

**EFFECT OF CAPITAL STRUCTURE ON PROFITABILITY OF LISTED  
INDUSTRIAL GOODS COMPANIES IN NIGERIA**

**BY**

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**16020101014**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND  
FINANCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
AWARD OF THE DEGREE OF BACHELLOR OF SCIENCE (B.SC) DEGREE IN  
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SOCIAL SCIENCES, MOUNTAIN TOP UNIVERSITY  
IBAFO, OGUN STATE,  
NIGERIA**

**November 2020**

**DECLARATION**

I hereby declare that this research project is my original work and has not been previously published by another person, neither has it been previously presented for the award of any degree in this or any other University.

.....

**KAYODE-JOSEPH DANIEL O.**

.....

**Date**

## CERTIFICATION

This is to certify that **KAYODE-JOSEPH DANIEL OLUWASEYI**, a final year student of Mountain Top University, at the Department of Accounting & Finance has carried out a research project on “EFFECT OF CAPITAL STRUCTURE ON PROFITABILITY OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA” under the guidance of Mr. T. A. Taleatu.

.....

**MR. T. A. TALEATU**  
**(Project supervisor)**

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**Date**

.....

**DR. O. J. OMOKEHINDE**  
**(Head of Department)**

.....

**Date**

## **DEDICATION**

This work is dedicated to the Almighty God for his infinite guidance throughout my stay at Mountain Top University. Likewise, my family, my competent supervisor, the Head of Department, other members of staff, and friends for their immeasurable support and motivation.

## **ACKNOWLEDGEMENTS**

I am most grateful to God Almighty for his direction and control which has been of tremendous value and enabled me to complete this project successfully.

I specially appreciate my supervisor, Mr. T. A. Taleatu for his selfless assistance towards the completion to this project. I acknowledge the Head of Department, Dr. J. O. Omokehinde for his efforts and constant support, as well as other academic members of staff in the accounting and finance department for their individual hard work and efforts towards a successful project completion. I am sincerely grateful.

My profound gratitude also goes to all who gave me the opportunity to produce this work and to all whose guidance has been of great substance to me in the course of this project.

May the Lord, God Almighty bless them all abundantly. Amen.

## ABSTRACT

For such a long time, the relationship between capital structure and firm's performance has conferred a puzzle in the world of finance. Researchers have looked into this puzzle and put forward controversial results. Financial managers are being provided with no clear-cut guideline on the optimum mix of capital structure elements which yields optimum firm performance. This study sought to examine the effect of capital structure on the profitability of listed industrial goods companies in Nigeria. The study covered all firms listed under the industrial goods sector in the Nigerian Stock Exchange over a 5-year period, from 2014 to 2018. Equity Finance and Firm Leverage represented capital structure indicators while Return on Assets (ROA) was used as a measure of firm performance. Firm size constituted the moderating variable. A correlational research design was adopted. Secondary data were collected from the firms' annual report and the corporate websites. The panel data was then analyzed using moderated regression analysis to test the relationship between capital structure variables and ROA. Other statistical techniques, such as correlation and linear regression were also used to analyze the results. Variable computations were carried out using Statistical Package for Social Sciences (SPSS) version 22. The results of this study revealed mixed results, a significant positive correlation between equity finance and profitability. Another result showed no significant relationship between firm leverage and profitability. Other results showed no significant moderating effect of firm size on the relationship between capital structure and profitability. However, it is dependent on how the size expansion is financed. It was concluded that regardless of the size of the firm, equity finance has a significant positive impact on profitability. This study recommends that firms should use bonus issue to compensate the shareholders instead of cash dividends.

**Keywords:** Capital structure, equity finance, firm size, leverage, profitability

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Financing decision, which is most logically linked to capital structure is essential to every firm, whether newly launched or ongoing. The start-up of a business venture is the most crucial in this regard because after the conceptualization of a business idea, the business owners, as well as finance experts will need to solve the problem of financial accessibility to fund the project at hand. Accordingly, various sources are then explored to generate the estimated start-up capital, although, having a proper mix of the capital becomes another issue, being that, if it is not properly handled, it could affect the business' survival and profitability (Robert, 2012). Therefore, the relationship between capital structure and profitability becomes prevalent.

Establishing a relationship between capital structure and profitability has been an ongoing theme in accounting literature which has drawn the attention of numerous scholars and researchers. The pathbreaker of this debate and studies on capital structure theory is Modigliani and Miller (1958). Afterward, the concept of capital structure received much attention. Pandey (2015) characterized capital structure as the different methods for financing a firm, that is, the contingent connection between debt and equity. As stated by Dare and Sola (2010), capital structure is the obligation and value blend of business finance. It constitutes the commensurable association involving debt and equity with regard to the finances of an organization. In essence, capital structure is a commixture of different sources of various wellsprings of finance which will yield optimum productivity for a firm.

As it is evident enough, various empirical and theoretical researches including (Myers & Majluf, 1984; Brander & Lewis, 1986; Harris & Raviv, 1990) have been carried out in this path-breaking effort of Modigliani and Miller (1958), though the focal point of researchers is on determining and selecting a blend of debt and equity at an optimal level based on the trade-off between the cost and benefits of debt.

In accordance with the aforementioned definitions, capital structure comprises of two major elements, which are: equity financing, and debt financing. Equity financing otherwise referred to as internally generated means of finance is simply the means by which a firm tends to raise funds by selling a percentage of its business to an investor for an interchange of

capital. In this regard, there is no obligation attached to pay a fixed or flexible recurring amount. To that effect, it is likely called risk capital, on account of the investors who assume almost all the risks. It is usually of less risk at the start-up stage of a business. Conversely, externally generated capital of a firm refers to any funds sourced from outside the earnings of a firm, most likely, it will have an obligation attached to it. External sources may be through outright borrowing, in terms of loans or increasing the number of co-owners of a business which could be through the issue of shares.

In essence, previous studies on capital structure (Harris & Raviv, 1990; Dare & Sola, 2010) aim at establishing an optimum mix of capital structure elements. The choice of combination of these two components has been noted as a major or significant decision paramount to an organization's formation, as well as its sustainability. Such decision is heavily reliant on the financial managers and poses a difficulty to such managers as there is no clear cut guideline that can be consulted in ascertaining and deciding the optimal mix of these components which will yield optimum performance and productivity of a firm, in terms of business growth and survival, and additionally, the maximization of shareholders' wealth. It is considered as a critical decision of a firm as it frames around a firm's integration of debt and equity financing, towards meeting a firm's objectives, and could expose such an organization to higher risks, depending on the mix of such capital structure elements that is adopted by a firm.

Therefore, financial managers can decide that a firm may be financed through basically three major combinations of capital structure elements, which are; 100% to 0% debt to equity, 0% to 100% debt to equity, or a vast combination of both debt and equity. A firm financed absolutely with equity will have its after-tax profits as shareholders benefits by means of retained earnings and dividends. However, firms with some kind of allotment of debts in their capital structure will have to commit a part of profits to adjusting such debt. This shows that the capital blend of an organizations can assume different structures, yet the most reasonable is what consolidates a specific level of both debt and equity in the capital structure (Olokoyo, 2013). Moreover, it may not be realistic enough to assume that a firm operates with only debt finance, reckoning a real-life economic situation, for the reason that an investor won't commit to a firm that has its equity capital absent or nonexistent.

As regards the association of debt and equity, two types of firm can be identified, which are: a levered firm and an unlevered firm, the latter being a firm which uses only equity capital in

its capital structure formation, while the former being a firm which makes use of equity capital as well as other forms of liabilities, otherwise referred to as debt capital.

Notwithstanding the essence of capital structure decision to a firm, the capital structure of firms varies with its type and some other characteristics or determinants, such as the age of company, company size, asset structure, company growth, company risk, and liquidity. Myers (1984) posited that the potential determinants of an ideal capital structure poses a problem as regards corporate finance. Many researchers including Pandey (2001) identified such diverse determinants, one of which includes the size of a firm. Empirical evidence on the interrelation between size and capital structure supports a positive relationship, as a result, they could collectively influence profitability, or performance in general.

Financial performance is a subjective indicator of how efficiently an organization can utilize its assets to produce profits from its principal mode of business. A firm's financial performance can be measured from financial and organizational perspectives. Financial performance from the perspective of finance is based on expanding return on resources and amplifying investors returns which is formed on the organization's proficiency (Tudose, 2012). This demonstrates that the firm's profitability level is the most generally utilized standard of measurement of performance. Therefore, the failure of corporate organizations to successfully utilize capital structure decision and increase profitability, may yield a low performance index.

As pointed out by Erasmus (2008), financial performance measures deliver a great deal of information to stakeholders which provides a helping hand in evaluating the past financial performance and current standing of a firm. Therefore, a shareholder may measure financial performance based on his return on investment in a company, a manager may measure it based on operating margins and ability to meet set goals, while the customers may measure a firm's financial performance based on the size of their expectations met, as well as satisfactory level.

In the real world, capital structure of a firm is hard to decide as financial managers experience issues in deciding an ideal capital structure to be assumed; all things considered, a firm should issue several securities in incalculable mixtures to derive a particular combination at an ideal level that can increase its value substantially (San & Heng, 2011).

The utilization of debt in a firm's capital structure has both positive and negative consequences on its financial performance. Firms that utilize an ideal measure debt in their

capital structure have upgraded firm worth, while firms with various instances of imperfect utilization of debt in their capital structure, as a rule, experience the ill effects of underutilization which Rajan and Zingales (1995) described as payment of high taxes, high proportions of accounts payable, enormous shortfalls in a firm's cash flow and in some cases corporate disintegration. In like manner, Modigliani and Miller (1963) suggested that firms should fuse more debt in their capital structure to maximize the firm's value.

Due to the propositions presented by the famous capital structure theory of Modigliani and Miller (1958), a lot of issues have been raised with respect to capital structure. Numerous analysts have endeavored to build up whether their hypothesis is practical and fit for settling essential financing decision issues concerning ideal capital structure for an individual firm and the effect of an appropriate financing mix on firm performance and in what condition is the choice of capital structure relevant (Aliu, 2010). Their investigations, in any case, have given a distinctive feeling on the decision of their affiliation. The blended and uncertain discoveries gave inspiration for further studies in this area to decide if capital structure affects the financial performance of firms in various economic sectors.

