AN INVESTIGATION OF THE RELATIONSHIP BETWEEN INDUSTRY TYPE AND CAPITAL STRUCTURE OF COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE (NSE) KENYA

BY

EVERLYNE KERUBO NYANG'WARA

D61/79070/2012

A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS OF THE DEGREE OF MASTERS IN BUSINESS ADMINISTRATION AT THE UNIVERSITY OF NAIROBI

NOVEMBER 2016

DECLARATION

I hereby make a declaration that this research project is based on my original and to the best of my knowledge has not been submitted for the award of a degree in any other university.

Signed…….. Date……..

Everlyne K. Nyang'wara

Registration Number: D61/79070/2012

This research project has been submitted for examination with our approval as the university supervisors.

Signed……. Date……

Ms. Helen Wairimu Kinyua

Co-supervisor, Department of Finance and Accounting,

School of Business, University of Nairobi

Signed……. Date……

Dr Erastus Sifunjo Kisaka

Supervisor, Department of Finance and Accounting,

School of Business, University of Nairobi

ACKNOWLEDGEMENTS

I wish to thank everybody whose contribution made this project a success. To my supervisors Ms. Hellen Kinyua and Dr. Kisaka Sifunjo for their assistance and advice made it possible to see this project come to a successful end. I was indeed privileged to work with the best of the best. I am also grateful to my lecturers who imparted unrivalled knowledge in me to which has forever made an impact in my life and through me to the lives of others. Special thanks to other staff at the Lower Kabete, School of Business at the University of Nairobi, for their concerted efforts to see that we were able to complete the project on time and graduate.

Finally, I would like to convey my sincere appreciation to my family for their support both morally and financially. Through my parents' gift of life in me, I am who I am and I thank God for using them as a vessel to channel his will in me.

DEDICATION

I dedicate this research project to my dear parents Mr. Jeremiah Nyang'wara & Mrs. Florence Nyang'wara and my sister Emmah Nyang'wara for their unfailing love, support and encouragement during the study period. Their love, sacrifice and commitment towards giving each and every one of us an education remain unrivalled. I also dedicate it to my children Sade Flora and Jeremy John for giving me the strength and the courage to see the project to its completion amidst a very challenging time.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AIMS	-	Alternative Investment Segment
AMEX	-	American Stock Exchange
ANOVA	-	Analysis of Variance
ASEA	-	African Securities Exchanges Association
CMA	-	Capital Markets Authority
EASEA	-	East African Securities Exchanges Association
EBIT	-	Earnings before Interest and Tax
FIMS	-	Fixed Income Market Segment
GEMS	-	Growth and Enterprise Market Segment
MIMS	-	Main Investment Market Segment
MM	-	Modigliani and Miller
NASDAQ	-	National Association of Securities Dealers Automated Quotations
NSE	-	Nairobi Securities Exchange (formerly Nairobi Stock Exchange)
NYSE	-	New York Stock Exchange
REITS	-	Real Estate Investment Trusts
RBI	-	Reserve Bank of India
ROA	-	Return on Assets
ROE	-	Return on Equity
SMEs	-	Small and Medium Enterprises
SPSS	-	Statistical Package for the Social Sciences

ABSTRACT

One of the most complex areas in financial management is long term financial since it is related to other financial decision variables. This study aimed at exploring the existence (or not) of a relationship between the long term financial structure of companies listed at the NSE and their industry classification for a 10 year period between 2006 and 2015. Trend analysis, descriptive statistics and ANOVA were applied on the data collected. The outcome was that in 6 out of 7 industries studied, organisations were using lesser debt in their capital structures as time went by. The study also found out that the capital structure varied from industry to industry even though the variation was not significant. The variables that were independent i.e. the structure of the assets, size of the organisation, growth rate of the organisation, profitability levels and liquidity levels were found to vary significantly from one industry to another. The outcome of this study demonstrates that long term financial structure of companies varies from one industry to another and therefore it is important to consider the industry effects when making decisions.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The fact that capital structure is related to other financial decision variables makes it a complex area in financial management. Whilst research seems to point towards an optimal capital structure that organisations should consider adopting, there no known formula for determining the structure (Gitman & Zutter, 2012). Modigliani & Miller (1958) proposed how long term financial structure decisions are irrelevant to the value of an organisation thereby presenting a basis for the emergence of later theories in capital structure. Since their seminal research, it is now widely known that decisions regarding capital structure are relevant to an organisation's value. To this end, various factors have been known to affect capital structure decisions including: the interest tax shield; potential bankruptcy effect due to using debt; information asymmetry (Brigham & Houston, 2009); an organisation's industry (Das & Roy, (2012); profitability (Chen & Hammes, 2004); tangibility of assets (Abor, 2007); growth (Pandey, 2001); organisation size (Myers & Majluf, 1984); liquidity (Vries 2012); and many more. More recently, the capital structure puzzle has been on the forefront due to organisations experiencing financial distress and bankruptcy.

Since the earliest research by Modigliani & Miller (1958), crucial questions still persist regarding how long term financial structure is influenced by the organisation's operational industry. While the common belief is that capital structure decisions are controlled by industry factors, evidence from studies conducted shows that there is vast

variation in the organisations' capital structures even after controlling for industry (Mackay & Phillips, 2005). Different industries have been known to experience different business environments which could impact the chosen capital structure (Talberg et. al. 2008). Empirical studies on capital structure differences in various industries have been conducted globally and more so from the developed economies perspective whose organisations have many institutional similarities. There is limited research conducted for companies in Africa and in particular, Kenya. Furthermore, most research studies in Kenya focus on the factors controlling organisation's capital structure with little prominence given to industry attributes. It is therefore important to study how the operational industry governs the long term financial structure choice of organisations that operate in the developing nations which potentially have different institutional structures (Booth et. al, 2001). This study aims to establish the significance of industry type on the long term financial structure of organisations in a developing economy providing more recent evidence from Kenya.

1.1.1 Capital Structure

This refers how the organisation has combined its long term finances i.e. equity and debt in order to maximize its stock price (Brigham & Houston, 2009). The basic forms of equity are common stock, preferred stock and retained earnings. Generally, an organisation can choose its capital structure combination from so many alternative resources for example lease financing, forward contracts, warrants, trade bond swaps, convertible bonds and forward contracts. Whichever combination it chooses, the organisation aspires to find the ideal combination that leads to the maximization of the company's market value (Yousefi et.al, 2012).

Use of debt results in a lower level of risk which arises from three major factors when compared to equity holders: the debt providers usually have a higher priority in claiming any earnings or assets for debt repayment; the debt holders can institute legal proceedings against the organisation in case of default; the interest payments by the organisation holding debt are tax deductible and this lowers the cost of the debt to the organisation substantially. As such, debt providers will demand lower returns from the organisations they issue debt to because they take the least risk in the long term capital contribution. Conversely, equity capital holders assume a far much higher risk compared to debt holders and therefore they demand a higher return. This is because, equity capital remains in the organisation perpetually compared to debt capital that must be repaid (Gitman & Zutter, 2012).

1.1.2 Industry Type

Porter (1979) described an industry as being comprised of categories of companies where each cluster consists of organisations that follow almost identical strategies pertaining to the important decision variables. The industry also consists of a group of competitors that produces close substitutes causing the behavior of any organisation to affect the others either directly or indirectly. Rastogi et. al. (2014) noted that every industry has a set of economic conditions that faces it. The industries are subject to different operating conditions in terms of technology, environmental regulations and so forth. As a result, these differences can cause variations in the design of the capital structure. For example, a company in an industry with very unpredictable earnings would gravitate towards more equity in its structure compared to debt. In an industry that is growing, more

opportunities for investments are expected hence an increase use of debt compared to an industry that is mature.

MacKay & Phillips (2005) demonstrated that industry related variables affect both organisation-wide and industry-wide financial decisions. The industry peers are likely to affect in a significant manner the organisation's long term financial structure. This means that industry specific variables can determine an organisations' financial structure. Kahle & Walking (1996) postulated four significant reasons for classifying organisations into various industries. First, the classification can be used first to point out organisations that can be used as test organisations within the same industry; second, to identify the components of the industry selected for investigation; third, to help in selecting organisations to be included in specific analyses; and fourth to establish whether amalgamations are along horizontal lines, vertical lines or conglomerate.

1.1.3 Relationship between Capital Structure and Industry Type

Researchers have two divergent views on whether a company's operational industry affects the financing decisions of a company. The first set of researchers including Rastogi et. al. (2014), Muema (2013), Abzari et.al. (2012), Das & Roy (2012), Talberg et.al. (2008), Abor (2007) and Mackay & Phillips (2005) argue that there are distinctions in the structure of capital from one industry to another and organisations within the same industry tend to subscribe to an optimal industry capital structure. The second set of researchers found that even within an industry, organisations have distinct structures in their capital use meaning that an optimal long term financial structure does not exist. In

this case, decisions relating to the combination of capital are determined by organisation level characteristics and not necessarily the industry within which the organisation operates.

Empirical studies have shown that companies in some industries choose debt-equity ratios that are alike, while companies belonging to another industry choose very distinct debt ratios. Ross et. al (2008) explained that this is because different industries have different operating characteristics and there does appear to be some connection between these characteristics and capital structure. The general consensus is that the capital combination that a company chooses will most likely be influenced by a number of variables including size of the organisation, growth rate, profitability, structure of its assets and the operational industry (Hall et al., 2000). Studies have been conducted to explain these inter industry and intra-industry differences in capital structures by various scholars.

1.1.4 The Nairobi Securities Exchange

Previously known as Nairobi Stock Exchange, the Nairobi Securities Exchange (NSE) in Kenya is the principal securities market which offers an automated platform for the listing and trading of multiple securities. It was established in 1954 under the Societies Act as a voluntary association of stockbrokers. The change of name was to permit it to evolve into a full service securities exchange that supports the trade, clearance and settling of financial instruments. NSE demutualized and self-listed in 2014 (NSE, 2016).

NSE is playing a vital role in the growth of Kenya's economy by encouraging savings and investment, as well as helping local and international companies' access cost-effective capital. Its mandate is to enable to listing companies on the bourse thereby allowing investors to participate in the trading of companies' securities. The NSE also helps to aggregate domestic savings, thus allowing the reapportionment of financial resources from dormant to active entities. It operates under the jurisdiction of the Capital Markets Authority of Kenya. It is an affiliate of the World Federation of Exchange, a founder member of the African Securities Exchanges Association (ASEA) and the East African Securities Exchanges Association (EASEA). The NSE is a member of the Association of Futures Market and is a partner exchange in the United Nations-led SSE initiative (NSE, 2016).

As at October 2016, there were 65 companies listed at the NSE grouped into five market segments; i) the Main Investment Market Segment (MIMS); ii) Alternative Investment Segment (AIMS) designed to assist medium-sized companies that require access to capital and a public platform to continue growth; iii) Growth and Enterprise Market Segment (GEMS) launched in 2013 to provide an opportunity for Small and Medium-Sized Entities (SMEs) to list within a regulatory environment designed specifically to meet their needs; iv) Real Estate Investment Trusts (REITS) which offer retail investors and professional investors with exposure to Kenya's booming property market; and v) Fixed Income Market Segment (FIMS) composed of corporate and Government-issued securities for organisations requiring debt finance for projects, expansions and working capital. The market segments are further classified into 12 sectors (Appendix 1). The NSE platform has been used by listed companies to raise capital for expanding their operations (NSE, 2016).

1.2 Research Problem

Diverse theories attempt to explain the long term financial structure decisions of an organisation. The seminal work in capital structure theories was from Modigliani & Miller (1958) who contended that the long term financial structure that an organisation chooses is irrelevant to its value. Thereafter, the trade-off theory debated that an organisation would choose an ideal combination of capital by balancing the benefits from tax when using debt and the financial distress costs that would arise thereof (Degryse et. al., 2010). The agency cost theory brought forth by Jensen and Meckling (1976) contended the ideal mix of long term finances is influenced by costs of agency including the issuing costs for debt and the issuing costs for equity. Myers & Majluf (1984) and Myers (1984) in the pecking order theory predicted that organisations preferred to use finances generated internally, followed by the use of debt, and lastly equity. The signaling theory posits that when an organisation issues equity, it is not a good signal for investors, since these equity issues are viewed as are particularly extravagant for companies that are already overvalued. There is no single theory that exhaustively predicts or explains the long term financial structure decisions for an organisation.

