on leverage.  Size, growth and age have insignificant impact on leverage.
Hamisu Kargi Suleiman (2013)	Firm-specific and macroeconomic determinants of capital structure of cement companies in Nigeria.	Short term debt, Long term debt, Total debt ratio:  Asset tangibility, profitability, firm size, liquidity, financial flexibility, tax rate, gross domestic product rate, inflation rate, interest rate.	Nigeria	Secondary data, Multiple regression	Short term debt ratio has significant negative relationship with some firm specific factors; asset tangibility, firm size and financial flexibility have negative effect on long term debt ratio; inverse relationship with firm specific variables and total debt ratio.
Murillo Campello & Erasmo Giambona (2013)	Real assets and capital structure.	Leverage:  Tangibility, firm size, profitability	United States	Secondary data, multiple regression	Replayability of asset tangibility is a main determinant of corporate leverage

Alicia M Robb & David T Robinson (2010)	The capital structure decisions of new firms.	Debt and Equity	United States	Primary data, Multivariate regressions	Newly founded firms rely heavily on debt financing.
Dirk Hacbarth, Christopher A. Hennesy & Hayne E. Leland (2007)	Can trade-off theory explain debt structure?	Earnings before interest and tax; Bank debt, market debt	United States	Secondary data	Trade-off theory is sufficient to explain facts regarding corporate debt structure
Gabrielle Wanzenried (2006)	Capital structure dynamics in UK and Continental Europe.	Firm leverage; Fixed assets, firm size, profitability, non-debt tax shields, expected growth, income variability	United Kingdom, Austria, Belgium, the Netherlands, Denmark, Finland, France, Italy, Spain, Switzerland	Secondary data, Regressions	There exists significant differences between corporate governance systems and capital structure decisions.

Source: Compiled by Author from various studies