It has been uncovered that the industrial goods sector, which is the second most capitalized sector of the Nigerian economy after financial services, frequently use leverage to back their operations through debt or equity or both; the degree to which capital structure influences their activities has been an area of relevance. Also, it has been revealed that industrial goods play a great role in Nigeria's economic sustainability, growth and development due to its level of contribution to the nation's GDP. In today's advanced world, the industrial sector may be considered as a cornerstone for specifying a nation's economic efficiency.

Emerging from the key significance of the industrial goods sector to an economy, for example, Nigeria's economy, it is of importance for stakeholders to understand the effect of capital structure on the performance of industrial goods companies, on the grounds that capital structure decision on the most proficient manner to fund their activities by debt or by equity may influence the relationship with companies performance, and ultimately influencing the returns and risks of shareholders, consequently affecting the firms market value. Hence, it becomes imperative to study the relationship between capital structure and profitability of industrial goods companies in Nigeria.

## **1.2 Statement of the Problem**



The concern of researchers has developed enormously as for capital structure decisions since suboptimal financing decisions can lead to corporate failure (Christi, Ali, & Sangmi, 2013). Additionally, Masnoon (2014) stated that the decision of capital structure choices is of paramount importance for firms and optimal capital structure is such a mix of debt and equity that inflates the firm's value and reduces the weighted average cost of capital. Nevertheless, empirical research on the relationship between capital structure and corporate profitability has revealed inconsistent and irregular outcomes. Some studies suggest that capital structure has a significant positive influence on a firm's profitability (Olokoyo, 2013; Tifow and Sayilir, 2015) while some revealed that capital structure negatively influences the profitability of a firm (Dadson & Jamil, 2012; Darush & Peter, 2015).

Some other studies used limited variables of capital structure. For instance, Salawu (2007) concentrated on short term debt only. Babalola (2012) also examined the effect of optimal capital structure on a firm's performance in Nigeria. It was observed that there was also a restrained use of capital structure components in the study. Additionally, the investigation of Yinusa and Babalola (2012) on the impact of corporate governance on capital structure also depicts a limited use of capital structure variables.

Nonetheless, a deep review of these numerous studies on capital structure all over the world, from various researchers like Kibrom (2010), Babalola (2012), Tharmilla and Arulvel (2013), Mubeen & Kalsoom (2014), to mention a few, revealed that none of these examinations were explicitly carried out on industrial goods companies, and using firm size as a moderating variable, thus, there is an obligation in this study to conduct a further detailed and elaborated survey with view to closing the identified knowledge gaps.

### **1.3 Objectives of the Study**

The general objective of this study is to evaluate the relationship between capital structure and the profitability of listed firms in the Nigerian industrial goods sector in the Nigerian Stock Exchange (NSE). Specifically, this study is undertaken to:

- i. examine the impact of equity finance on the profitability of listed industrial goods companies in Nigeria.
- ii. examine the effect of firm leverage on the profitability of listed industrial goods companies in Nigeria.
- iii. evaluate the moderating effect of firm size on the relationship between capital structure and profitability of listed industrial goods companies in Nigeria.

## **1.4 Research Questions**

To achieve the above-mentioned objectives, the following research questions were addressed:

- i. What is the extent of the impact of equity finance on the profitability of listed industrial goods companies in Nigeria?
- ii. What is the extent of the effect of firm leverage on the profitability of listed industrial goods companies in Nigeria?
- iii. What is the extent of the moderating effect of firm size on the relationship between capital structure and profitability of listed industrial goods companies in Nigeria?

## **1.5 Research Hypotheses**

Based on the aforementioned objectives, the following null hypotheses were formulated:

**H<sub>01</sub>:** Equity finance has no significant impact on the profitability of listed industrial goods companies in Nigeria.

**H<sub>02</sub>:** Firm leverage has no significant effect on the profitability of listed industrial goods companies in Nigeria.

**H<sub>03</sub>:** Firm size has no significant moderating effect on the relationship between capital structure and the profitability of listed industrial goods companies in Nigeria.

## **1.6 Significance of the Study**

Although there are a lot of studies on capital structure and profitability around the globe, there is a dearth of works that used data on industrial goods sector in Nigeria. The findings and recommendations of this research would go far to help a wide scope of stakeholders including financial managers, investors, managers, policy planners, shareholders, creditors, government and its agencies, and other researchers. It will be of assistance to financial managers of various organizations to be able to evaluate all possible options in their pursuance of an appropriate capital composition of their organizations as regards the goal of optimizing wealth because capital structure decision is very crucial and

can affect a company's profitability, and the long term survival of a firm depends on its profitability.

This study will further guide investors and potential investors to analyze and decide on which firm category in the industrial goods sector, to make their investment, especially on the Nigerian Stock Exchange. Managers would be set on a sound balance to comprehend the impact of different financing mix on the operations of their firms. Policy planners of both public and private companies will be able to construct better policies bearing on the combination of debt and equity capital and therefore increase shareholders' value and reduce bankruptcy costs. Shareholders will have an increased ability to assess a firm's financial risks. Creditors would have options to distinguish the firms that are of a good financial capability to defray their claim as at the due date. Likewise, the government and its agencies will one way or another benefit from this study because the study highlighted the need from its findings if necessary, for the government to develop better financial and economic guidelines as the sector demands and this will sustain the operations of Nigerian industrial goods companies.

In the academic field, this study will serve as an eye-opener to past, present and future researchers whose scope is only limited to the few components of capital structure while investigating the relationship between capital structure and firm's profitability, to an extreme use of further or all possible components of capital structure, thereby, assisting other academicians in Nigeria, and other parts of the world in writing further studies with regard to financing issues.

### **1.7 Scope of the Study**

This study covered all the industrial goods companies listed on the Nigerian Stock Exchange. It was centered on the relationship between capital structure and profitability of such firms. However, only the moderating effect of firm size was employed for this research. Financial statements of the inherent firms (annual reports) comprehending the period of five (5) years from 2014 to 2018 was used to collect the data.

Although, not all companies were utilized during the data analysis as some were found to have incomplete data. Nevertheless, a considerably significant quota of the population was made use of.

### **1.8 Operational Definition of Terms**

**Capital Structure:** It is the unique mixture of [debt](#) and [equity](#) used by a company to [finance](#) its operations and growth at large.

**Equity Finance:** It is the natural logarithm to the total equity of a company.

**Firm Leverage:** It is the ratio of total debt to total assets.

**Firm Size:** This is the natural logarithm of the total assets of a company.

**Profitability:** It is the ability of a company to use its resources to achieve income in overabundance of its expenditures.

## CHAPTER TWO

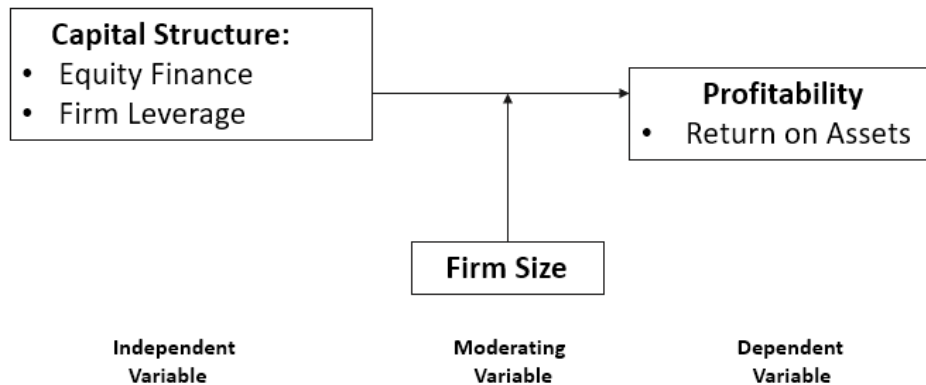
### LITERATURE REVIEW

#### 2.1 Introduction

First and foremost, this chapter presents a pivotal definition of the key concepts of this study, which are capital structure, firm size, and profitability. Afterwards, it presents a theoretical foundation of the study, regarding capital structure and financial performance. Then, prior studies concerning capital structure as an influencing factor of profitability were analyzed, and the findings as well, denoted.

#### 2.2 Conceptual Review

According to Borg, Gall and Gall (2007), conceptual framework can be defined as a diagrammatical or graphical representation of the relationship between independent and dependent variables in a given study. Firm's financial performance depends on the inter-correlations of the explanatory/independent variables which include asset tangibility, firm size, firm liquidity, and growth opportunities and the dependent variable; profitability of industrial goods companies listed at NSE.



**Figure 2.2.: Conceptual Model Showing the Relationship between Capital Structure and Profitability with Firm Size as a Moderating Variable**

### 2.2.1 Capital Structure

Capital structure is the combination of certain proportion of debt and equity which a company maintains. According to Abor (2008), it is the percentage of financial capital allocated to the company through numerous sources which may incorporate internal funding and external leverage. It applies to combining a firm's financial liabilities and its equities (Aliu, 2010). In essence, capital structure is broadly categorized into equity and debt finance, each of which has its own benefits and drawbacks.

Capital structure decisions remains a vital strategic choice that corporate managers have to make (Gatsi & Akoto, 2010). This is among one of the multifarious reasons for which capital structure theories have been established. The choice of a firm's capital structure is an important decision to make not only from a returns maximization point of view, but also because this decision has a great impact on a firm's ability to successfully operate in a competitive environment (Shamshur, 2012). Therefore, any attempt made by a firm to design its capital structure must take into consideration not only the desire to achieve the best approximation of an optimal capital structure, but also the objective of maximizing stakeholders' interest. However, the debt and equity combination that maximizes firm value

is the firm's optimal capital structure (Ross, Westerfield & Jaffe, 2008). An optimal capital structure will facilitate a business' profitability, survival and growth in the long run.