Kiogora (2000) studied the companies listed at the NSE between 1991 and 1998 noted that differences in the capital structure among industry groupings and organisations within a given sector tended to cluster towards some target equity to total assets ratio. Odinga (2003) and Muema (2013) noted different factors that determined capital structure for the various market segments. The consensus was that financing structures vary from company to company indicating that organisation specific factors play a role in

determining capital structure. Abor (2007) delved more into the capital structures from one industry to another in the Ghanaian SMEs and concluded that the effect from industry is crucial in providing an explanation for the capital mix decisions and that there are distinct capital combinations across the industries. Rastogi & Narwal (2014), Yousefi et. al. (2012) and Vries (2010) found out that organisation characteristics for example size, growth, profitability, age, asset structure, liquidity and business risks have an effect on capital structures.

Empirical studies have shown that some industries choose debt ratios that are similar, while organisations in other industries do not. The first set of researchers including Rastogi et. al. (2014), Muema (2013), Abzari et.al. (2012), Das & Roy (2012), Talberg et.al. (2008), Abor (2007), Mackay & Phillips (2005), Kiogora (2000) argue that there are distinctions in capital structures from one industry to another and organisations tend to follow an optimal industry capital structure. The second set of researchers for instance Almazan & Molina (2004) found that even within the same industry, organisations have different or varying capital structures meaning that no optimum capital structure exists in each industry.

An analysis of the foregoing studies revealed that researchers have divergent views on the topic of industry capital structures. Furthermore, research on industry capital structure has been conducted globally from the developed markets perspective. Little research has been conducted in the developing countries like Kenya which have a different institutional structure. Kiogora (2000) in her research of industry capital structures for

organisations listed at the NSE utilised data between 1991 and 1998. A lot of things have changed since then. Related studies by Odinga (2003) and Muema (2013) focused on determinants of capital structures and did not extend to examine the differences in capital structures of organisations per industry category. Therefore, the focus of this research will be to investigate the extent to which organisations' capital structures are alike to other organisations within and across the industry categorizations of organisations listed in the NSE and will provide more recent evidence from Kenya. The researcher will look at more recent data spanning a longer time frame (10 years) between 2006 and 2015. The researcher will also use total debt-equity ratio as opposed to equity to total assets ratio used by Kiogora (2000). The question that the researcher is seeking to answer whether there is a relationship between industry categorization and capital structure of companies listed at the NSE, Kenya.

1.3 Research Objective

The research objective for this study is to investigate the relationship between industry type and capital structure of companies listed at the NSE, Kenya. Value of the Study.

This research will contribute towards providing a theoretical background and empirical evidence to explain intra-industry and inter-industry variations in capital structures. The findings will benefit several stakeholders in different ways. The management of corporate organisations will gain knowledge of the competitor's capital structures and this could influence their financing decisions. They will also understand the determinants of capital structure from the industry perspective hence make better and well informed financing decisions. Scholars and researchers will also understand the capital structures in

industries, their determinants and the influence of industry type on the organisation's financing structure. Government policy makers will find this information useful in providing a sneak peek at the capital structures in the various industries hence using these findings to set policy guidelines for organisations in each industry.

Secondly, it is worth noting that empirical studies on intra-industry and inter-industry differences in capital structure have been conducted widely from a global perspective especially in the developed markets. Limited research has been conducted in developing countries and more specifically, in Kenya. Therefore, this study will contribute to the body of knowledge relating to how capital structure differs within an industry and from one industry to another, more specifically with a developing country view in mind. To the academicians and other researchers, this study will provide a more in depth look at the capital structure in developing countries and open up new areas for possible research. The evidence from the study could support the observations or provide a different point of view.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will provide a theoretical literature review as well as an empirical review of literature from publications on topics related to capital structure from one industry to another. Section 2.2 presents the capital structure theories. Section 2.3 talks about capital structure choices within and from one industry to another. Section 2.4 presents the empirical literature review. Section 2.5 discusses the conceptual framework. Section 2.6 presents the summary of literature review.

2.2 Theoretical Literature Review

The theories which attempt to explain long term financial structure decisions are discussed in this section and they include: the Modgliani and Miller theory in section 2.2.1; the trade-off theory in section 2.2.2; pecking order theory in section 2.2.3; the signaling theory in section 2.2.4; and the agency cost theory in section 2.2.5.

2.2.1 Modigliani and Miller Theory

The discussion of long term financial structure theory began when Modigliani and Miller (1958) in their first proposition, demonstrated that a organisations choice of financing structure did not matter, meaning that capital structure decisions were irrelevant. Ehrhardt & Brigham (2011) later argued that Modgliani and Miller's (MM) study was based assumptions that were not realistic in the perfect world and this included: costs associated with brokerage; no bankruptcy costs; no imposition of taxes; investors can borrow at the

corporate rate; no information asymmetry; and the use of debt did not have any bearing on Earnings Before Interest and Tax (EBIT). Subsequent research has focused on developing a more realistic capital structure theory by relaxing the MM assumptions.

Modigliani and Miller (1963) second proposition slackened the assumption that there were no taxes imposed on corporations. They noted that corporations would be permitted to take off interest payments as an expense yet payments in form of dividends to equity holders were not acceptable as a deduction to expenses. This distinction in the handling of interest and dividend payments encourages corporations to rely more on debt in their capital structures. This position was altered a couple of years later by Miller (1977) when he demonstrated that capital structure is relevant by bringing in the effects of personal taxes and bankruptcy costs. MM noted that when a uses more debt in its capital mix, problems that are related to bankruptcy would arise. This means that companies would avoid stretching the use of debt unreasonably due to the possibility of costs relating to bankruptcy arising.

2.2.2 Trade-off Theory

The preceding arguments from the MM propositions led to the emergence of the trade-off theory hereby, organisations balance the benefits accrued from the use of debt against the higher interest rates and bankruptcy costs. There are two aspects of trade-off theory which are discussed here. First, the static trade-off theory as advanced by (Myers 1984) posits that tax shield benefits arising from use of debt need to be revised to accommodate financial distress costs as a result of increased debt usage thereby creating an ideal capital

structure that balances both effects. Ross et. al. (2008) further reinforced this observation by noting that organisations increase debt usage up to a point when the benefits arising from tax shield in a unit dollar from extra debt matches the cost from an increase in the chance of falling into bankruptcy. It's called the static theory because it makes the assumption that an organisation will change neither its level of assets nor operations. The organisation will only change the debt-equity usage in its capital combination.

The dynamic trade off theory asserts that in order to achieve an ideal capital combination; an organisation will adjust its behavior with time. This theory acknowledges the purpose of time and other features which the static trade off theory ignores and particularly the role of expectations and adjustment costs. Some organisations expect to make payment of funds while others expect to raise them in the next period (Otieno, 2013). Myers (1984) noted that the implication of the trade-off theories is if shocks to actual debt occur, then organisations should alter their capital mix to an ideal level.

2.2.3 Pecking Order Theory

Myers & Majluf (1984) and Myers (1984) brought to light the pecking order theory which holds that an organisation will prefer inside to outside financing. If an organisation required financing for a new project, it will first make use of its retained reserves, and thereafter issue debt and with equity as the last resort (Talberg et. al, 2008). The pecking-order theory has therefore held as an alternate to the static theory which postulates that since it can be quite expensive to sell securities in order to raise cash, organisations will prefer to use internal financing whenever possible (Ross et. al., 2008).

The theory has several implications: firstly, there is no optimum capital combination that an organisation should adopt. Instead, an organisation's capital combination is governed by the need for obtaining financing externally and will in turn prescribe the amount of debt that an organisation will employ. Secondly, organisations that are high in the profitability index will make use of less debt because they have greater internal reserves to undertake capital projects. Lastly, organisations will want to have financial slack which is essentially a pile up of internally generated cash in order to avoid selling new equity. This financial slack allows the organisation's management the power to swiftly seize lucrative opportunities as they become available (Berk et. al., 2012).

2.2.4 Signaling Theory

Besley & Brigham (2015) observed the assumption from MM propositions that investors have similar information as managers about the organisation's prospects. This essentially means that the information is symmetrical. However, majority of the time, the managers will have better and all inclusive information as compared to outside investors; put differently, the information is asymmetric. The decisions regarding the structure of capital are affected by this information asymmetry. Talberg et. al. (2008) posits that the information asymmetry information that exists between investors and the organisation's managers brings forth the hidden information problem related to the signals arising from capital structure decisions. Myers and Majluf's model (1984) explained the signaling issue by noting that investors interpret equity issues as bad signals since these equity issues are viewed as are particularly extravagant for companies that are already overvalued. This theory lends supports the pecking order theory of hierarchical funding.

This signaling behavior impacts the choices in financing mix causing organisations with good prospects to not use new equity issues whereas organisations with poor prospects prefer raising finances through issuing equity. Even if an organisation has promising prospects, the stock prices will be pressed down when issuing new stock due to the signaling effect. Therefore an organisation would use more debt to signal a promising future due to the resultant contractual commitment requiring timely payback of the principal and interests failure to which the organisation would risk falling into bankruptcy and losing jobs. Hence, use of more debt could be interpreted to mean positive outlook about an organisation's future (Ehrhardt & Brigham, 2011).

2.2.5 Agency Cost Theory

This theory brought forth by Jensen and Meckling (1976) postulates the ideal capital combination as being influenced by the costs of agency. These costs associated to equity issue include: (a) shareholder expenditure to monitor the organisation (b) the expenditure incurred to bond the stewards (managers) and (c) residual loss arising from managers making decisions that are divergent from the interests of the shareholders. Chakraborty (2010) notes that when debt is obtained, the investors and shareholders may have more motivation to invest in highly risky projects with exceptional returns. Should the issues of debt foresee this, they would charge premiums on the higher side thereby increasing the costs associatiaed with the acquisition of debt. Therefore, the choice of an ideal capital combination involves a delicate balance in the costs of agency relating to equity and those relating to debt.

If managers and shareholders have divergent objectives more so when the organisation has more cash than is necessary to provide support its fundamental operations, conflicts of interest may arise. Managers will in many occasions use excess cash to fund their personally favorite projects or for privileges beyond the normal ones. Organisations can reduce excess cash by channeling some of it back to shareholders through paying higher dividends, repurchasing stock or by restructuring the target capital structure to use more debt. The overriding expectation is that the increased efforts required to effectively service the debt will force managers to become more judicious failure to which bankruptcy would result and the managers' jobs would be lost (Brigham & Houston, 2009).

2.3 Determinants of Capital Structure

Scholarly studies have demonstrated that the long term financial structures are distinct from industry to industry and even within organisations that make up an industry due to certain organisation characteristics. The characteristics of organisations are crucial in influencing the capital mix choices of an organisation. The study has included prevalent organisation characteristics that are common form earlier research as follows: the structure of the assets; profitability; growth rates; organisation's size and liquidity. In the following paragraphs, the researcher will discuss these organisation characteristics in details.

The first determinant is the structure of an organisation's asset assets comprising the tangible or real assets and non physical or intangible assets. Vries (2012) describes real assets as those that are touchable while intangible assets are not touchable. The physical assets can be used as a security pledged for the repayment of debt, thus allowing organisations to obtain loans at reduced interest rates. Arising from the fact that assets pledged as security reduce the business risk of an organisation, the distress costs to the organisation will be lowered. Abor (2007) argued that there is a connection between the level of physical assets held and the amount of debt used. This means that when an industry has higher levels of touchable assets, the debt levels are expected to be higher as well compared to those industries with intangible assets. This observation provides support to the trade off theory which anticipates a positive relationship between the levels of debt carried by the company and the levels of physical assets held by an organisation.

The second determinant of capital structure is profitability which is an indicator of expeditiously the managers make use of an organisation's assets to generate earnings (Chen & Hammes, 2004). The connection between how profitable an entity is and the capital combination choice profitability and capital structure is contradictory in nature since results from empirical studies are aligned to both the pecking order theory and the trade-off theory. Myers (1984), in the pecking order theory anticipated that companies will have a hierarchical structure adhered to when raising financing first by using internal reserves, then debt-equity as a last resort. Therefore, the theory forecasts that the use of debt is related in a negative manner to how profitable an organisation is and this relationship has been similarly observed by Harris & Raviv (1991), Rajan & Zingales

(1995) and Bevan & Danbolt (2001). Alternatively, the trade off theory forecasts that a positive correlation exists between companies that generate high profits and their usage of debt. This is as a result of reduced costs associated with bankruptcy, the deductible nature of interest to corporations, higher chances of repaying the debt and better control of problems arising from agency problems. All this compel managers to use the organisation's excess cash to service the debt (Jensen & Meckling, 1976).

The third determinant of capital structure is growth. Organisations at the growth stage are youthful and they do not have enough internal funds to finance possible investment opportunities (Pandey, 2001). Empirical studies have revealed divergent views on the connection between the rate of growth and the use of debt in an organisation. According to Myers (1984) in the pecking order theory, an organisation with high profitability but with low growth would have fewer opportunities for investments; hence it will have a higher level of internals reserves and lower debt usage. Therefore, the pecking order theory predicts that there will be a correlation that is positive between the level of debt a company uses and the level of growth. From another point of view, due to the myriad of choices that these organisations have in relation to the future investments, they may opt to select risky investment opportunities hence making the agency costs for such growing organisations higher,. Accordingly, debt providers will then charge higher costs relating to debt for those organisations that are growing. These means that these organisations will use lesser debt but more equity as supported by evidence by Barclay & Smith, (1995) and Rajan & Zingales (1995) who demonstrated that the correlation between growth and use of debt is negative.

The fourth determinant of capital structure is organisation size. Various scholars have noted contrasting points of views about how size has a relationship to the debt usage in an organisation. The trade off theory postulates that when organisations are large, they are well diversified and have more stable cash flows and a higher level of tangible assets making the chances of falling into bankruptcy very slim as compared to small organisations. It follows that these larger organisations will prefer to use more debt in their long term financing structure as compared to the smaller organisations (Myers & Majluf, 1984). Conversely, the pecking order theory reveals that a negative correlation exists between the use of debt and the size of an organisation. This is because, large organisations are well known to disclose information publicly thereby reducing the chances of information asymmetry (Arif, 2014). Rajan & Zingales (1995). As a result, the chances of undervaluing new issues in equity are reduced thereby creating a conducive environment for the large organisations to use equity financing.

Lastly, the liquidity of an organisation is another determinant of the capital mix decisions in an organisation. This is basically the ease with which an organisation services its short-term obligations. It also refers to how easily an organisation can liquidate its assets into cash. (Vries 2012). As with the other determinants of capital structure, two opposing views exist in describing the correlation between liquidity and the organisations' capital combination. In the trade off theory, the debt level that an organisation holds is positively correlated to how liquid the organisation is. Organisations that are not liquid encounter a lot of restrictions in attracting financing in form of debt because their bankruptcy costs are high (Degyrse, 2010). Conversely, other empirical studies have shown that highly

liquid organisations tend to borrow less and therefore the relationship between the level of debt and liquidity of an organisation is negative. This observation lends support to the pecking order theory which predicts that an organisation would utilize its reserves that were generated internally first before borrowing debt and finally before issuing equity. Studies that have previously been conducted and reveal the negative relationship are by Aggrawal & Nagarajan (1990), Eriotis et al. (2007) and Rao et al. (2007).

2.4 Capital Structure Choices Within and Across Industries

Empirical studies have shown that some industries choose debt ratios that are alike while others choose very distinct ratios. Rastogi et. al. (2014), Muema (2013), Abzari et.al. (2012) Abor (2007), Das & Roy (2012), Talberg et.al. (2008), Johsen & McMahon (2005) and Mackay & Phillips (2005) contend that there are distinctions in capital combinations from industry to industry. They observe of that organisations in a similar industry have comparative capital structures subsequently supporting the existence of an ideal capital structure in every industry. For example, Johsen & McMahon (2005) demonstrated that the industry to which the organisation ascribes to has an influence on the use of debt that is short-term in nature. This is especially true for the wholesale industry, construction and for recreational services & cultural industry. They also realized that the organisation's operational industry has an influence on debt that is long term, especially for transport & storage, retail trade, manufacturing and for the finance & insurance industries. The study of industry effects reveal that each industry used distinct levels of debt and this is rendering support to the trade-off theory (Degryse et. al., 2010).

Other studies found that even in organisations that are grouped in the same industry, they have distinct capital combinations meaning an optimal capital mix does not in each industry. In this case, the financing decisions are affected by organisation level characteristics and not necessarily the industry within which the organisation operates. For example Almazan & Molina (2004) noted that for some of the industries, organisations have capital structures that are alike (e.g. pharmaceutical, computer and oil), while those in other industries have distinct financial structures (e.g. food wholesale, aluminum, and drugstores). Their study found capital structure dispersion for organisations in the same industry are caused by factors specific to the industry and organisation specific factors thereby lending support to the pecking order theory. According to Vries (2010), the distinct financing choices of organisations that belong to the same industry cannot be explained only by industry effects. This means that there are factors specific to an organisation that affects financing choices. Therefore, an organisation's financing mix is generally affected by a number of variables which include size, growth, profitability, assets structure and possibly industry (Hall et al., 2000).

Graham (2011) similarly noted that debt usage varies in organisations subscribing to the same industry, across the industries and over time .Even though industry effects are crucial to an organisation's financing decisions, empirical evidence has proven that variations still exist after controlling for industry effects. The downside is that the information does not explain how the industry impacts the organisation's financing decisions or why the capital mix varies widely in organisations that subscribe to the same industry (Mackay & Phillips, 2005).

2.5 Empirical Literature Review

Omondi (1996) set out to study capital structure in Kenya during the period 1987 to 1994. The study tested whether asset structure, industry structure, interest rate, size of organisation, growth of organisation, profitability, changes in cash flows, age and ownership structure affected debt-equity ratio of listed organisations. The study made use of financial information extracted from companies' annual reports listed at NSE and analysed using regression analysis. The findings indicated that industry structure was not statistically significant in the determination of capital mix, and that capital structure of organisations on the sectoral basis was different. The sectoral test results indicated that there were distinctions in the variables that influence capital structure emanating from the very nature of sectors being studied.

Kiogora (2000) conducted a study aimed at establishing the nature of capital structures that listed companies adopt at the NSE. Secondary data between 1991 and 1998 was obtained from the NSE. Equity to total assets ratio was used as a variable for long term financial structure. Using a statistical package, discriminant analysis and variance analysis were conducted on the data. The results indicated that there are indeed distinct capital structures among industry groupings and organisations within a given sector tend to cluster towards some target equity to total assets ratio lending support to the existence of optimal capital structures promulgated by the traditionalists. It was also noted that returns increase with increased leverage also supporting the traditional view of capital structure.

Odinga (2003) conducted a study to determine what influences the long term financial structure of companies listed in NSE in the time frame between 1989 and 2001. The study made use of financial data extracted from the annual reports of companies that were listed at NSE. The dependent variable, capital structure, was measured using the debt-equity ratio. Profitability, asset tangibility, growth rate, business risks, size and non-debt tax shield were the independent variables in this study. For data analysis, multiple regression analysis was used. The conclusion was that non-debt tax shield and profitability were the most significant variables in determining leverage. The study also found out that many variables vary from company to company indicating that organisation specific factors play a role in determining capital structure.

Abor (2007) conducted a study to examine how industry classification affects the capital structure of SMEs in Ghana. 150 SMEs were sampled for the purposes of the study. Information dextracted from the SMEs annual reports was used for the empirical analysis during the six-year period under study; 1998-2003. The analytical technique employed was ANOVA and the regression framework. The dependent variable related to various long term financial structure measures (long term, short term and total debt) and the independent variable was the industry. The explanatory variables included industry, asset structure, company's age, profitability, size and growth. The results indicated that the industry effect was crucial in providing an explanation of capital mix choices and that there were distinctions in the capital structure from one industry to another.

Vries (2010) carried out a study to establish the influence of economic factors and company characteristics on the long term financial structure of industrial organisations listed in South Africa. The study examined various organisational attributes (profit, asset composition, business risk, liquidity, organisation size and growth) and economic features (inflation, interest rate and economic growth). The study covered a time frame of 14 years, from 1995 to 2008. The dependent variable, long term financial structure was measured using the debt-equity ratio. The data collected was processed by making use of inferential and descriptive statistics. Based on the results, economic features and organisation attributes appear to have an influence on the long term financial structures of industrial organisations listed in South Africa. Organisations should, therefore, take these determinants into account when deciding on the ideal capital structure.

Yousefi et. al. (2012) carried out a study to analyse how the industry influences the long term financial structure and the profitability of organisations listed in the Tehran Stock Exchange, Iran. The sample covered 136 organisations in 6 industries over the period 2005-2009. First, organisations' debt ratio and return on investment ratios were measured using collected data. The Pearson correlation coefficient was used to examine the hypothesis. The results showed that this relationship differed among diverse industries. They also revealed that specific capital structure components can lead to a significant negative, a positive relationship or even no relationship with profitability with regards to the industry influence. Therefore, the kind of industry the organisation belongs to is crucial to the choice of a organisations' capital structure. The industry also helps in the determination of the existence or not of a significant correlation and the direction between profitability and capital structure.

Muema (2013) analysed the determinants of capital structure from one industry to another for listed companies at the NSE. Data required for the study was for five years between 2008 and 2012 was collected from NSE and CMA for the purpose of the study. Unlevered companies were excluded from this study. In addition, short term debt was excluded from the study. The factors which were tested included; profitability, growth of the organisation, tangibility of the assets, liquidity, size & non-debt tax shields. Multiple regression analysis was carried out on the data. Capital structure determinants were found to be different for the various market segments. Therefore, the organisations' industry of operation was found to significantly affect the long term financial structure; hence capital combinations of similar organisations in the industry should be considered because it might reflect the unique risks inherent in that industry.

Rastogi & Narwal (2014) conducted a differential analysis of various industries on the basis of asset and capital structure for listed companies at the Bombay Stock Exchange and the National Stock Exchange of India. The study excluded organisations that did not have complete data, outliers and those in the banking and finance sector. The dependent variable used was the total long-term debt ratio while the independent variables were: fixed asset variable; growth variable; profitability variable; company size variable; company age variable and workforce needs variable. The results revealed that there were distinct capital structures depending on the industry where the company operated and that the industries were influenced differently.

2.6 Conceptual Framework

The research problem has been framed to capture the independent variable, industry type, which affects the dependent variables, debt-equity. These are moderated and intervened to affect the capital structure, as depicted in the diagram below:

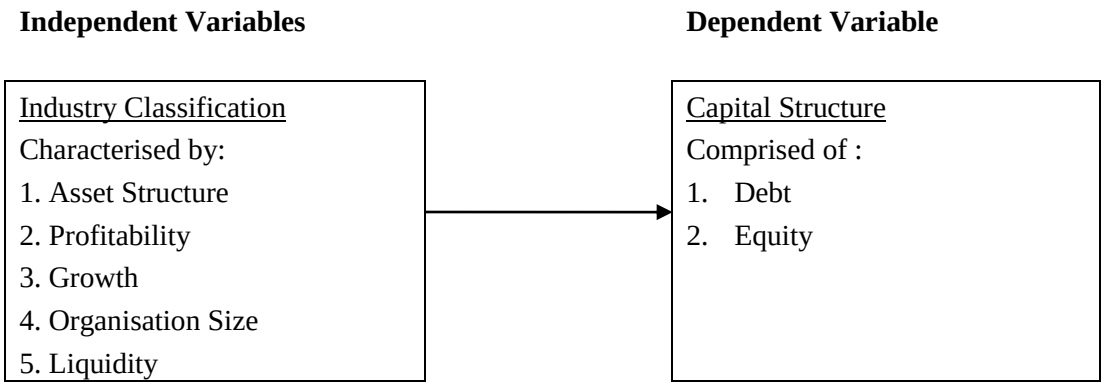

Figure 1: Conceptual Framework (Source: Author)

2.7 Summary of Literature Review

Numerous theories have been advanced to provide an explanation for the decisions that organisations make regarding capital structure. Modigliani & Miller (1958) argued that capital structure is not a relevant factor when it comes to determining the value of an organisation. The trade-off theory argued that an organisation will select an optimal long term financial structure by delicately balancing the costs as a result of financial distress and the tax benefits due to the use of debt (Degryse et. al., 2010). Jensen and Meckling (1976) agency cost theory proposed that an organisation's target long term financial structure is affected by the costs of agency arising from the usage of debt and the issuance of equity. Myers & Majluf (1984) and Myers (1984) in their pecking order theory predicted that organisations preferred internally generated cash, then debt, and lastly equity when all else fails. The signaling theory posits that investors interpret equity

issues as bad signals since these equity issues are viewed as are particularly extravagant for companies that are already overvalued.