### **2.2.2 Profitability**

Company profit or performance is the accompanying outcome of the management of different economic resources and of their proficient use within operational, investment and financing exercises (Burja, 2011). Firm performance, comparative with its previous performance or in relation to its rival firms is the way most firms are typically assessed. Ratios are usually used to get the measure of firm profitability. As it is generally defined, profitability ratios are a bracket of financial metrics used to measure a companies' ability to create profit comparative with its income and operating costs over time, using data from a specific point in time. Chandy (2012) defined profitability ratio as a measure of the operating efficiency and performance of the company. Very often, the ratios used to measure profitability are gross profit margin, operating margin and net profit margin. However, Return on Equity (ROE) and Return on Assets (ROA) are also applicable.

Several researchers who examined a relationship between capital structure and profitability (e.g Abiodun, 2014; Chechet & Olayiwola, 2014) used ROA as the measure of profitability in their analysis. Return on assets is conceivably of key significance to the managers, analyst and investors because it takes into account, a company's debt, compared to other metrics such as ROE. ROA is also best used as a comparative measure, when comparing a firm's performance to its past performance or against a company with similar traits. A higher ROA could indicate that a company earns more on less speculation.

Therefore, with the end goal of this investigation, profitability was a dependent variable measured by ROA.

### **2.2.3 Firm Size**

The firm size of a company represents the natural logarithm of its total asset (Bongoye, 2016). Firms are generally classified according to size as being either large or small. Firms that are substantial in size are multifarious and thus have lower fluctuations of profits, allowing them to admit high debt ratios (Castanias, 1983; Titman & Wessels, 1988). On the other hand, smaller firms will find it comparatively more difficult to fix information imbalances with lenders, hence, they are likely to introduce lower debt ratios (Castanias, 1983). It is more likely that larger corporations will repay lenders much easier than smaller

firms, thereby, reducing the agency costs associated with debt. Consequently, larger firms will have higher debts. Another likely clarification for smaller businesses possessing lower debt ratios is seen in instances where the correlative costs of bankruptcy are contrary to the function of the firm size (Titman & Wessels, 1988). Substantial firms experience lower unit bankruptcy costs besides smaller firms, as stated by (Modigliani & Miller, 1963). Facts about larger firms may be taken as evidence that these firms possess lower risks (Kim & Sorensen, 1986). Nevertheless, if operational risk is again proportional to firm size, this should preferably incite smaller firms to use relatively lower debt (Hedia & Habib, 2013).

However, for the purpose of this study, only the moderating effect of firm was analyzed.

## **2.3 Theoretical Review**

The irrelevance theory of capital structure proposed by Modigliani and Miller (1958) was the first ever known theory on capital structure. Accordingly, numerous theories have been suggested by various researchers. Some essential capital structure theories which emerged afterwards have been able to deviate from adopting the assumption of a perfect market under which the irrelevance model operates. However, according to Huang and Ritter (2009), no single theory is fit to justify all of the time-series and cross-sectional trends related with capital structure that economists and researchers, have documented. Nevertheless, the theories of capital structure are discussed subsequently.

### **2.3.1 Modigliani and Miller Theorem**

Modigliani and Miller (1958) in their publication: “The Cost of Capital, Corporation Finance and the Theory of Investment”, constituted that in state of a perfect market, which has no corporate tax, no information asymmetry, no transaction cost and no bankruptcy cost, a firm value should not be influenced by its capital structure. This initiated the capital structure irrelevance proposition. It is being considered as the foundation of the modern corporate finance which the finance field can bank on. Progressively, this theory was alluded to as the “Theory of Irrelevance”

Modigliani and Miller proposed that under an ideal capital market; i. Companies issue merely two diverse claims, which are equity with risk or debt without risk, ii. There is no information asymmetry iii. There are no transaction costs and costs of bankruptcy, iv. There is only one risk class for companies, v. There is only one corporation tax payable to the government.

Under this theory, a firm value is seen as a function of expected operating income divided by the discount rate appropriate to its risk class (Modigliani & Miller, 1958). However, this presumption is almost equivalent to that of the net operating income approach.

Moreover, there are two variants of the capital structure irrelevance propositions. The first postulates that arbitrage by investors sustains the firm value independent of its leverage. The other variant presumes that “given a firm’s investment policy, the dividend payout it chooses to follow will affect neither the current price of its shares nor total shareholders’ return” (Miller & Modigliani, 1963)

However, Modigliani and Miller (1963) in their work: “Corporate Income Taxes and the Cost of Capital: A Correction” developed a model which took into consideration, the existence of corporate tax, underlying the assumption of a real-world. In this work, firm value was viewed as a component of debt financing and tax rate. Thus, the tax advantages of debt financing were spelled out.

All the same, the irrelevance theorem of Modigliani is valid if the ideal market suppositions centering the study are true. This present reality, notwithstanding, is described by different blemishes such as existence of tax, bankruptcy costs, agency costs, and informational asymmetries, hence the irrelevance theory dwindles under an assortment of conditions. These flaws have prompted the evolution of considerably numerous studies in this research area.

Information asymmetries characterized as an imperfection in a real-world, more or less refers to information disparities between corporate managers and investors, as well as outsiders. This information imbalance thusly prompted the advancement of the pecking order theory.

### **2.3.2 Pecking Order Theory**

The pecking order theory is an extensively employed model used to examine and describe firms' financing behavior. It is generally a behavioural exposition of the manner in which companies finance their activities. It was pioneered by Donaldson in 1961. However, Myers and Majluf (1984) came up with a modified pecking order theory, consequently, giving the theory a conscientious theoretical foundation. The theory advances that companies have a preference for their sources of financing. Despite the fact that organizations devise a specific inclination request for utilized capital to back their business (Myers & Majluf, 1984), firms are still unclear about a predetermined or optimum debt to equity ratio due to information asymmetry. Owing to this information asymmetry, managers will initially utilize internal



finance, when at their disposal, and when it becomes scarce, they resort to debt finance pending when it becomes financially and economically unadvisable to secure any additional debt, then equity would be issued if all else fails when making financing decisions.

Myers and Majluf (1984) in delicate of the pecking order theory, suggests that firms should follow a hierarchy of finance to lessen the hurdle of information asymmetry between the firm's managers and the shareholders. Thus, firms should take advantage from filling the financial slack by issuing equity when the information asymmetry is less (Myers, 1984). Obigbemi, Omolehinwa, Mukoro, & Obamiro (2016) stated that Pecking Order follows preference of retained earnings, straight debt, convertible debt, preference shares and equity. In essence, the pecking order theory estimates that firms would prefer to finance themselves internally before choosing debt or equity. However, it is only when all internal finances have been depleted that firms will then, resort to debt or will turn to equity, ultimately (Anarfor, 2015). Having said that, finance through only equity doesn't seem true in practice. For this reason, the pecking order theory figures that firms with high growth, ordinarily with extensive financing demand, will arrive at high debt ratios on account of a manager's unwillingness to issue equity. Although, high-growth firms typically utilize lower debt in their capital structure (Smith & Watts, 1992), for the reason that such large firms usually generate high cash flows, and also have enough internal funds.

In a situation where finance will be required from outside the organization, the theory is on the stand that firms will prefer debt in preference over equity (Karadeniz, Kandir, Balcilar, & Onal, 2009). A justification for such preference is that equity entails the issuance of additional shares of a company, which generally yields a more significant amount of external ownership into the company. Also, to circumvent the information effects of new share issues, firms would prefer debt to equity. Ultimately, firms prefer internal financing.

The pecking order theory figures that organizations well understand their financial resources and give priority according to their existing working situation. Pecking order theory suits large firms with high profitability and which has enough internal funds in nature of retained earnings, depreciation and its excess liquid assets. In essence, good quality firms would use internal funds to avoid adverse selection problem and value loss (Miglo, 2010). Although, the propositions made in this theory points out that firms can issue debt with more flexibility.

It is worthy of mention that the pecking order theory is criticized on the grounds of its underlying arguments and suggestions. Adedeji (1998) arrives at a judgement that the

proposition of the theory stating that it is only the internal finance that motivates firms to raise funds externally is questioned because it ignores the effects of structural variables that may influence the choice of financing instruments for a business, such as the government intervention, borrower-lender relations and interest rate. Adedeji (1998) also argued that transaction and information cost are not only factors that might discourage the use of external financing in general and for equity in particular and conclude that control consideration may make firms reluctant to issue equities because of their effects on the existing balance of control or even to issue debts which might impose the discipline of the capital market on them. Naidu (1986) argued that pecking order theory is in preference of obtaining financing. He asserts that firms will be able to utilize available funds to pursue opportunities immediately, when they arise rather than waste time and cost in approaching the capital markets.

In summary, the pecking order theory figures that firms there is a perfect hierarchy for firms financing decisions. The theory infers that managers, by deciding to go through the easier method of funding, will follow the path of least resistance. Consequently, financial managers will operate in greater benefits of the existing shareholders of the firm. In this instance, the best first choice is to use internal financing with lowest information asymmetry costs, which are mostly retained earnings, and then issue debt securities if internally sourced fund is not sufficient to finance the firm, and ultimately issue equity which possesses the highest information asymmetry costs, as the last choice of financing the firm. This postulation, however, can be said to be contingent on the managers' optimism that their firm's securities are underpriced.

### **2.3.3 Trade-Off Theory**

The term trade-off theory is utilized by various authors to simplify a broad category of concomitant theories. In these theories, the varying risks and advantages of proxy leverage schemes are evaluated by a company's financial advisor. The trade-off theory was postulated by Kraus and Litzenberger (1973) which considers a balance between high bankruptcy costs and tax saving benefits of debt. However, Myers (1984) proposed the trade-off theory that supports the relevance of capital structure. The theory proposes that a firm's ideal capital structure may be controlled by a trade-off allying the advantages and the disadvantages of borrowing.

Modigliani and Miller (1963) disclosed a preferred position for organizations to be financed with, which is debt because of the balance between the tax benefits gained by corporations and bankruptcy costs due to the risk of accumulating more debts. However, some research described the Modigliani perspective of the trade-off theory by explaining that a firm's value can be increased by inflating leverage, inferring a viewpoint of maximum debt issue by firms. Thus, the increase in firms' debt ratio influences the increase in firm performance.

Therefore, companies may remodel their capital structure and focus a target obligation on debt to total capital ratio that is consistent with theories based on trade-offs between the merits and demerits of debt. However, Hovakimian, Opler and Titman (2001), exemplified in his work that the targeted objective ratio has the likelihood of changing over time as the firm may go up against impediments such as value change or stock price as it pushes towards the target ratio.

Furthermore, literatures on trade-off theory have shown conflicting results. Graham (2000), after a review of cost and benefit of debt, discovers that bigger and more substantial firms with low expectations of financial distress utilize debt more conservatively. Also, Rajan and Zingales (1995) and, Fama and French (2000) asserts that firms with higher profit level tend to borrow less. This assertion is not in line with the existing trade-off prediction that firms with higher profitability borrow more to cut down payable tax.

The trade-off theory may be divided into Static trade-off theory and dynamic trade-off theory. Modigliani and Miller (1963) were the pioneers of the static trade-off theory. The theory gives the prediction that firms have an ideal target financial debt ratio which (Myers, 1984) explains that a firm moves towards gradually. However, Miglo (2010) argued that the static model was incapable of explaining the time constraint of firms in achieving the target debt ratio. The dynamic trade-off model, however, is known to give a better clarification by considering the role of time in identifying the optimal capital structure.

The grounds of the trade-off theory of capital structure is to describe the strategy of the firms towards financing their investments, sometimes by debt. It also analyzes the corresponding merits and demerits of financing either by equity or bond. It further emphasizes that when debt is employed in capital structure, firms experience challenges of tax benefit and bankruptcy cost, thus the need for trade-off between the two.

Notwithstanding, while attempting to choose between a balance of debt and equity, firms may often experience a discord of interests among the shareholders and the firm's managers. These altercations offer ascent to agency problems in general.

This theory is of significant importance to this study because the variables used in this study emanated from the theory.

#### **2.3.4 Agency Costs Theory**

Jensen and Meckling (1976) advanced the agency costs concept. Agency costs rises from severance of ownership and control and conflicts of interest among agents and principals. It constitutes the costs that arise due to the distinctions in light of a legitimate concern for the principals and agents of the firm, with each one trying to expand their own particular goals expensing the other (Jensen & Meckilng, 1976). The theory is bottomed on the notion that managers will not always act to the greatest advantage of the shareholders mainly because managers act in their own well-being, while they have to act at the benefit of shareholders. In the situation of agency costs, the principals try to incentivize the agents to act to their greatest advantage. The costs ensuing from the attempt to make agents act this way, inclusive of bankruptcy costs, establishes the agency costs. Agency theory asserts that shareholders have a preferred choice for leveraged companies for the reason that debt level can be used as a monitoring tool for managers. This way, an increased company performance can be attained by lowering agency costs. Furthermore, agency costs become more economically significant when a firm is having difficulties meeting its obligations to creditors (Bradley, Jarrel & Kim 1984). Firm worth in such an instance will be heavily dependent on its potentiality to carry out its long-term revenue generating projects. Unluckily, the rise of these agency costs could literally lead to underinvestment issues (Miller, 1977).

Chechet and Olayiwola (2014), Onalapo and Kajola (2010), Osuji and Odita (2012) upheld the affirmation of the agency cost theory that if a higher leverage is employed, agency costs and inefficiency will reduce, which will result in greater efficiency and subsequent improvement in a firm's performance. In essence, the agency costs theory expresses that an ideal capital structure will be achieved by minimizing the costs arising from conflicts between the principals (shareholders), and the agents (managers), and thus, the utilization of debt capital will minimize the agency cost since the payment of debt interest reduces the surplus cash.

However, the impact of various agency conflicts on capital structure has not been completely clarified (Frank & Goyal, 2009).

### **2.3.5 Market Timing Theory**

The market timing theory was put forward by Baker and Wurgler (2002). They affirm that the theory expresses the present firm capital structure as the accumulated products of prior endeavours to time the equity market. They expostulate that firms time their equity issues in the sense that when stock values are considered as being overvalued, they issue new stock, and repurchase when they are undervalued (Oguna, 2014). Consequently, stock price fluctuations influence capital structure. The firms' timing of their equity issue "market timing" indicates that firms create their own timing opportunities with regard to when facts are obtained that stock price is undervalued, as a decrease in information asymmetry is likely to coexist with a rise in stock prices.

However, there are two perspectives of the market timing theory. These perspectives are explained subsequently. The first standpoint is the conventional view which sees economic agents as rational, implying that firms issue equity after obtaining information about an increase in stock price. The second theory perceives economic agents as irrational (Baker & Wurgler, 2002). Managers, due to their irrational behaviour will issue equity when an irrationally low cost is being observed and repurchase equity when its cost is perceived as being irrationally high (Luigi & Sorin, 2009). In this case, managers market timing varies. However, managers are of a belief that they can derive the market pulse but cannot instantly distinguish between the mispricing and the dynamic asymmetric information version of market timing (Graham & Harvey, 2001). Nevertheless, managers are in the best position to time their equity market because they are well known to possess more information than any other stakeholder to know the actual future firm value and of any venture that it may embrace and they are expected to perform to the benefit of the current and existing shareholders (Myers & Majluf, 1984). Therefore, managers should critically study the capital market and exploit the information asymmetry that exist and only issue new shares when they trust that those shares are overpriced and vice versa (Gatsi & Akoto, 2010).

Market timing measure has been defined by Baker and Wurgler (2002) as a weighted average of external capital needs over the past few years, where the weights used are market to book values of the firm. Thus, giving evidence of the persistent effect of equity market timing on the capital structure of a firm.

Although the market timing theory has been questioned by some researchers on the ground of its assumptions, most of the evidences are still in support market timing theory in a sense that managers wait for the market condition to get better and that stocks position improve before issuing new stocks, so firms attempt to improve their performance (Jahanzeb, Rehman, Bajuri, Karami, & Ahmadimousaabad, 2013).

## **2.4 Empirical Review**

Prior studies which scrutinizes the relationship between capital structure and firm's profitability of quoted and unquoted firms for different economies, both in Nigeria and other countries, using different methods have been reviewed accordingly. These capital structure literatures have shown conflicting results among researchers. Some studies have indicated that capital structure has significant impact on firm performance while others have shown no impact. However, researchers typically accept that there exists a correlation between capital structure and firm performance. While a few literatures have inferred that the relationship between capital structure and firm performance is both positive and negative (Oke & Afolabi, 2011; Saeed & Mahmoodi, 2011) others reckoned that the relationship is negative (Cassar & Holmes, 2003; Hall, Hutchinson & Michaelis 2004; Narendar, Al-Yahyaee & Syed 2007; Onaolapo & Kajola, 2010; Pratheepkanth, 2011; Chuke, Idam, Bamidele, & Sergius, 2016). Yet, other works disclosed a positive relationship (Tian & Zeitun, 2007; Chowdhury, 2010; Shoaib & Siddiqui, 2011). Thus, researchers have been able to come to a unified conclusion on the expanse of its effect (San & Heng 2011).

Margaritis and Psillaki (2010) disclosed that higher leverage is related with improved efficiency through their study on the investigation of the relationship between efficiency, leverage and ownership structure carried out on sampled French firms in both low growth and high growth industries.

Onaolapo and Kajola (2010), on a research carried out on 30 non-financial firms listed on the Nigerian Stock Exchange within a period of eight years (2001-2007), revealed that debt ratio has a significant negative effect on ROE and ROA, using performance measures as ROE and ROA and, debt ratio as capital structure measure.

Muzir (2011), in his probe to verify the relationship between the size of a company, its capital structure, and its financial performance, conducted a research on 114 companies listed on the Istanbul stock exchange using a data coverage for a period of 10 years (1994 – 2003). He supported the validity of three main capital structure theories: the trade-off theory, the

pecking order theory, and the irrelevance theorem. Through a binary logistic regression analysis used to model insolvency risk, the results suggested that the effect of company size on financial performance and sustainability most likely differs, depending on how the size expansion is financed.

Saeedi and Mahmoodi (2011) carried out a research on 320 companies listed on the Tehran Stock Exchange within a period of eight years (2002 to 2009) to examine a relationship between capital structure and firm performance. They used four performance measures: ROA (Return On Assets), ROE (Return on Equity), EPS (Earnings Per Share), and Tobin's Q as dependent variables, and long-term debt, short term debt and total debt ratio as independent variables. Their results showed that capital structure has a significantly positive relationship with Tobin's Q and EPS, while it is inversely related with ROA and, has no significant relationship with ROE.

Oke and Afolabi (2011) investigated the impact of capital structure on industrial performance on 5 quoted firms in Nigeria within a period of nine years (1999-2007) using debt financing, equity financing, and debt-equity ratio as surrogates for capital structure, and profitability index to proxy firms' performance using panel data regression model. Their results showed a positive relationship between equity and debt equity finance, while it showed a negative relationship between debt financing and performance.

Dadson and Jamil (2012) conducted a research on listed banks in Ghana within a period of eleven years from (2000 – 2010) to examine the relationship between capital structure and performance. Their regression result revealed that a negative relationship exists between capital structure and performance with reference to ROE. One of the reasons revealed for the inverse relationship is the high gearing ratio of banks.

Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, and Bagheri (2012), investigated the impact of capital structure on firm performance using listed companies in 12 industries on the Tehran Stock Exchange within a period of five years (2006 – 2010). The dependent variables: ROA and ROE were used as financial performance indicators of firms, while the independent variable, capital structure, had debt ratio (DR) as its indicator. Asset turnover (TURN), firm size (SIZE), firm age (AGE), assets tangibility (TANG) and growth opportunities (GROW) were also used as control variables. Their results however disclosed that a critical positive relationship exists between debt ratio and financial performance of firms, and also a positive relationship between TURN, SIZE, TANG, and GROW with ROA and ROE, indicating that

firm age is insignificant. The study also disclosed that a lower debt ratio will yield an increase in firms' profitability.