Evidence from scholarly studies shows that there are wide distinctions in capital structure within industries and between industries. Rastogi & Narwal (2014), Yousefi Biabani & Taleghani (2012) and Vries (2010) found out that organisation characteristics for example size, growth, profitability, age, asset structure, liquidity and business risks have an effect on capital structures. An analysis of the foregoing studies has revealed that research on the capital structure of industries has been performed widely in the developed country perspective. Limited studies have been conducted in the developing countries like Kenya which have a different institutional structure. Kiogora (2000) in her research of industry capital structures for organisations listed at the NSE utilised data between 1991 and 1998. A lot of things have changed since then. Related studies by Odinga (2003) and Muema (2013) on determinants of capital structures did not extend to examine the differences in capital structures of organisations per industry category.

Therefore, the focus of this research will be to conduct an investigation to reveal the extent to which an organisation's long term financial structure is alike to other organisations within and from one industry segment to another for organisations listed in the NSE. The research will also provide more recent evidence from Kenya over a longer frame of time (10 years) between 2006 and 2015. The researcher will also use total debt-equity ratio as opposed to equity-total assets ratio used by Kiogora (2000). The question that the researcher is seeking to answer whether there is a relationship between industry type and capital structure of companies listed at the NSE, Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents how the study was conducted to answer the research question. Section 3.2 presents the research design. Section 3.3 talks about the population of study. Section 3.4 presents the sample and sampling technique. Section 3.5 discusses the data collection. Section 3.6 presents the data analysis.

3.2 Research Design

This refers to the structure of the concepts within which the study is performed; it entails the formation of a guide or design for collecting, measuring and analyzing data (Kothari, 2004). Mouton (1996) defines a research design as the blue print that has to be complied to to in order to answer research problem. The design therefore provides a framework to demonstrate how the components of research work in tandem to get appropriate answers to the research questions (Coldwell & Herbst, 2004).

A quantitative research design was utilized in this study since the variables under consideration could be quantitatively measured (Kothari, 2004). The researcher established the nature of information that was required to conduct the research and the possible places where this information could be sourced from was established and considered. The study made use of secondary sources of information. Secondary information sources refer to information that has already been gathered and processed and is already in existence, while primary sources refer to data that has to be sourced for

and is not readily in existence. It is data that will originate from a specific problem under investigation (McDaniel & Gates, 2001).

3.3 Population

The population refers to all the items under consideration in a study (Mugenda & Mugenda, 2009). In this study, the total population consisted of the 51 non-financial listed companies at the NSE as at 31 December 2015 spread across 10 industries as detailed in Appendix 1. The study excluded the banking and insurance industries from the population due to the specialized nature of their operations. These companies were governed by the Central Bank with a consequential effect on their capital structures. The Central Bank has laid out guidelines governing the capital structure of these institutions. To this effect, 11 banks & 6 insurance organisations were excluded from the selected sample. A total of 51 non-financial listed companies remained for consideration.

The study was also conducted only for organisations that were in existence and listed at the NSE from 2006 to 2015. The main reason for selecting companies that had been listed in the NSE was because the financial data was easily available during the study period of 10 years. All listed companies in Kenya were expected to file their returns with the NSE and therefore, this financial data is readily available from the NSE upon request. In addition, the researcher wanted to conduct a full 10 year review using balanced panel data. Therefore, those companies that had the required financial data for the 10 years under review would be included in the sample.

3.4 Sample and Sampling Technique

Sample design refers to the method of selecting items to be observed for the study (Saunders et. al., 2009). In this case, the researcher employed the purposeful sampling technique, deliberately selecting particular companies from the population for inclusion in the study. The researcher considered the 51 non-financial listed companies at the NSE as at 31st December 2015. These companies were spread out across 10 industry classifications as determined by the NSE (See appendix 1 – Industry classifications of companies listed at the NSE).

The research was conducted only for organisations that were in existence and listed at the NSE from 2006 to 2015. The researcher excluded companies that had incomplete data and those that were not listed in the NSE before 2006 to allow for a full 10 year company review. Those companies that got listed during the study period were also excluded. (Vries, 2012). To this effect, 23 companies were excluded from the sample. The remaining sample size comprised of 28 companies spread out in 7 industry categories. See Appendix 2 for the complete list of companies sampled.

3.5 Data Collection

Collection of data refers to the techniques that were employed to gather raw information used in the study (Greener, 2008). The researcher employed secondary that was extracted from the selected company's financial reports filed with the NSE between the period (years) 2006 and 2015. McDaniel & Gates (2001) note that one of the important reasons for using secondary data is that this approach could offer background information essential to the area of research interest thereby adding creativity to the research report.

The quantitative approach was utilized in this study because financial data was used to compute ratios used to provide insights into the research question. The financial ratios were used to measure the various variables i.e. long term financial structure (the dependent variable), and the organisation attributes (asset structure, profitability, growth, organisation size and liquidity). The calculation and measurement of these ratios has been given in details in table 1 (Variable description and measurement) under section 3.6.3

3.6 Data Analysis

The analytical techniques employed were a mix of trend analysis, descriptive statistics (e.g. mean, variance, standard deviation) and inferential statistics e.g. Analysis of Variance (ANOVA) (Abor 2007). In the sections that follow, we discuss the conceptual model, the analytical model and the diagnostics for this study.

3.6.1 Conceptual Model

From the empirical review carried out, it is expected that capital combination of an organisation is influenced by the industry the organisation operates in. The table below provides how the variables were quantitatively measured for the purpose of this study.

Variable Description	**Variable Measurement**
Capital Structure (CS)	Non-current Liabilities to equity ratio
Asset Structure (AST)	Non-current assets / Total assets
Profitability (PR)	Profit before taxation / Total assets
Growth (GR)	Percentage change in total assets
Organisation Size (SZ)	Natural logarithm of sales
Liquidity (LQ)	Current assets / Current liabilities

Table 1: Variable description and Measurement (Source: Author)

Therefore capital structure of organisations in each industry is expected to be a function (*f*) of the organisation characteristics in that industry. The conceptual model thus derived is:

$$CS_{(IND)} = f(SZ, AST, PR, GR, LQ)$$

Where: -
- CS is the capital structure
- IND represents the industries under study
- SZ is the size of the organisation
- AST is the asset structure of the organisation
- PR is the profitability of the organisation
- GR is the growth of the organisation
- LQ is the liquidity

3.6.2 Analytical Model

The analytical model for this study is developed from Anwar (2011) who used a similar model to analyze data for three different sectors. The estimated model is:

$$CS_{(INDi\ldots n)} = \beta_0 + \beta_1 SZ + \beta_2 AST + \beta_3 PR + \beta_4 GR + \beta_5 LQ + \varepsilon$$

Where: -
- CS is the capital structure
- INDi…n represents the industries under study
- β_0 is a constant term
- $\beta_1 - \beta_6$ are the coefficients
- SZ, AST, PR, GR , LQ are as defined in section 3.6.1
- ε is the error term which defines the variation in the response variable, CS, which cannot be explained by the included predictor variables.

3.6.3 Diagnostics

The financial ratios were used to measure the variable that is dependent represented by capital structure and the organisation attributes represented by asset structure, profitability, growth, organisation size and liquidity. The capital structure or the debt – equity ratio employed in this study was defined in terms non-current liabilities and equity. (Abor, 2007). To determine the distinctions in the capital combinations from industry to industry, the study made use of ANOVA.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

This chapter brings forth a discussion of the results of data analysis and research findings. The goal of this study was to investigate the relationship between industry type and capital structure of companies listed at the NSE, Kenya. Data of targeted listed companies under each industry was extracted from published financial statements filed at the NSE. The information was used to calculate the various ratios which measured the variables used in the study. The chapter begins by presenting trend analysis of the capital structure, descriptive statistics, followed by ANOVA for each industry. Thereafter, a summary and interpretation of the findings is laid out.

4.1 Trend Analysis, Descriptive Statistics and ANOVA

The first type of analysis conducted in this study entailed trend analysis conducted only on the capital structure as the dependent variable so as to observe the infuence of time dimension on the long-term financing decisions of an organisation. Thereafter, descriptive statistics (mean, variance and standard deviation) were computed on all the six variables understudy. Thirdly, the study utilised ANOVA in order to establish the distinctions in the long term financial structure of listed organisations in the various industries. The study also examined the differences in the organisation-specific attributes from one industry to another. To be specific, the study employed F-test to compare the long term financial structure and the organisation level attributes for the industries studied. Each of the sections that follow tackles the six attributes studied i.e capital structure; asset structure; profitability; growth; size and liquidity.

4.1.1 Capital Structure

To determine whether there were distinctions in the long term financial structure of organisations between and within industries, the researcher calculated the mean debt-equity ratios for the 28 companies for a period of 10 years between 2006 and 2015. The researcher then analysed the trends in the debt-equity ratios for each of the industries with the results being as follows:

Trend Analysis

Average Debt-Equity Ratios per Industry							
Year	*Agriculture*	*Automobile & Accessories*	*Commercial & Services*	*Construction & Allied*	*Energy & Petroleum*	*Investments*	*Manufacturing & Allied*
2006	0.3762	0.2521	0.5787	0.7060	0.0000	0.0079	0.1410
2007	0.3756	0.2356	0.6052	0.5834	0.2327	0.0000	0.1417
2008	0.3725	0.7035	0.6066	0.5853	0.3071	0.0000	0.3093
2009	0.2842	0.3040	0.7189	0.5299	0.4654	0.0000	0.3614
2010	0.2771	1.1424	0.5954	0.6342	0.6877	0.0000	0.3888
2011	0.2704	0.1111	0.6167	0.6374	0.7174	0.0000	0.3961
2012	0.2659	0.1182	0.4652	0.7584	0.5373	0.0996	0.7951
2013	0.2731	0.1176	0.4307	0.6098	0.6976	0.3042	0.7158
2014	0.2336	0.1793	0.5945	0.5093	0.8486	0.2072	0.7223
2015	0.1997	0.0210	(2.5997)	0.4456	(0.2568)	0.2970	0.4370
Overall Average = 0.3905							

Table 2: Average Debt-Equity Ratios per Industry (Source: Research Analysis)

The table above and the trend graph below illustrate that the average debt-equity ratio varies across the various industries and also over time. The overall average debt-equity ratio of listed companies is 0.3905

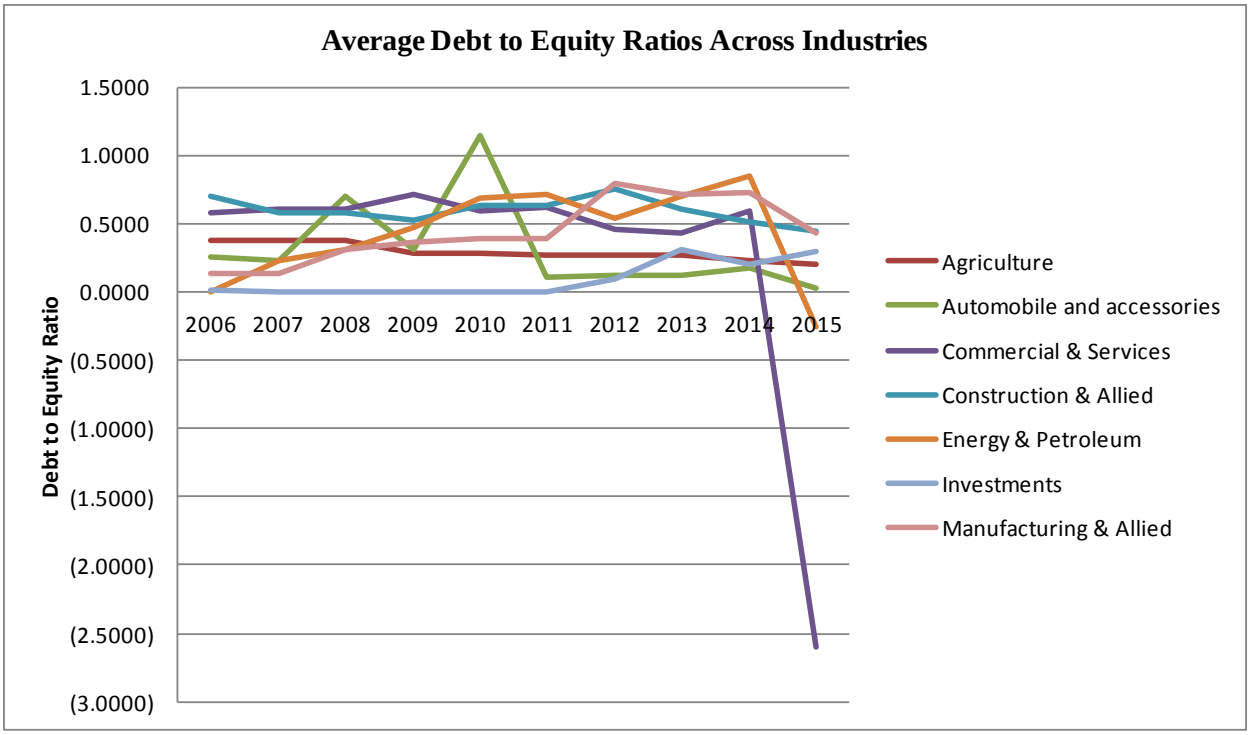

Figure 2: Average Debt-Equity Ratios across Industries (Source: Research Analysis)

A. Agricultural Industry

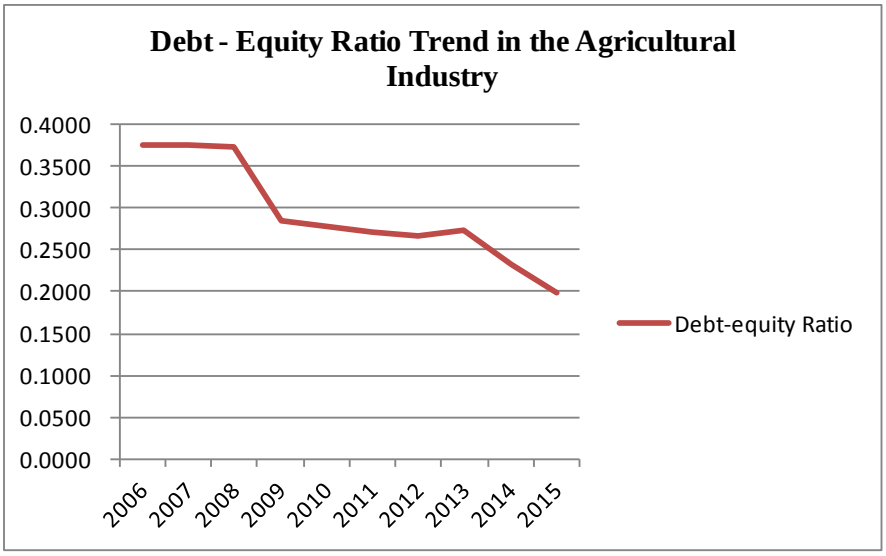

Figure 3: Debt-Equity Ratio Trend in the Agricultural Industry (Source: Research Analysis)

Over the 10 year period between 2006 and 2015, there was a general decline in the level of debt in the long term financial structure of organisations within the agricultural industry. The highest debt-equity ratio was observed in the earlier years in 2006 while the lowest ratio was observed in 2015. This means that the use of equity rather than debt was increasingly becoming a more favorable option in the period under study.

B. Automobile and Accessories Industry

In the automobile and accessories industry, the debt-equity ratio was erratic during the period under study as seen by sudden upward spikes in the level of debt followed by sudden reductions. The highest debt-equity ratio was observed in 2010 but was immediately followed by a sudden decline in 2011. On a general note, there was a downward trend in the use of debt between 2006 and 2015 with the lowest level of debt being observed in 2015.

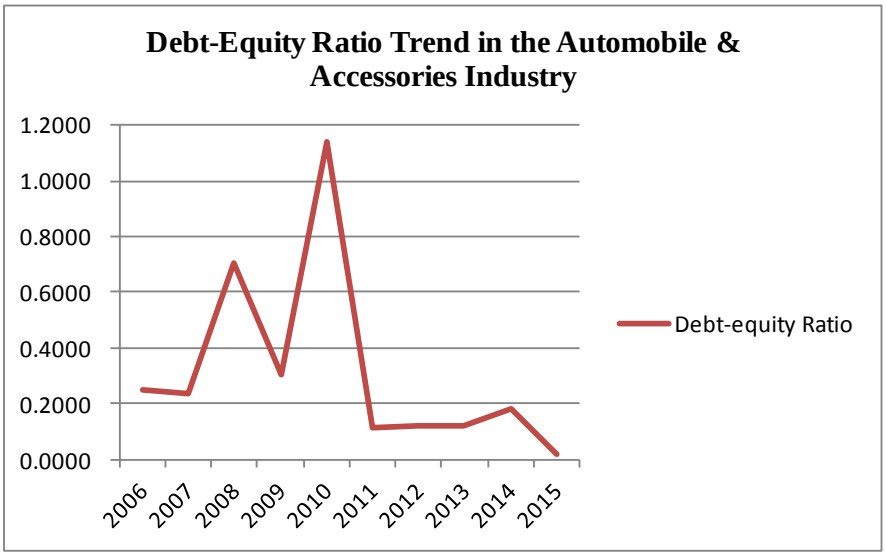

Figure 4: Debt-Equity Ratio Trend in the Automobile & Accessories Industry (Source: Research Analysis)

C. Commercial and Services Industry

As with the automobile and accessories industry, there was a general downward trend in the proportion of debt in the long term financial structure of organisations categorized in the commercial and services industry at the NSE. A negative debt-equity ratio was observed in the year 2015 caused by one organisation that had accumulated massive amounts of losses over the years causing its equity position to be negative. The downward trend in the use of debt was generally gradual until 2014 when there was a sharp decline caused by massive losses witnessed in one of the biggest organisations in the industry.

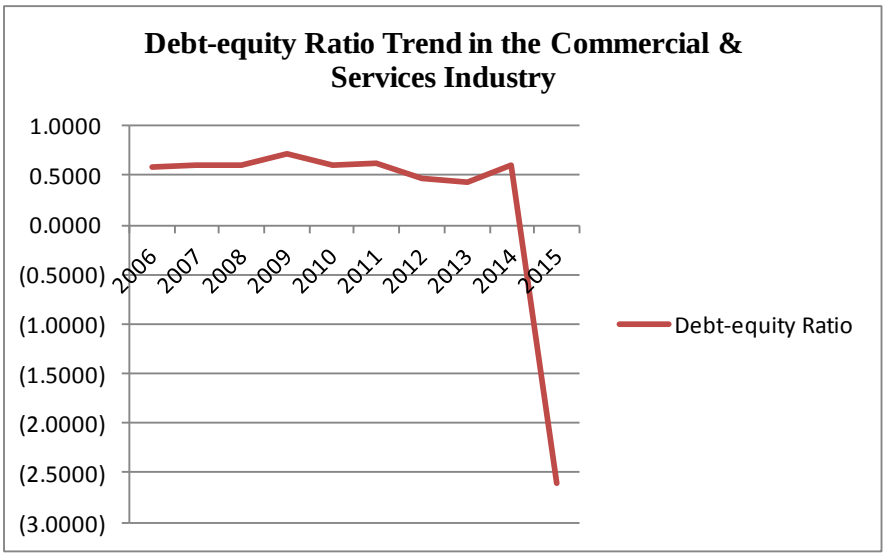

Figure 5: Debt-Equity Ratio Trend in the Commercial & Services Industry (Source: Research Analysis)

D. Construction and Allied Industry

Over the 10 year period between 2006 and 2015, there was a general decline in the proportion of debt in the long term financial structure of organisations listed the construction and allied industry. Between 2006 and 2011, there was a gradual decline in

the use of debt and then a sharp increase in 2012. This was followed again by a gradual decline leading to the lowest ratio being observed in 2015. This means that the use of equity rather than debt was increasingly becoming a more favorable option in the period under study.

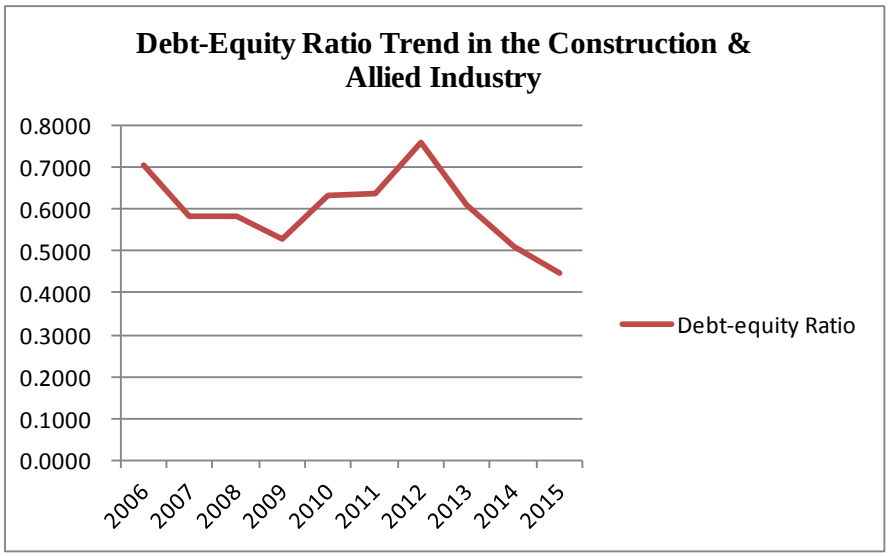

Figure 6: Debt-Equity Ratio Trend in the Construction & Allied Industry (Source: Research Analysis)

E. Energy and Petroleum Industry

In the energy and petroleum industry, the debt-equity ratio was erratic during the period under study as seen by sudden upward spikes in the usage of debt followed by sudden reductions. The highest debt-equity ratio was observed in 2014 but was immediately followed by a sudden decline in 2015. On a general note, there was an upward trend in the use of equity between 2006 and 2014. Thereafter, there was a sudden decline in 2015 and the lowest level of debt usage was observed in the same year.