Muritala (2012), analyzed the connection between capital structure and firms' performance on 10 Nigerian firms within a time of 5 years (2006-2010), using ROA as performance proxy and debt ratio (DR) as capital structure indicator. Using Panel Least Square (PLS), the results showed that assets' turnover, size, age are positively linked to firm performance, while a negative and significant relationship exists between assets' tangibility and ROA.

Abiodun (2012), examined the effect of optimal capital structure on manufacturing firms performance in Nigeria on 10 firms with a period of 10 years (2000- 2009) using ROE as a measure of performance, against debt ratio as a capital structure variable. Using regression analysis, the results disclosed that there exists a relationship between debt ratio and corporate performance. The result was also consistent with the trade-off theory.

Gansuwan and Onel (2012), conducted an analysis on the influence of capital structure variable on firm performance using 174 non-financial Swedish companies. The upshot of the examination expressed a visible relationship exists between capital structure and firm performance which was significant enough to measure a negative influence.

Appah, Okoroafor, and Bariweni (2013), conducted an investigation on the effect of capital structure on the operating performance of 32 firms quoted on the Nigerian Stock Exchange during a 7-year period (2005 – 2011), using total assets efficiency as a control variable. Short-term debt and long-term debt were used as capital structure indicators, against operating performance. Their result however showed that short-term debt and long-term debt have significant negative relationship with operating performance.

Olokoyo (2013) analyzed the impact of capital structure on corporate performance on Nigerian firms over a five-year period (2003-2007). Tobin's Q was used as market performance proxy. Fixed-effect estimation, random-effect estimation and a pooled regression model were also utilized. The upshot of the study however revealed that all leverage measures have a significantly positive relationship with the market performance measure.

Akinyomi (2013) explored the effect of capital structure on performance using three manufacturing companies chosen arbitrarily from the beverage and food categories within a 5-year period (2007-2011). ROA and ROE were used as financial performance measures



against capital structure indicators [LDC (long-term debt to capital), DC (average debt to capital), DCE (debt to equity capital), and SDTD (short-term debt to total debt)]. However, firm age was adopted as a control variable. The results disclosed that DC, DCE, AGE and SDTD is significantly and positively related to ROA and ROW but LDC is significantly and negatively related to ROA and ROE.

Saeed, Gull and Rasheed (2013) analyzed the effect of the capital structure on the performance of Pakistani banks listed on the Karachi Stock Exchange for a five-year period (2007-2011). ROA, ROE, and EPS were used as performance indicators, while long-term debt to capital, short-term debt to capital and total debt to capital ratio were used as capital structure determinants. Using multiple regression models, the findings revealed a positive relationship between capital structure determinants and performance.

Yusuf, Onafalajo, Idowu and Soyebó (2014) analyzed the connection between capital structure and profitability utilizing an example of 10 companies for a 12-year period (2000-2011). Performance variables of ROA and ROE, and capital structure ratios of debt to equity and debt to asset ratios were also used for the study. The study results disclosed an inconsistent relationship using ROA against capital structure but indicated a significantly positive relationship using ROE against the D/E ratio on all firms. The study summarized that highly geared firms are bound to have a high profitability.

Similarly, Maina and Ishmail (2014) explored the relationship between capital structure and financial performance of all listed firms at the Nairobi Securities Exchange (NSE) over a 10-year period (2002-2011). Total debt to total assets was used as the capital structure indicator, against ROA as performance proxy. The sequel of the study disclosed a negative relationship between total debt to total assets and financial performance.

In like manner, Innocent, Ikechukwu, and Nnagbogu (2014) studied the impact of financial leverage on financial performance using 3 selected quoted pharmaceutical firms in Nigeria for the period of 2001 to 2012. Three independent variables were applied for the study, such as: debt ratio (DR); debt-equity ratio (DER) and interest coverage ratio (ICR) against financial performance proxied as ROA for the dependent variable. Descriptive statistics, Pearson correlation and multiple regressions were exerted to test the relationship. The results revealed that total debt to total equity has a negative relationship with financial performance.

Tifow and Sayilir (2015) explored the relationship between capital structure and firm performance utilizing an example of 130 manufacturing firms listed on Borsa Istanbul Stock

Exchange within 2008 and 2013. Short-Term Debt to total Assets (STDA) and Long-Term Debt to total Assets (LTDA) were used as capital structure proxies while ROE, ROA, Earnings Per Share (EPS) and Tobin's Q ratio were used as performance indicators. Also using sales growth and firm size as control variables. The results of the study revealed that STDA is positively related with ROE, EPS and Tobin's Q ratio, while LTDA showed an inverse relationship, but was positive with ROA.

Aransiola and Aransiola (2015) conducted an analysis on the relationship between capital structure and financial performance of listed manufacturing firms in Nigeria. A sample of 31 firms between 2009 to 2014 were used. Generalized least square multiple regression was used to analyze the data, and correlation analysis was used to establish the link between the variables under study; meanwhile, regression analysis was used to determine how the independent variable affects the dependent variable. The study expressed that total debt, long-term debt and short-term debt possessed a notable impact on the financial performance of listed manufacturing companies in Nigeria. The study also revealed that total debt to total equity has no notable effect on the financial performance of the firms. However, it was recommended that the capital structure which reduces the cost of capital and lowers risk related to debt financing should be established.

Abdur (2015) analyzed the relationship between capital structure and firm performance, using some non-financial firms listed on the Dhaka Stock Exchange for the period of 2008 – 2011. Performance was proxied as ROA and Return on Sales (ROS). Multiple regression models were utilized to estimate the relationship. Debt ratio, debt to equity ratio, current debt ratio, proprietary of equity ratio and current assets proprietors' funds Ratio were used as capital structure indicators. Using the regression models, the results expressed that Debt Ratio, Debt Equity Ratio and Proprietary of Equity Ratio have a negative and significant relationship with ROA and ROS.

Hossain and Nguyen (2016) analyzed the impact of financial leverage on firm performance among top ten (10) Canadian oil and gas companies from 2004 to 2013. It was revealed that leverage has a solid negative connection with performance throughout the relevant period reviewed.

Singh and Amar (2018) conducted an analysis on the relationship between capital structure and performance of firms listed on the Taiwan Stock Exchange using a 5-year data from 2011

to 2016. The research revealed a consistent relationship but showed a relatively weak correlation.

With these mixed and conflicting results, the inquiry for analyzing the relationship between capital structure and firm's profitability has stayed a riddle, and empirical study proceeds.

#### **2.4.1 Gaps in the Literature**

Amidst these prior studies, there are various researchers who examined the relationship between capital structure and the profitability of companies. However, they realized debatable results; some recognized a positive relationship between the variables, some disclosed a negative relationship between the variables, some realized mixed results, while others disclosed no relationship between capital structure and profitability. However, after a critical study of these studies at length, it was revealed that majority of the studies, both at national and international level were carried out on other economic sectors such as consumer goods, banks, oil and gas, manufacturing, among others neglecting the industrial sector, in spite of the vital role that it plays in the economy. Most importantly, in the economy of Nigeria, the industrial sector is the second greatest sector after the financial services sector. The industrial sector has been realized to have a great contribution in the development and improvement of the Nigerian economy. Hence, with due consideration of the above-mentioned, this study esteems it imperative to fill the gap by studying the effect of capital structure on the profitability listed industrial goods companies in Nigeria.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

Research methodology is concerned with procedures procured to address the specific objectives and hypotheses/research questions you have developed (Newing, 2010). Thus, this chapter dispenses the methodology used in this study. It describes in detail, and systematically how the research was conducted which also includes research procedures and techniques used throughout the entire process of data collection and processing. Specifically, it analyzes issues such as the research design, target population of the study, sample size,

sampling technique, source and method of data collection, model specification, variable measurement and method of data analysis. Additionally, it highlights the regression used in the study and gives an outline of the Nigerian Stock Exchange where the companies for the study were sampled.

### **3.2 Research Design**

Mugenda and Mugenda (1999) describes research design as the process the investigator follows from inception to completion of the study. It is utilized to organize the study, to reveal how the major parts of the research are interlinked and how they collaborate in attempt to address the central research questions. Research design describes the blueprint for collecting, measuring and analyzing the data needed for a study (Kothari, 2004).

Hence, to achieve the objective of this study, a correlational research design was adopted, which aims at measuring a relationship and assessing the statistical relationship between capital structure variables on profitability, inclusive of the moderating effect of firm size on the relationship among industrial goods companies listed on the Nigerian Stock Exchange. The suitability of adopting this design is “it determines and reports the way phenomenon are and attempts to describe such phenomenon as possible behaviour, attitudes, values and characteristics” (Kraemer, 1991). Also, the design is concerned with discovering “what is” and can either be quantitative or qualitative forasmuch as it includes the collation of data that portrays activities and afterwards sorts out, organizes, tabulates and provides a description for the data collected (Iraya & Musyoki, 2013).

This method is further considered appropriate for achieving the research objectives of the study because the data and the study depend grossly on secondary data fetched from the annual financial statements of companies listed in Nigeria Stock Exchange, and answers questions concerning the current status of relationships between relevant subjects in the study.

### **3.3 Population and Sample of the Study**

Population has been defined as a set of units from which a sample is to be selected (Bryman & Bell, 2007). According to Neuman (1997), a population can be delineated as various things, for example, individuals or groups, the researcher intends to explore. Whereas Mugenda and Mugenda (1999), appraises it a whole group of individuals, events or objects having common characteristics that conform to a given specification. The population of this

study constitutes all industrial goods companies listed in the Nigeria Stock Exchange. A cross sectional data was engaged to obtain information because it employs financial statement of different companies in the same sector over five (5) years (2014 – 2018). The population utilized for this study was determined based on the number of industrial goods companies that are available in Nigeria.

In accordance, the sample size selected for this study was the entire population. However, due to incomplete data, some companies were excerpted from the research. Nevertheless, a large segment of the population was utilized. Accordingly, a judgmental sampling technique was adopted.