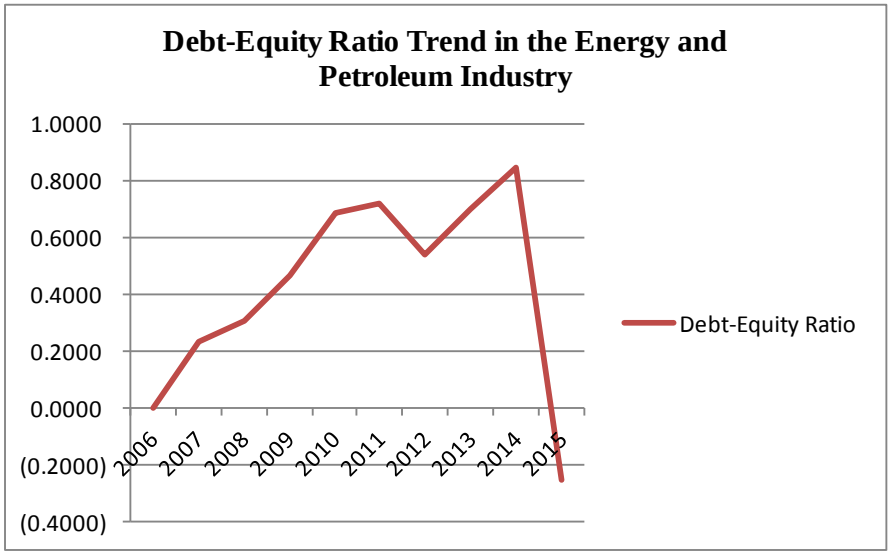

Figure 7: Debt-Equity Ratio Trend in the Energy & Petroleum Industry (Source: Research Analysis)

F. Investments Industry

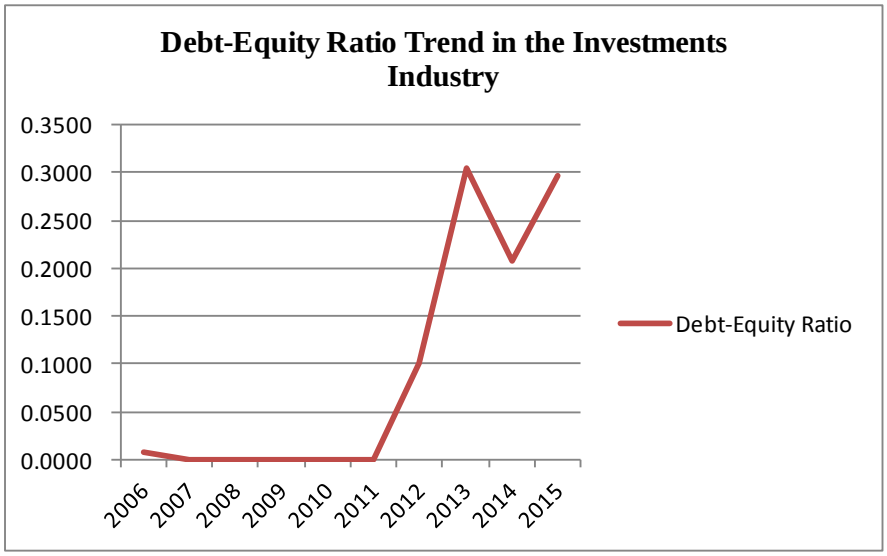

Figure 8: Debt-Equity Ratio Trend in the Investments Industry (Source: Research Analysis)

The investments industry did not use debt in its long term financing structure for a period of 6 years between 2006 and 2011. In 2012, there was a sudden use of debt followed by a reduction in 2015 and again an increase in 2015. In general, there seems to be more use

of debt in this industry as years go by and this is in contrast with all the other industries where there was steady declination in the use of debt.

G. Manufacturing and Allied Industry

As with all the other industries with the exception of the investments industry, the use of debt in the manufacturing and allied industry was on a downward trend during the period under study. Between 2006 and 2012, there was a steady increase in the proportion of debt constituted in the long term financial structure and shortly thereafter from 2013 to 2015, there was a steady decline. The highest debt-equity ratio was observed in 2012 while the lowest debt-equity ratio was observed in 2006.

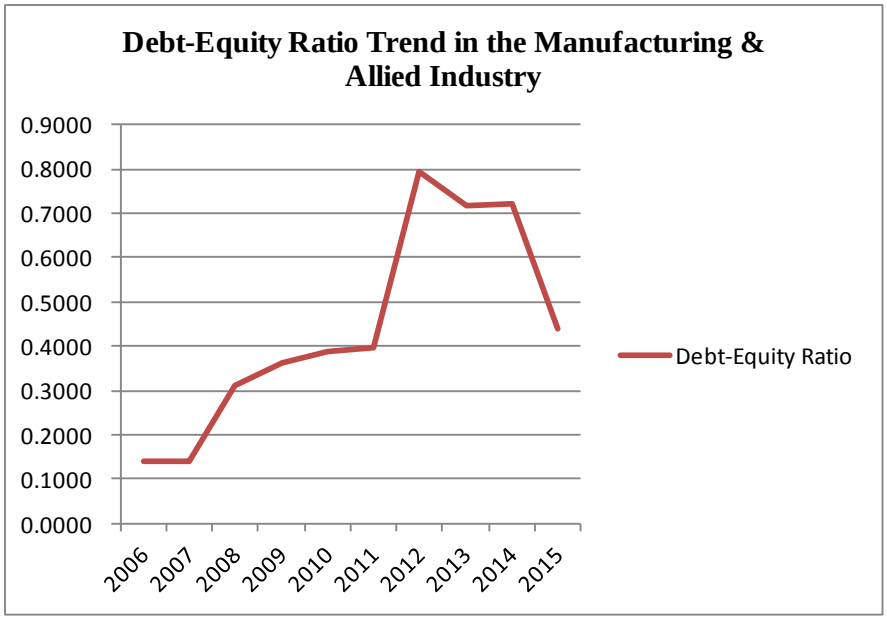

Figure 9: Debt-Equity Ratio Trend in the Manufacturing & Allied Industry (Source: Research Analysis)

Descriptive Statistics

The descriptive statistics from this analysis entailed the computation of the mean, variance & standard deviations of the debt-equity ratios in each industry. The results were as follows:

Industry Classification	*No. of Companies*	*Number of Observations*	*Mean debt-equity ratio*	*Variance*	*Standard Deviation*
1. Construction & Allied	5	50	0.5999	0.2785	0.5277
2. Energy & Petroleum	4	40	0.4491	0.6043	0.7774
3. Manufacturing & Allied	6	60	0.4408	0.5364	0.7324
4. Automobiles & Accessories	3	30	0.3185	0.4171	0.6459
5. Agricultural	3	30	0.2928	0.0106	0.1028
6. Commercial & Services	6	60	0.2612	6.1321	2.4763
7. Investment	1	10	0.0916	0.0166	0.1290
Average debt-equity ratio = 0.3905					

Table 3: Average Debt-Equity Ratios per Industry (Source: Research Analysis)

The results indicate that average capital structure varies from industry to industry. The construction and allied industry had the highest average debt-equity ratio of 0.5999 followed closely by the energy & petroleum industry at 0.4491. The manufacturing & allied, automobile & accessories and agricultural industries had debt-equity ratios of 0.4408, 0.3185 and 0.2928 respectively. The two industries with the lowest debt-equity ratios were commercial & services at 0.2612 and investments at 0.9016. The agricultural industry had the lowest variability of 0.1028 as measured by standard deviation, followed by the investment industry at 0.1290. The highest variability was observed in the energy & petroleum industry at 0.7774, closely followed by the manufacturing & allied industry at 0.7324.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to the capital structure to determine whether the mean industry capital structures are different from each other or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	4.8200	6	0.8033	0.4948	0.8120	2.1319
Within Groups	443.2068	273	1.6235			
Total	448.0269	279				

Table 4: ANOVA of Capital Structure in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.8120 is greater that the Alpha used of 0.05. This shows that there is no significant difference in the industry capital structure means. Similarly, the F value of 0.4948 is less than the F-crit 2.1319 meaning that the true capital structure means for the 7 industries are equal or not significantly different from each other.

4.1.2 Asset Structure

Descriptive Statistics

To determine whether there was any variation in the asset structure of organisations between and within industries, the researcher calculated the asset structure ratios (non-current assets divided by total assets) for the 28 companies selected for a period of 10

years between 2006 and 2015. The descriptive statistics from this analysis were as follows:

Industry Classification	*No. of Companies*	*Number of Observations*	*Mean non-current assets to total assets ratio*	*Variance*	*Standard Deviation*
1. Investment	6	10	0.9141	0.0079	0.0887
2. Agricultural	5	30	0.6937	0.0361	0.1900
3. Construction & Allied	3	50	0.5802	0.0359	0.1896
4. Commercial & Services	6	60	0.5787	0.0695	0.2636
5. Energy & Petroleum	3	40	0.5250	0.0811	0.2848
6. Manufacturing & Allied	1	60	0.4871	0.0293	0.1713
7. Automobiles & Accessories	4	30	0.4253	0.0319	0.1786
Overall average non-current assets to total assets ratio = 0.5595					

Table 5: Average Non-Current Assets to Total Assets Ratios in the Various Industries (Source: Research Analysis)

The results show that average asset structures vary from industry to industry. The overall average non-current assets - total assets ratio was 0.5595. The investment industry had the highest average non-current assets - total assets ratio of 0.9141 followed closely by the agricultural industry at 0.6937. The construction & allied commercial & services, energy & petroleum industries had non-current assets - total assets ratios of 0.5802, 0.5787 and 0.5250 respectively. The two industries with the lowest non-current assets - total assets ratios were manufacturing & allied at 0.4871 and automobiles & accessories at 0.4253. The investment industry had the lowest variability of 0.0887 as measured by standard deviation, followed by the manufacturing & allied industry at 0.1713. The highest variability was observed in the energy & petroleum industry at 0.2848, closely followed by the commercial & services industry at 0.2636.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to the asset structure to determine whether the mean industry asset structures are different from each other or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	2.7441	6	0.4573	9.7542	0.0000000010	2.1319
Within Groups	12.8002	273	0.0469			
Total	15.5443	279				

Table 6: ANOVA of Asset Structure in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.0000000010 is lesser that the Alpha used of 0.05. This implies that there is a significant difference in the industry asset structure means. Similarly, the F value of 9.7542 is greater than the F-crit 2.1319 meaning that the true asset structure means for the 7 industries are not equal or are significantly different from each other.

4.1.3 Profitability

Descriptive Statistics

To determine whether there is any variation in the profitability of organisations between and within industries, the researcher calculated the profitability ratios (profit before tax divided by total assets) for the 28 companies for a period of 10 years between 2006 and 2015. The descriptive statistics from this analysis were as follows:

Industry Classification	*No. of Companies*	*No. of Observations*	*Mean profit before tax to total assets ratio*	*Variance*	*Standard Deviation*
1. Agricultural	6	30	0.1501	0.0236	0.1536
2. Manufacturing & Allied	4	60	0.1321	0.0218	0.1476
3. Investment	1	10	0.1309	0.0010	0.0314
4. Construction & Allied	6	50	0.1073	0.0081	0.0901
5. Commercial & Services	3	60	0.0854	0.0161	0.1267
6. Energy & Petroleum	3	40	0.0452	0.0038	0.0618
7. Automobiles & Accessories	5	30	0.0129	0.0136	0.1166
Overall average profitability = 0.0944					

Table 7: Average Profitability in the Various Industries (Source: Research Analysis)

The results show that average profitability varies from industry to industry. The overall average profitability was 0.0944. The agricultural industry had the highest profitability of 0.1501 followed closely by the manufacturing & allied industry at 0.1321. The investment, construction & allied and commercial & services industries had a profitability of 0.1309, 0.1073 and 0.0854 respectively. The two industries with the lowest profitability were energy & petroleum at 0.0452 and automobiles & accessories at 0.0129. The investment industry had the lowest variability of 0.0314 as measured by standard deviation, followed by the energy & petroleum industry at 0.0618. The highest variability was observed in the agricultural industry at 0.1536, closely followed by the manufacturing & allied industry at 0.1476.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to the profitability to determine whether the mean industry profitability is different from other industries or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	0.5010	6	0.0835	5.8954	0.0000084	2.1319
Within Groups	3.8667	273	0.0142			
Total	4.3677	279				

Table 8: ANOVA of Profitability in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.0000084 is lesser that the Alpha used of 0.05. This implies that there is a significant difference in the industry profitability means. Similarly, the F value of 5.8954 is greater than the F-crit 2.1319 meaning that the true profitability means for the 7 industries are not equal or are significantly different from each other.

4.1.4 Growth

Descriptive Statistics

This section begins by examining whether there is any variation in the growth of organisations between and within industries. To determine this, the researcher calculated the percentage change in total assets for the 28 companies selected as the sample for a period of 10 years between 2006 and 2015. The descriptive statistics from this analysis were as follows:

Industry Classification	*No. of Companies*	*Number of Observations*	*Mean % change in assets*	*Variance*	*Standard Deviation*
1. Investment	1	10	0.3995	0.2222	0.4713
2. Construction & Allied	6	50	0.1982	0.0445	0.2109
3. Energy & Petroleum	3	39	0.1897	0.0974	0.3121
4. Agricultural	6	30	0.1690	0.0636	0.2522
5. Commercial & Services	3	60	0.1540	0.0778	0.2789
6. Manufacturing & Allied	4	60	0.0922	0.0228	0.1508
7. Automobiles & Accessories	5	30	0.0723	0.0331	0.1819
Overall average growth = 0.1553					

Table 9: Average Growth in the Various Industries (Source: Research Analysis)

The results show that average growth varies from industry to industry. The overall average growth was 0.1553. The investment industry had the highest growth of 0.3995 followed closely by the construction & allied industry at 0.1982. The energy & petroleum, agricultural and commercial & services industries had a growth of 0.1897, 0.1690 and 0.1540 respectively. The two industries with the lowest growth were manufacturing and allied at 0.0922 and automobiles & accessories at 0.0723. The manufacturing & allied industry had the lowest variability of 0.1508 as measured by standard deviation, followed by the automobiles & accessories industry at 0.1819. The highest variability was observed in the investment industry at 0.4713, closely followed by the construction & allied industry at 0.2109.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to their growth to determine whether the mean industry growth is different from other industries or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	1.1857	6	0.1976	3.2349	0.0044	2.1320
Within Groups	16.6159	272	0.0611			
Total	17.8016	278				

Table 10: ANOVA of Growth in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.0044 is lesser that the Alpha used of 0.05. This shows that the growth means are significantly different from each other in every industry. Similarly, the F value of 3.2349 is greater than the F-crit 2.1320 meaning that the true growth means for the 7 industries are not equal or are significantly different from each other.

4.1.5 Size

Descriptive Statistics

This section begins by examining whether there is any variation in the size of organisations between and within industries. To determine this, the researcher calculated the natural logarithm of sales for the 28 companies selected as the sample for a period of 10 years between 2006 and 2015. The descriptive statistics from this analysis were as follows:

Industry Classification	*No. of Companies*	*Number of Observations*	*Mean size*	*Variance*	*Standard Deviation*
1. Energy & Petroleum	3	40	23.9436	0.9380	0.9685
2. Manufacturing & Allied	4	60	22.8115	1.8368	1.3553
3. Construction & Allied	6	50	22.7263	0.7562	0.8696
4. Commercial & Services	3	60	22.3110	2.6651	1.6325
5. Automobiles & Accessories	5	30	21.3487	1.5231	1.2341
6. Investment	1	10	21.1142	1.3015	1.1408
7. Agricultural	6	30	20.3671	2.2922	1.5140
Overall average size = 22.3715					

Table 11: Average Size in the Various Industries (Source: Research Analysis)

The results show that average size varies from industry to industry. The overall average size was 22.3715. The energy & petroleum industry was the biggest size at 23.9436 followed closely by the manufacturing & allied industry at 22.8115. The construction & allied, commercial & services and automobiles & accessories had a size of 22.7263, 22.3110 and 21.3487 respectively. The two industries with the smallest size were investment at 21.1142 and agricultural at 20.3671. The construction & allied industry had the lowest variability of 0.8696 as measured by standard deviation, followed by the energy & petroleum industry at 0.9685. The highest variability was observed in the commercial & services industry at 1.6325, closely followed by the agricultural industry at 1.5140.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to their size to determine whether the mean industry size is different from other industries or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	284.7142	6	47.4524	28.0637	0.00000000	2.1319
Within Groups	461.6097	273	1.6909			
Total	746.3239	279				

Table 12: ANOVA of Size in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.000000 is lesser that the Alpha used of 0.05. This shows that the size means are significantly different from each other in every industry. Similarly, the F value of 28.0637 is greater than the F-crit 2.1319 meaning that the true growth means for the 7 industries are not equal or are significantly different from each other.

4.1.6 Liquidity

Descriptive Statistics

This section begins by examining whether there is any variation in the liquidity of organisations between and within industries. To determine this, the researcher calculated the current ratio (current assets divided by current liabilities) for the 28 companies selected as the sample for a period of 10 years between 2006 and 2015. The descriptive statistics from this analysis were as follows:

Industry Classification	*No. of Companies*	*Number of Observations*	*Mean Liquidity*	*Variance*	*Standard Deviation*
1. Agricultural	6	30	4.9994	19.5837	4.4253
2. Investment	1	10	1.7248	2.8171	1.6784
3. Manufacturing & Allied	4	60	1.6350	0.3865	0.6217
4. Automobiles & Accessories	5	30	1.5707	0.7732	0.8793
5. Construction & Allied	6	50	1.5230	0.3155	0.5617
6. Commercial & Services	3	60	1.3570	0.4238	0.6510
7. Energy & Petroleum	3	40	1.3369	0.4229	0.6503
Overall average liquidity = 1.8697					

Table 13: Average Liquidity Various Industries (Source: Research Analysis)

The results show that average liquidity varies from industry to industry. The overall average liquidity was 1.8697. The agricultural industry had the highest liquidity at 4.9994 followed closely by the investment industry at 1.7248. The manufacturing & allied, automobiles & accessories and construction & allied had a liquidity of 1.6350, 1.5707 and 1.5230 respectively. The two industries with the lowest liquidity were commercial & services at 1.3570 and energy & petroleum at 1.3369. The construction & allied industry had the lowest variability of 0.5617as measured by standard deviation, followed by the energy & petroleum industry at 0.6503. The highest variability was observed in the agricultural industry at 4.4253, closely followed by the investment industry at 1.6784.

ANOVA

The researcher also conducted ANOVA tests on the 7 industries with regards to their liquidity to determine whether the mean industry liquidity is different from other industries or not. The ANOVA results were as follows:

Source of Variation	*Sum of Squares*	*Degrees of Freedom*	*Mean Squares*	*F*	*P-value*	*F crit*
Between Groups	333.1795	6	55.5299	21.7980	0.00000000	2.1319
Within Groups	695.4615	273	2.5475			
Total	1028.6411	279				

Table 14: ANOVA of Liquidity in the Various Industries (Source: Research Analysis)

The ANOVA results show that the P-value of 0.00000 is lesser that the Alpha used of 0.05. This shows that the average organisation liquidity is significantly different from each other in every industry. Similarly, the F value of 21.7980 is greater than the F-crit 2.1319 meaning that the true liquidity means for the 7 industries are not equal or are significantly different from each other.

4.2 Discussion of Findings

Through analysing the trends of debt-equity ratios in the 7 industries, the study found out that generally, the ratio was declining over time in 6 out of 7 industries in the period between 2006 and 2015. The 6 industries where a general decline in debt usage was observed were the agricultural, automobiles & accessories, commercial & services, construction & allied, energy & petroleum and manufacturing & allied industries. An increase in debt usage over time was observed only in the investments industry. This means that generally, majority of the listed organisations in Kenya across the industries were using lesser debt in their capital structures as time went by. The study also found out that the average debt-equity ratio varied from industry to industry even though the variation was not significant. The construction and allied industry had the highest

average debt-equity ratio followed closely by the energy & petroleum industry. The two industries with the lowest debt-equity ratios were commercial & services and investments.

The independent variables of asset structure, organisation size, growth, profitability and liquidity were found to vary significantly from one industry to another. The investment industry had the highest average non-current assets to total assets ratio followed closely by the agricultural industry. The two industries with the lowest non-current assets to total assets ratios were manufacturing & allied and automobiles & accessories. The agricultural industry had the highest profitability followed closely by the manufacturing & allied industry. The two industries with the lowest profitability were energy & petroleum and automobiles & accessories. The investment industry had the highest growth followed closely by the construction & allied industry. The two industries with the lowest growth were manufacturing and allied and automobiles & accessories. The energy & petroleum industry had the largest size of organisations followed closely by the manufacturing & allied industry. The two industries with the smallest sizes of organisations were investment and agricultural industries. The agricultural industry had the highest liquidity followed closely by the investment industry. The two industries with the lowest liquidity were commercial & services and energy & petroleum.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This research aimed at investigating the relationship between the capital structure of companies listed at the NSE and their industry classification for a 10 year period between 2006 and 2015. Trend analysis, descriptive statistics and ANOVA were conducted on the data extracted from financial statements for the industries selected for study. The results from analyzing the trend showed that in 6 out of 7 industries, the organisations were using lesser debt in their capital structures as time went by. The study also found out that the average debt-equity ratio varied from industry to industry even though the variation was not significant. Conversely, the independent variables of asset structure, size, growth, profitability and liquidity were found to vary significantly from one industry to another.

5.2 Conclusion

The results of this study widely render support to the line of reasoning that industry effect is a crucial consideration in providing an explanation of the long term financial structure of listed companies and that there are distinctions in capital structure from one industry to another. The observation of the trend in organisations reducing the use of debt in the long-term financial structure over time provides new insights into the field of capital structure. Perhaps as the organisations become more established and mature, they are able to raise capital internally thereby relying less on the use of debt. In addition, the analysis of the 7 industries over a period of 10 years provided evidence that each industry capital structure is affected by a different set of determinants. Therefore, it is important for those

who are tasked with decision making responsibilities to have at the back of their minds the organisation specific factors and industry differences that impact capital structure decisions.

5.3 Limitations of the Study

In conducting this study, various challenges and limitations were encountered. First, not all data required for the study was available at the NSE. Data for some of the years under study was missing. In addition, the data that was provided was highly summarised and did not properly disaggregate the various financial line items. Second, some of the industry classifications had very few organisations which met the criteria for the qualification to be included in the study for example the investments industry had only one organisation that had been in existence for the 10 years under study. This means that the results might not have been a good representative of the industry and the general capital structure trends.

5.4 Recommendations for Further Studies

There are a number of recommendations arising from this study. Firstly, the study could be replicated and extended to cover a longer period of time (longer than 10 years). Secondly, more comprehensive data could be collected from the CMA and supplemented by collecting information from the individual companies in instances where the CMA data was not comprehensive enough or was missing. Thirdly, a similar study could be undertaken to establish the financial structure of the organisations rather than the capital structure of the entities. Fifthly, a similar study could be conducted for unquoted companies and SMEs. Lastly, a similar research could be conducted to include companies that were listed and delisted during the period of study in order to have a larger sample size.

REFERENCES

Abor, J. (2007). Industry classification and the capital structure of Ghanaian SMEs. S*tudies in Economics and Finance 24*(3), 207-219. doi: 10.1108/10867370710817392.

Abzari, M. Fathi, S. & Torosian, A. (2012). Inter-industry differences in capital structure and product market competition: Evidence from Iranian companies. *Interdisciplinary Journal of Contemporary Research in Business, 3*(9), 395-402.

Agrawal, A., & Nagarajan, N. J. (1990). Corporate capital structure, agency costs and ownership control: The case of all equity firms. *The journal of finance, 45(4),* 1325-1331.

Almazan, A. & Molina, C. A. (2004). *Intra-Industry Capital Structure Dispersion: How Do Capital Structures Differ Among Competitors?* University of Texas at Austin, USA.

Anwar, W. (2011). Cross-Industry Determinants of Capital Structure: Evidence from Pakistani data. *African Journal of Business Management*, 7(17), 1625-1629.

Baby, S., Dutta, C. & Kalita, B. (2016).Analysis of capital structure in different industries in India. *Journal of management practice, 1(1),* 1-30.

Barclay, M. J. & Smith, C. W. (1995). The Maturity Structure of Corporate Debt. *The Journal of Finance 50(2),* 609-631.

Berk, J. DeMarzo, P. & Harford, J. (2012). *Fundamentals of corporate finance* (2nd ed.). Boston, MA: Pearson Education.

Besley, S. & Brigham, E. F. (2015). *CFIN 4* (4th ed.) Stamford CT: Cengage Learning.

Bevan, A., & Danbolt, J. (2000). Capital Structure and its Determinants in the United Kingdom: A Decompositional Analysis. *SSRN Working Papers Series*, Department of Accounting and Finance, University of Glasgow.

Booth, L., Aivazian, V., Demirguc-Kunt, A., & Macsimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance, 36(1),* 87-130.

Brigham, E. F. & Houston, J. F. (2009). *Fundamentals of financial management (12th ed.).* Mason, OH 45040: South-Western Cengage Learning.

Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. *Research in International Business and Finance, 24,* 295–314.

Chen, Y. & Hammes, K. 2004. Capital structure theories and empirical results: A panel data analysis. *Available: http://www.ssrn.com/abstract=535782.*

Coldwell, D. & Herbst, F. (2004). *Business research.* Lansdowne: Juta.