Nonetheless, five (5) companies were exempted from this study due to insufficient amount of their available financial reports. These companies include: BUA Cement, Global Spectrum Energy Services, The Initiates, Notore Chemical plc, and Roads Nigeria. This indicates that a number of 27 out of 32 companies were utilized, which gives 84% of the entire population. The percentage is however deemed appropriate for the research.

Sample size refers is considered to be an extract of the actual populace which will be utilized for that specific investigation.

### **3.4 Source and Method of Data Collection**

The study utilized secondary method of data collection and utilized panel data which consist of cross sections in order to derive sufficient data for the Multiple Regression Analysis. The secondary data used were sourced for and generated from the annual financial statements of the sampled companies for a period of five (5) years from 2014 to 2018, from each companies' website, inclusive of the Nigerian Stock Exchange Fact Book 2019. Hence, a sufficient number of financial statements amounting to one hundred and thirty-five (135), deemed necessary for the study were observed.

### **3.5 Model Specification**

The model used in testing the hypothesis of the study was adapted from (Abubakar & Olowe, 2019). It is presented below:

$$\text{FPT} = \alpha_0 + \alpha_1 \text{EQT} + \alpha_2 \text{LEV} + \alpha_3 \text{FSI} + \alpha_4 \text{FSI*EQT} + \alpha_5 \text{FSI*LEV} + \varepsilon$$

Where:

**FPT** = Firm's Profitability

**EQT** = Equity Finance

**LEV** = Firm Leverage

**FSI** = Firm Size

$\alpha_0$  = Intercept

$\alpha_{1-5}$  = Regression Coefficients

$\epsilon$  = Error Term

### 3.6 Measurement of Variables

The primary goal of this study is to explore the effect of capital structure on profitability. Therefore, this study adopts capital structure as the independent variable, and profitability as the dependent variable while firm size was adopted as a moderating variable. The choice of this moderating variable was informed by its relevance and significance as a firm-specific factor that may affect the performance of firms as employed by previous financial performance and capital structure studies (Margaritis & Psillaki, 2010; Yinusa *et al.*, 2016). The variable measurements are subsequently presented in the table below.

<b>Variables</b>	<b>Nature of the Variable</b>	<b>Notations</b>	<b>Measurement</b>
Equity Finance	<b>Independent</b>	EQT	Natural Logarithm of Total Equity
Firm Leverage	<b>Independent</b>	LEV	Total Debt/ Total Equity
Firm's Profitability	<b>Dependent</b>	FPT	Net Income/ Total Assets
Firm Size	<b>Moderating</b>	FSI	Natural Logarithm of Total Assets

### **3.7 Method of Data Analysis**

Data analysis is the processing of data collected to make meaningful information out of them because as raw data may convey little or no meaning to most people (Saunders, Lewis, & Thornhill, 2009).

For the intention of this research, the data collected were examined and analyzed using descriptive and inferential statistics.

Descriptive statistics constituted the mean and standard deviation.

The inferential statistics deduced if an underlying relationship exists among the respective variables. For the inferential statistics, a moderated regression analysis was used to interpret and estimate the capital structure regression equation.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS**

#### **4.1 Preamble**

This chapter consists of data analysis, presentation of results and discussion of findings. The data collected concerning the variables of this study were analyzed as panel data, showing the total number of companies across the 5-year period of the study.

#### **4.2 Descriptive Statistics**

Descriptive analysis of the variables of the study involves the computation of means (a measure of central tendency) and standard deviation (a measure of dispersion). The variables of the study incorporates equity finance which was measured as the natural logarithm of the net assets, firm leverage which was represented with the ratio of total debt to total equity, firm profitability which was represented with the ratio of net income to total assets and firm size which was operationalized with the natural logarithm of the total assets. The outcomes of the descriptive analysis were subsequently explored to answer the research questions.

#### **4.2.1 Research Question One**

Table 4.2 reveals that equity finance has a mean value of 9.37 (SD = 0.95082). With minimum equity finance of 3.06 and maximum equity finance of 11.52, it could be observed that the mean value of 9.37 is closer to the maximum value. This outcome implies that a vast majority of the companies sampled for the study are highly capitalized. When a firm is highly capitalized, there is a tendency for the firm to be making profit because of high capacity for going into productive investments. Therefore, the outcome of this study suggests that equity finance is likely to have significant relationship with corporate profitability.

#### **4.2.2 Research Question Two**

Table 4.2 shows that firm leverage has a mean value of 2.33 (SD = 2.64154). With minimum firm leverage of 0.04 and maximum firm leverage of 14.90, it could be observed that the mean value of 2.33% is closer to the minimum value. However, this outcome signifies that majority of the companies sampled for the study are moderately geared (2 parts of debt to one part of equity). When a firm is moderately geared, there is likelihood that the profitability of the firm may be enhanced due to moderate finance costs. Therefore, this outcome suggests that firm leverage is likely to have significant effect on corporate performance.

#### **4.2.3 Research Question Three**

Table 4.2 reveals that the firm size has a mean value of 9.81 (SD = 0.87866). With minimum firm size value of 5.45 and maximum firm size value of 11.87, it could be observed that the firm size value of 9.81 is closer to the maximum value. This finding implies that majority of the firms sampled for the study are large in size. When firm size is large, the chance of securing debt finance is higher. Therefore, this finding suggests that firm size is likely to have moderating effect on the relationship between capital structure and corporate performance.

#### **Table 4.2: Descriptive Statistics**



Variables	N	Minimum	Maximum	Mean	Std. Deviation
EQT	135	3.06	11.52	9.3688	.95082
LEV	135	.04	14.90	2.3222	2.64154
FPT	135	-26.37	53.96	3.6483	10.96675
FSI	135	5.45	11.87	9.8085	.87866
Valid N (listwise)	135				

Source: Researcher's Computation (2020)

### 4.3 Correlation Analysis

Table 4.3 contains the correlation output of this study. A positive and significant association was observed between equity finance and firm profitability ( $r = 0.379$ ,  $p < 0.05$ , sig. = 0.000). This result suggests that equity finance may exert significant impact on profitability of the sampled firms. Conversely, a negative but non-significant association was observed between firm leverage and corporate profitability ( $r = -0.103$ ,  $p < 0.05$ , sig. = 0.232). This outcome suggests that firm leverage may not exert a significant effect on profitability of the sampled firms. Moreover, a positive but non-significant association was observed between firm size and corporate profitability ( $r = 0.047$ ,  $p < 0.05$ , sig. = 0.588). This finding suggests that firm size may not exert significant effect on profitability of the sampled firms.

**Table 4.3: Correlations**

		EQT	LEV	FPT	FSI
EQT	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	135			
LEV	Pearson Correlation	-.103	1		
	Sig. (2-tailed)	.234			
	N	135	135		

FPT	Pearson Correlation	.379**	-.103	1	
	Sig. (2-tailed)	.000	.232		
	N	135	135	135	
FSI	Pearson Correlation	.807**	.163	.047	1
	Sig. (2-tailed)	.000	.060	.588	
	N	135	135	135	135

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher's Computation (2020)

#### 4.4 Test of Hypotheses

Three hypotheses were raised in this study. Simple linear regression was explored to test hypotheses one and two while moderated regression was employed to test hypothesis three.

##### 4.4.1 Hypothesis One

Hypothesis one states that “equity finance has no significant impact on the profitability of listed industrial goods companies in Nigeria”. Table 4.4 contains the parameters summary of model one. It was observed that 8.1% of the variation in firm profitability can be justified by equity finance ( $R^2 = 0.081$ ). This explanatory power is very low, and the outcome suggests that more variables outside equity finance are responsible for the variation in firm profitability.

**Table 4.4: Model 1 Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.285 <sup>a</sup>	.081	.074	10.55079

a. Predictors: (Constant), EQT

Source: Researcher's Computation (2020)

Table 4.5 reveals the model fitness test. The model was realized to be of good fitness since the F-Value is relatively high and significant ( $F = 11.774$ ,  $p < 0.05$ , Sig. = 0.001).

**Table 4.5: ANOVA (Model 1)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1310.678	1	1310.678	11.774	.001 <sup>b</sup>
	Residual	14805.438	133	111.319		

Total	16116.116	134			
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a. Dependent Variable: FPT

b. Predictors: (Constant), EQT

**Source: Researcher's Computation (2020)**

Table 4.6 shows the regression coefficient. Equity finance has a positive and significant standardized regression coefficient (Beta = 0.285,  $p < 0.05$ ,  $t = 3.431$ , sig. = 0.001). This outcome signifies that as the equity finance increases, the firm profitability increases. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. Then, it can be concluded that equity finance has a significant impact on the profitability of listed industrial goods companies in Nigeria.

**Table 4.6: Regression Coefficients (Model 1)**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	-6.295	3.037		-2.073	.040
EQT	1.107	.322	.285	3.431	.001

a. Dependent Variable: FPT

**Source: Researcher's Computation (2020)**

#### 4.4.2 Hypothesis Two

Hypothesis two states that “firm leverage has no significant effect on the profitability of listed industrial goods companies in Nigeria”. Regression results were presented in Tables 4.7 - 4.9. The model 2 summary (Table 4.7) reveals that 0.00% of the variation in corporate profitability can be justified by firm leverage ( $R^2 = 0.000$ ). This outcome suggests that model 2 has no predictive power on the extent of the relationship between firm leverage and profitability of the sampled firms.

**Table 4.7: Model 2 Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.005 <sup>a</sup>	.000	-.007	11.00774

a. Predictors: (Constant), LEV

**Source: Researcher's Computation (2020)**

Table 4.8 contains the output of the test on the fitness of model 2. With an extremely low F-value, the ANOVA output shows that the fitness of the model is not good (F-value = 0.004,  $p < 0.05$ , sig = 0.951). Hence, the predictive power of the model is extremely low.