Das, S. & Roy, M. (2012). Inter-Industry Differences in Capital Structure: The Evidence from India. *Indira Gandhi Institute of Development Research*.

Degryse, H., Goeij, P., & Kappert, P. (2010). The impact of firm and industry characteristics on small firms' capital structure. *Small Business Economics Journal, 39,* 431-447.

Ehrhardt, M. C. & Brigham, E. F. (2011). *Financial management: Theory and practice* (13th ed.). Mason, OH: South – Western Cengage Learning.

Eriotis, N., Vasiliou, D. & Ventoura-Neokosmidi, Z. (2007). How firm characteristics affect capital structure: An empirical study. *Managerial Finance,* 33(5):321–331.

Gitman, L. J., & Zutter, C. J. (2012). *Principles of managerial finance* (13th ed.). Boston, MA: Pearson Education Inc.

Graham, J. R. & Leary , M. T. (2011). A Review of Empirical Capital Structure Research and Directions for the Future. *Annual Review of Financial Economics*, *3,* 1-59.

Greener, S. (2008). *Business research methods.* USA, Ventus Publishing ATS.

Hall, G.C., Hutchinson, P.J. and Michaelas, N. (2004). Determinants of the capital structures of European SMEs. *Journal of Business Finance and Accounting, 31 (5/6),* 711-28.

Harris, M., Raviv, A. (1991). The theory of capital structure. *The Journal of Finance*, *46(1),* 297-355.

Hovakiaman, A., Hovakiaman, G., & Tehranian, H. (2004). Determinants of target capital structure: The case of dual debt-equity issues. *Journal of Financial Economics, 71,* 517–540.

Jensen, M.C. & Meckling, H.W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Management, 3*(4), 305-360.

Johsen, P.C. & McMahon, R.G.P. (2005). Cross-industry differences in SME financing behavior. *Journal of Small Business and Enterprise Development, 12(2),* 160-77.

Kale, K.M. & Walking, R.A. (1996). The Impact of Industry Classification on Financial Research. *Journal of Financial and Quantitative Analysis, 31,* 309-355.

Kiogora, G. M. (2000). *Testing for variations in the capital structure of companies quoted at the Nairobi Stock Exchange: An empirical study* (Unpublished master's thesis). University of Nairobi, Kenya.

Kothari, C.R (2004). *Research Methodology: Methods & Techniques* (2nd ed.). New Delhi, India: New Age International (P) Limited.

Mackay, P., & Phillips, G. M. (2005). How does industry affect firm financial structure? *The Review of Financial Studies, 18(4),* 1433-1466.

Marsh, P. (1982). The choice between equity and debt: An Empirical Study. *Journal of Finance,* 37 (1), 121-144.

McDaniel, C.F. & Gates, R. (2001). *Marketing research essentials.* (3rd ed). Cincinnati, OH: South-Western College.

Miller, M. (1977). Debt and Taxes. *Journal of Finance 32,* 261–275.

Modigliani, F. & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review, 48*(3), 261-297.

Modigliani, F. & Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: *A Correction. American Economic Review 53*, 433–443.

Mouton, J. 1996. *Understanding social research*. Pretoria: Van Schaik.

Muema, A. K. (2013). *The determinants of capital structures of firms listed under the various market segments in the Nairobi Securities Exchange* (Unpublished master's thesis). University of Nairobi, Kenya.

Mugenda, O. M, & Mugenda, A. G. (1999). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press.

Myers, C., Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not. *Journal of Financial Economics, 13*(2), 187-221.

Myers, S.C. (1984). The capital structure puzzle. *Journal of Finance, 39*(3), 575-592.

NSE. (2016). Listed Companies. Retrieved from https://www.nse.co.ke/listed-companies/list.html.

Odinga, G. O. (2003). *Determinants of capital structure of small and medium-sized enterprises in Kenya*. Unpublished MBA research project, University of Nairobi.

Omondi, W. A. (1996). *A Study of Capital Structure in Kenya.* Unpublished MBA research project, University of Nairobi.

Pandey, I. M. (2001). *Capital structure and the firm characteristics: Evidence from an emerging market.* Working paper, University of Delhi, Delhi.

Porter, M. E. (1979). The structure within industries and companies' performance. *The Review of Economics and Statistics, 61(2),* 214-227.

Rajan, R., & Zingales, L. (1995). What do we know about capital structure?–Some evidence from International Data. *Journal of Finance,* 50, 1421-1460.

Rao, N.V., Mohamed Al-Yahyaee, K.H. & Syed, L.A.M. (2007). Capital structure and financial performance: Evidence from Oman. *Indian Journal of Economics and Business, 6(1),* 1–14.

Rastogi, P. & Narwal P. (2014). Differential Analysis of Various Industries on The Basis of Capital and Asset Structure: An Indian Study. *Industrial Engineering Letters, 4(12*), 2225-0581.

Ross, S. A., Westerfield, R.W. & Jordan, B. D. (2008). *Fundamentals of corporate finance* (8th ed.). 1221 Avenue of the Americas, NY: McGraw-Hill/Irwin.

Saunders, M. Lewis, P. & Thornhill A. (2009). *Research methods for business students* (5th ed.). Essex, England: Pearson Education Limited

Talberg, M., Winge, C., Frydenberg, S. & Westgaard, S. (2008). Capital structure across industries. *International Journal of the Economics of Business, 15*(2), 181-200. doi: 10.1080/13571510802134304.

Vries, A. (2012). *The effect of firm characteristics and economic factors on the capital structure of South African listed industrial firms.* Unpublished MBA research project, Stellenbosch University.

Yousefi, Z., Biabani, S. & Taleghani, M. (2012). The Effect of Industry on the Relation between Capital Structure and Profitability of Tehran Stock Exchange Firms. *Journal of Basic and Applied Scientific Research, 2*(7), 6701-6707.

APPENDICES

Appendix 1

Industry Classifications of Companies Listed at the NSE as at 31 December 2015

	Industry	Number of companies
1	Agricultural	7
2	Commercial and Services	12
3	Telecommunication and Technology	1
4	Automobiles and Accessories	4
5	Investment	5
6	Investment Services	1
7	Manufacturing and Allied	10
8	Construction and Allied	5
9	Real Estate Investment Trust (REIT)	1
10	Energy and Petroleum	5
	Total listed companies at the NSE	**51**

Table 15: NSE Industry Classifications as at 31 December 2015 (Source: NSE Website)

Appendix 2

Details of the Companies Included in the Sample

			Financial statements available? (Yes-√ / No-x)										Sampled (Yes/No)	
		COMPANY & INDUSTRY	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**		
1		**AGRICULTURAL**												
	1	Eaagads Limited	√	√	√	√	x	√	√	√	√	√		No
	2	Kapchorua Tea Company Limited	√	x	√	√	√	√	√	√	√	√		No
	3	Kakuzi Limited	√	√	√	√	√	√	√	√	√	√	1	Yes
	4	Limuru Tea Company Limited	√	√	√	√	√	√	√	√	√	√	2	Yes
	5	Rea Vipingo Plantations Limited	√	√	√	√	√	√	√	x	x	x		No
	6	Sasini Limited	√	√	√	√	√	√	√	√	√	√	3	Yes
	7	Williamson Tea Kenya Limited	√	x	√	√	√	√	√	√	√	√		No
2		**AUTOMOBILES AND ACCESSORIES**												
	8	Car and General (K) Limited	√	√	√	√	√	√	√	√	√	√	4	Yes
	9	Sameer Africa Limited	√	√	√	√	√	√	√	√	√	√	5	Yes
	10	CMC Holdings	√	√	√	√	√	√	√	x	x	x		No
	11	Marshalls (EA) Limited	√	√	√	√	√	√	√	√	√	√	6	Yes
3		**COMMERCIAL AND SERVICES**												
	12	Express Kenya Limited	√	√	√	√	√	√	√	√	√	√	7	Yes
	13	Kenya Airways Limited	√	√	√	√	√	√	√	√	√	√	8	Yes
	14	Nation Media Group	√	√	√	√	√	√	√	√	√	√	9	Yes
	15	Standard Group Limited	√	√	√	√	√	√	√	√	√	√	10	Yes
	16	TPS Eastern Africa (Serena) Limited	√	√	√	√	√	√	√	√	√	√	11	Yes
	17	Scangroup Limited	√	√	√	√	√	√	√	√	√	√	12	Yes
	18	Uchumi Supermarket Limited	x	x	x	√	√	√	√	√	√	√		No
	19	Hutchings Biemer Limited	x	x	x	x	x	x	x	x	x	x		No

			Financial statements available? (Yes-√ / No-x)										Sampled (Yes/No)	
		COMPANY & INDUSTRY	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**		
	20	Longhorn Publishers Limited	x	x	√	√	√	√	√	√	√	√		No
	21	Deacons	x	x	x	x	x	√	√	√	√	√		No
	22	Nairobi Business Ventures	x	x	x	x	x	x	x	√	√	√		No
	23	Atlas Development and Support Services	x	x	x	x	x	x	x	√	√	√		No
4		**CONSTRUCTION AND ALLIED**												
	24	Athi River Mining	√	√	√	√	√	√	√	√	√	√	13	Yes
	25	Bamburi Cement Limited	√	√	√	√	√	√	√	√	√	√	14	Yes
	26	Crown Berger Limited	√	√	√	√	√	√	√	√	√	√	15	Yes
	27	East African Cables Limited	√	√	√	√	√	√	√	√	√	√	16	Yes
	28	East African Portland Cement Limited	√	√	√	√	√	√	√	√	√	√	17	Yes
5		**ENERGY AND PETROLEUM**												
	29	KenolKobil Limited	√	√	√	√	√	√	√	√	√	√	18	Yes
	30	Total Kenya Limited	√	√	√	√	√	√	√	√	√	√	19	Yes
	31	Kenya Elecricity Generating Company Limited (KenGen)	√	√	√	√	√	√	√	√	√	√	20	Yes
	32	Kenya Power & Lighting Company Limited	√	√	√	√	√	√	√	√	√	√	21	Yes
	33	Umeme Limited	x	x	x	x	x	x	√	√	√	√		No
6		**INVESTMENT**												
	34	Olympia Capital Holdings ltd	√	x	√	√	√	√	√	√	√	√		No
	35	Centum Investment Company Limited	√	√	√	√	√	√	√	√	√	√	22	Yes
	36	Trans-Century Limited	x	x	√	√	√	√	√	√	√	√		No
	37	Home Afrika Limited	x	x	x	x	x	x	x	√	√	√		No
	38	Kurwitu Ventures	x	x	x	x	x	x	x	x	√	√		No
7		**INVESTMENT SERVICES**												
	39	Nairobi Securities Exchange Limited	x	x	x	x	x	x	x	x	√	√		No

			Financial statements available? (Yes-√ / No-x)										Sampled (Yes/No)	
		COMPANY & INDUSTRY	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**		
8		**MANUFACTURING AND ALLIED**												
	40	BOC Kenya Limited	√	√	√	√	√	√	√	√	√	√	23	Yes
	41	British American Tobacco Kenya Limited	√	√	√	√	√	√	√	√	√	√	24	Yes
	42	Carbacid Investments Limited	x	x	√	√	√	√	√	√	√	√		No
	43	East African Breweries Limited	√	√	√	√	√	√	√	√	√	√	25	Yes
	44	Mumias Sugar Company Limited	√	√	√	√	√	√	√	√	√	√	26	Yes
	45	Unga Group Limited	√	√	√	√	√	√	√	√	√	√	27	Yes
	46	Eveready East Africa Limited	√	√	√	√	√	√	√	√	√	√	28	Yes
	47	Kenya Orchards Limited	x	x	x	x	x	x	x	x	√	√		No
	48	ABaumann CO Limited	√	√	x	x	x	x	x	x	x	x		No
	49	Flame Tree Group Holdings Limited	x	x	x	x	x	x	x	√	√	√		No
9		**TELECOMMUNICATION AND TECHNOLOGY**												
	50	Safaricom Limited	x	x	√	√	√	√	√	√	√	√		No
10		**REAL ESTATE INVESTMENT TRUST**												
	51	Stanlib Fahari I-REIT	x	x	x	x	x	x	x	x	x	x		No

Table 16: Details of the Companies Included in the Sample (Source: Author)