**Table 4.8: ANOVA (Model 2)**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.459	1	.459	.004	.951 <sup>b</sup>
Residual	16115.656	133	121.170		
Total	16116.116	134			

a. Dependent Variable: FPT

b. Predictors: (Constant), LEV

**Source: Researcher's Computation (2020)**

Regression coefficient in respect of model 2 is presented in Table 4.9. Standardized regression coefficient of firm leverage is negative but non-significant (Beta = -0.005,  $t = -0.062$ ,  $p < 0.05$ , sig = 0.951). This result indicates that firm leverage has no significant effect on corporate profitability. Therefore, the null hypothesis was accepted while the alternative hypothesis was rejected. It can then be concluded that firm leverage has no significant effect on the profitability of listed industrial goods companies in Nigeria.

**Table 4.9: Regression Coefficients (Model 2)**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.648	.947		3.851	.000
LEV	-.003	.042	-.005	-.062	.951

a. Dependent Variable: FPT

**Source: Researcher's Computation (2020)**

#### 4.4.3 Hypothesis Three

Hypothesis three states that “firm size has no significant moderating effect on the relationship between capital structure and the profitability of listed industrial goods companies in Nigeria”. Tables 4.10 - 4.12 present the regression results. The model summary (Table 4.10) reveals that 18.7% of the variation in firm profitability can be justified by the combination of

equity finance, firm leverage and firm size ( $R^2 = 0.187$ ). This outcome reveals that the model has some level of predictive power.

**Table 4.10: Model 3 Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.433 <sup>a</sup>	.187	.156	10.07608

a. Predictors: (Constant), FSI\*LEV, EQT, LEV, FSI\*EQT, FSI

**Source: Researcher's Computation (2020)**

Table 4.11 contains the output of the model fitness test. The ANOVA output reveals that the model is of good fitness (F-value = 5.947, sig = 0.000).

**Table 4.11: ANOVA (Model 3)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3019.086	5	603.817	5.947	.000 <sup>b</sup>
	Residual	13097.029	129	101.527		
	Total	16116.116	134			

a. Dependent Variable: FPT

b. Predictors: (Constant), FSI\*LEV, EQT, LEV, FSI\*EQT, FSI

**Source: Researcher's Computation (2020)**

Collinearity statistics and the regression coefficients are presented in Table 4.12. Variable centering approach was explored by computing mean deviations of the variables before subjecting the data to moderated regression analysis to reduce multicollinearity among the independent and moderating variables. Tolerance value and variance inflation factors (VIFs) were then computed to confirm the existence multicollinearity problem. All the tolerance values were above 0.2 while all the VIFs were below 10 which are indications of existence of no multicollinearity problem (). The standardized regression coefficients revealed that firm size has negative but non-significant effect on the relationship between equity finance and firm profitability (Beta = -0.513,  $t = -1.705$ ,  $p < 0.05$ , sig = 0.091). It was further revealed that firm size has positive but non-significant effect on the relationship between firm leverage and corporate profitability (Beta = 0.051,  $t = 0.550$ ,  $p < 0.05$ , sig = 0.583). These results suggest that firm size has no moderating effect on the relationship being investigated. Therefore, the null hypothesis was accepted, and the alternative hypothesis was rejected. It can then be

inferred that firm size has no significant moderating effect on the relationship between capital structure and the profitability of listed industrial goods companies in Nigeria.

**Table 4.12: Regression Coefficients (Model 3)**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.827	1.051		.787	.433		
EQT	-1.773	1.802	-.154	-.984	.327	.258	3.873
LEV	-1.748	.366	-.421	-4.777	.000	.811	1.233
FSI	2.872	2.041	.230	1.407	.162	.236	4.245
FSI*EQT	-1.343	.788	-.153	-1.705	.091	.780	1.282
FSI*LEV	.200	.364	.051	.550	.583	.735	1.361

a. Dependent Variable: FPT

Source: Researcher's Computation (2020)

#### 4.5 Discussion

The first finding from this study revealed that equity finance has a significant positive impact on the profitability of listed industrial goods companies in Nigeria. The implication of our finding is that the higher the equity finance, the higher the corporate profitability. This finding was advocated by the study of Pouraghajan *et al.* (2015) which revealed a significant positive relationship between equity finance and corporate performance, which implies that corporate performance is higher when debt is avoided, and operation is based on equity. However, our finding was not supported by the study of Abdur (2015) which posited that proprietary equity ratio has a negative and significant relationship with firm profitability.

Another outcome of this study showed that firm leverage has no significant effect on the profitability of listed industrial goods companies in Nigeria. The implication of this outcome is that an increase or a decrease in the value of debt instruments in the capital structure has no effect on the profitability of the firm. This outcome was supported by the study of Aransiola and Aransiola (2015) which showed that there is a negative but insignificant relationship between debt financing and corporate performance. However, our outcome was not supported by the studies of Akinyomi (2013), Olokoyo (2013), Pouraghajan *et al.* (2012), Saeed *et al.* (2013), Yusuf *et al.* (2014) and Tifow and Sayilir (2015) which revealed a significant positive relationship between firm leverage and corporate profitability. Also, our outcome was not supported by the study of Saeedi and Mahmoodi (2011) which posited that capital structure

has a significantly positive relationship with firm profitability. Furthermore, this outcome was not supported by the studies of Appah *et al.* (2013), Chuke *et al.* (2016), Hossain and Nguyen (2016), Oke and Afolabi (2011), Onaolapo and Kajola (2010) which revealed that firm leverage has a significant negative effect on firm profitability. Our outcome was also contrary to the studies of Dadson and Jamil (2012), and Gansuwan and Onel (2012) which revealed that a negative relationship exists between capital structure and corporate performance. Our result was also contrary to the studies of Innocent *et al.* (2014), and Maina and Ishmail (2014), which revealed that debt finance is inversely related to corporate profitability.

Another result from this study indicated that firm size has no significant moderating effect on the relationship between capital structure and the profitability of listed industrial goods companies in Nigeria. The implication of our result is that size of the firm, whether small, medium or large, does not enhance the effect of the various components of capital structure on firm profitability. However, our finding was not supported by the study of Muzir (2011) whose results suggested that the effect of company size on corporate financial performance differs, depending on how the size expansion is financed.

## **CHAPTER FIVE**

## **SUMMARY, CONCLUSION AND RECOMMENDATION**

### **5.1 Preamble**

This chapter marks the completion of the research project. It covers the rundown of the work done, inferences made, recommendations drawn from the conclusion of the study as well as suggestions for further studies.

### **5.2 Summary**

This research study constitutes five chapters. Chapter one introduced the study and it covers the background of the study, statement of the problem, research objectives, research questions, research hypotheses, significance of the study, scope of the study, and definitions of terms that are specific to the study.

Chapter two focused on an extensive literature review on the relationship between capital structure and firm profitability. The moderating effect of firm size on the relationship was also reviewed. Hence, the concepts reviewed include capital structure, firm profitability and firm size. Theories reviewed include MM Theory, Pecking Order Theory, Agency Cost Theory, Market Timing Theory and Trade-off Theory. However, Trade-off Theory was adopted because the variables used in this study were derived from it. Relevant empirical studies were also reviewed while gaps in knowledge were derived from the review which the study proceeded to fill.

Chapter three centers on methodology adopted to carry out the research work. Correlational research design was adopted, which aims at measuring a relationship and assessing the statistical relationship between capital structure variables and profitability among industrial goods companies listed on the Nigerian Stock Exchange, inclusive of the moderating effect of firm size on the relationship. A cross sectional data was explored to obtain relevant information. The secondary data used were sourced for and generated from the annual financial statements of the sampled companies for a period of five (5) years from 2014 to 2018, from each company' website, as well as the Nigerian Stock Exchange Fact Book 2019. The variables of this study include capital structure (as the independent variable), profitability (as the dependent variable) and firm size (as a moderating variable).

Chapter four consists of data analysis, interpretation of the results and discussion of findings. The hypotheses of the study were tested with correlation, linear regression and moderated regression analyses. Correlation was used to measure the association between the variables



while regression analysis was used to evaluate the relationship between the variables. Statistical Package for Social Sciences (SPSS) version 22 was utilized for the data analysis.

Chapter five comprises summary of the work done, conclusion made, recommendation and suggestions for further studies. Summary of the work done includes literature review, research methods adopted, field work and statistical analysis. Conclusion was made from the findings of the study only. Recommendations were procured from the conclusion made. Limitations of the study informed the suggestions made for further studies.

### **5.3 Conclusion**

This study sought to explore the relationship between capital structure and profitability of industrial goods companies in Nigeria. It was revealed that equity finance has a significant positive impact on the profitability of listed industrial goods companies in Nigeria. It was found further that firm leverage has no significant effect on the profitability of listed industrial goods companies in Nigeria. Furthermore, the study revealed that firm size has no significant moderating effect on the relationship between capital structure and the profitability of listed industrial goods companies in Nigeria. Consequently, it was concluded that regardless of the size of the firm, equity finance has a significant positive impact on the profitability of listed industrial goods companies in Nigeria.

### **5.4 Recommendations**

Since equity finance was found to be exerting significant positive impact on firm profitability, the study recommended that the management of listed industrial goods companies in Nigeria should prioritize equity finance in the forms of ordinary shares and right issues for business expansion. The study also recommended the use of bonus issue to compensate the shareholders instead of cash dividends.

### **5.5 Suggestions for Further Study**

This study focused only on industrial goods sector of the Nigerian economy and explored only firm size as the moderating variable. Future studies on the relationship between capital structure and firm profitability may focus on other economic sectors that are not covered in this study which include consumer goods, health services, financial services, Information Communication Technologies (ICT) and real estate/conglomerates sectors. Further studies may also consider other moderating variables that are not considered in this study.

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## APPENDIX I: LIST OF SAMPLED COMPANIES

S/N	COMPANIES	S/N	COMPANIES
1.	A.G. Leventis (Nigeria) Plc	17.	John Holt Plc
2.	Academy Press Plc	18.	Julius Berger Nigeria Plc
3.	Austin Laz & Company Plc	19.	Lafarge Africa Plc
4.	Berger Paints Nigeria Plc	20.	Newrest ASL Nigeria Plc
5.	Beta Glass Plc	21.	Notore Chemical Industries Plc
6.	BUA Cement	22.	Portland Paints & Products Nigeria Plc
7.	C & I Leasing Plc	23.	Premier Paints Plc
8.	Cement Company of Northern Nigeria Plc	24.	Red Star Express Plc
9.	Chellarams Plc	25.	Roads Nigeria Plc
10.	Chemical and Allied Products Plc	26.	SCOA Nigeria Plc
11.	Cutix Plc	27.	Skyway Aviation Handling Company Plc
12.	Dangote Cement Plc	28.	Studio Press Nigeria Plc
13.	DN Meyer Plc	29.	The Initiates Plc
14.	Global Spectrum Energy Services Plc	30.	Trans-Nationwide Express Plc
15.	Grief Nigeria Plc	31.	Tripple Gee & Co Plc
16.	Interlinked Technologies Plc	32.	United Africa Company of Nigeria Plc

Source: Nigeria Stock Exchange Fact Book 2018; African-markets.com

**APPENDIX II: DATA USED FOR THE STUDY**

S/N	YEAR	COMPANY NAME	EQUITY FINANCE	FIRM LEVERAGE	FIRM PROFITABILITY	FIRM SIZE (Moderating)
			<b>Log Of Total Equity</b>	<b>D/E Ratio</b>	<b>Net Income/ Total Asset (%)</b>	<b>Log of Total Asset</b>
1	<b>2014</b>	A.G Leventis	9.98	1.46	-0.92	10.36
2		Academy Press	8.90	3.73	2.38	9.58
3		Austin Laz & Company	9.25	0.14	-7.79	9.31
4		Berger Paints	9.39	0.48	4.09	9.56
5		Beta Glass	10.20	0.69	8.88	10.43
6		C&I Leasing	9.76	3.02	0.76	10.37
7		CCNN	9.98	0.67	12.17	10.20
8		Chellarams	9.64	2.87	-0.44	10.23
9		Chemical & Applied Products	9.07	1.61	53.96	9.49
10		Cutix	8.85	1.49	11.87	9.24
11		Dangote	8.77	0.72	16.20	8.99
12		DN Meyer	8.80	2.87	-1.50	9.39
13		Grief (Vanleer)	8.53	0.97	6.55	8.82
14		Interlinked Tech	8.44	0.75	1.24	8.68
15		John Holt	9.52	2.09	5.74	10.05
16		Julius Berger	10.42	8.81	3.22	11.41
17		Lafarge (WAPCO)	11.25	1.37	8.13	11.62
18		Newrest ASL	9.37	0.84	4.01	9.63
19		Portland Paints & Products	8.97	1.46	6.53	9.36
20		Premier Paints	-3.06	-253.83	2.80	8.46
21		Red Star Express	9.28	0.81	11.71	9.54
22		SCOA	9.48	2.25	1.81	10.00
23		NAHCO/SAHCO	9.77	1.45	3.97	10.16
24		Studio Press	9.25	4.71	-3.45	10.01
25		Trans-Nation Wide Express	8.60	0.58	10.64	8.78
26		Tripple Gee & Co	9.04	0.60	0.89	9.24
27		UACN	10.88	0.74	8.23	11.12
28	<b>2015</b>	A.G Leventis	9.96	1.48	-0.79	10.35

29		Academy Press	8.87	3.87	-0.71	9.56
30		Austin Laz & Company	9.24	0.08	-3.16	9.27
31		Berger Paints	9.41	0.51	8.48	9.59
32		Beta Glass	10.25	0.55	7.33	10.43
33		C&I Leasing	9.76	4.15	0.51	10.47
34		CCNN	10.01	0.69	7.01	10.23
35		Chellarams	9.07	14.9	-17.05	10.27
36		Chemical & Applied Products	9.18	1.24	51.02	9.53
37		Cutix	9.87	1.65	7.59	9.29
38		Dangote	8.82	0.92	16.32	9.05
39		DN Meyer	8.84	2.4	2.27	9.37
40		Grief (Vanleer)	8.53	1.13	3.44	8.86
41		Interlinked Tech	8.45	0.53	1.44	8.63
42		John Holt	9.5	2.43	-2.33	10.04
43		Julius Berger	10.39	9.09	1	11.39
44		Lafarge (WAPCO)	11.25	1.56	6.01	11.87
45		Newrest ASL	9.32	1.21	-1.24	9.66
46		Portland Paints & Products	8.84	1.75	-12.27	9.28
47		Premier Paints	7.41	12.19	-8.63	8.53
48		Red Star Express	9.31	0.85	10.04	9.58
49		SCOA	9.32	4.24	-11.67	10.04
50		NAHCO/SAHC O	9.79	1.45	3.6	10.17
51		Studio Press	9.23	5.25	-0.87	10.03
52		Trans-Nation Wide Express	8.63	0.53	7.77	8.82
53		Tripple Gee & Co	9.05	0.6	2.26	9.27
54		UACN	10.87	0.74	4.01	11.11
55	<b>2016</b>	A.G Leventis	9.8	2.21	-12.62	10.31
56		Academy Press	8.86	4.06	-1.83	9.57
57		Austin Laz & Company	9.2	0.11	-8.3	9.25
58		Berger Paints	9.42	0.58	5.46	9.61
59		Beta Glass	10.33	0.55	11.45	10.52
60		C&I Leasing	9.91	3.74	2.4	10.58
61		CCNN	10.06	0.74	6.26	10.3
62		Chellarams	9.16	8.68	1.13	10.14
63		Chemical & Applied Products	9.36	1.15	32.62	9.69
64		Cutix	8.94	1.17	10.07	9.28
65		Dangote	8.86	1.11	9.34	9.18
66		DN Meyer	8.67	3.19	-11.24	9.29
67		Grief (Vanleer)	8.53	1.14	3.75	8.89
68		Interlinked Tech	8.44	0.7	0.23	8.67

69		John Holt	9.52	2.68	0.8	10.08
70		Julius Berger	10.4	9.24	-1.47	11.41
71		Lafarge (WAPCO)	11.4	1.01	3.36	11.7
72		Newrest ASL	9.51	1	17.73	9.81
73		Portland Paints & Products	8.85	1.51	0.49	9.24
74		Premier Paints	-6.89	-42.66	-10.49	8.51
75		Red Star Express	9.35	0.7	8.9	9.58
76		SCOA	9.66	2.08	-11.54	10.15
77		NAHCO/SAHCO	9.8	0.99	4.6	10.1
78		Studio Press	9.29	4.19	2.52	10.01
79		Trans-Nation Wide Express	8.63	0.32	3.58	8.75
80		Tripple Gee & Co	9.06	0.7	1.44	9.29
81		UACN	10.87	0.81	4.1	11.14
82	<b>2017</b>	A.G Leventis	9.45	5.6	-18.86	10.27
83		Academy Press	8.35	12.22	-17.23	9.47
84		Austin Laz & Company	9.2	0.07	0.02	9.23
85		Berger Paints	9.42	0.63	5.71	9.64
86		Beta Glass	10.4	0.52	10.78	10.58
87		C&I Leasing	9.96	3.94	2.44	10.65
88		CCNN	10.16	0.71	13.08	10.39
89		Chellarams	9.25	6.57	2.5	10.13
90		Chemical & Applied Products	9.35	1.24	29.89	9.7
91		Cutix	9.01	1.3	11.05	9.37
92		Dangote	8.89	1.13	12.26	9.22
93		DN Meyer	8.54	4.56	-13.97	9.28
94		Grief (Vanleer)	9.02	2.06	6.61	9.51
95		Interlinked Tech	8.42	0.9	-1.84	8.7
96		John Holt	9.42	2.9	-7.11	10.01
97		Julius Berger	10.48	8.15	0.92	11.44
98		Lafarge (WAPCO)	11.2	2.74	-5.89	11.77
99		Newrest ASL	9.55	0.41	7.78	9.7
100		Portland Paints & Products	9.14	0.46	2.86	9.31
101		Premier Paints	-7.79	-5.61	-18.97	5.45
102		Red Star Express	9.39	0.82	9.63	9.65
103		SCOA	9.42	4.09	-14.81	10.11
104		NAHCO/SAHCO	9.83	0.81	6.33	10.09
105		Studio Press	9.36	3.19	3.25	9.98
106		Trans-Nation Wide Express	8.78	0.27	0.48	8.88

107		Tripple Gee & Co	9.05	0.66	0.55	9.27
108		UACN	10.86	0.79	0.74	11.12
109	<b>2018</b>	A.G Leventis	9.52	4.47	4.83	10.26
110		Academy Press	8.49	7.86	2.33	9.44
111		Austin Laz & Company	9.2	0.06	-0.98	9.22
112		Berger Paints	9.45	0.61	7.07	9.66
113		Beta Glass	10.43	0.56	10.97	10.66
114		C&I Leasing	10.07	3.45	2.28	10.72
115		CCNN	11.52	0.04	1.65	11.54
116		Chellarams	9.53	2.87	1.52	10.12
117		Chemical & Applied Products	9.45	1.25	32.15	9.8
118		Cutix	9.11	1.18	15.52	9.45
119		Dangote	8.99	0.72	23.05	9.23
120		DN Meyer	8.82	1.81	17.11	9.27
121		Grief (Vanleer)	9.06	1.74	11.46	9.5
122		Interlinked Tech	8.42	0.8	0.37	8.68
123		John Holt	9.45	2.68	1.6	10.01
124		Julius Berger	10.56	7.14	2.12	11.46
125		Lafarge (WAPCO)	11.13	3.02	-1.63	11.73
126		Newrest ASL	9.69	0.33	22.8	9.82
127		Portland Paints & Products	9.19	0.47	9.18	9.35
128		Premier Paints	-8.12	-3.01	-26.37	8.42
129		Red Star Express	9.4	0.98	6.96	9.7
130		SCOA	9.22	6.82	-0.35	10.12
131		NAHCO/SAHC O	9.8	0.95	1.6	10.09
132		Studio Press	9.4	2.73	2.85	9.98
133		Trans-Nation Wide Express	8.76	0.26	-3.67	8.86
134		Tripple Gee & Co	9.06	0.55	1.33	9.25
135		UACN	10.87	0.77	-7.23	11.12

