

**THE EFFECT OF DEBT FINANCING ON THE FINANCIAL
PERFORMANCE OF COMPANIES LISTED AT THE NAIROBI
SECURITIES EXCHANGE**

BY

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DECLARATION

STUDENT'S DECLARATION

I declare that this project is my original work and has not been previously published or submitted elsewhere for award of a degree or diploma at the University of Nairobi or any other educational institution.

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SUPERVISOR'S DECLARATION

This research project has been submitted for examination with my approval as the university supervisor

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DEDICATION

To my parents, Mr. & Mrs. Makanga for your continuous support and encouragement
may God Bless you abundantly and guide you in all your endeavors.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
CMA	Capital Markets Authority
LLTA	Long Term Liabilities to Total Assets
NPM	Net Profit Margin
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
SLTA	Short Term Liabilities to Total Assets
SPSS	Statistical Package for the Social Sciences
TLTA	Total Liabilities to Total Assets

ABSTRACT

This study sought to examine the effect of debt financing on the financial performance of companies listed at the Nairobi Securities Exchange. The objective of the study was to establish the effect of debt financing on firm performance in companies listed at the Nairobi Securities Exchange. The research design used was a quantitative research design. The data was then analyzed using linear regression models using SPSS to establish, if there is any significant relationship of debt structure and the financial performance. Three regression models were utilized, with return on asset as the dependent variable and total debt, long term debt and short term debt as the independent variables so as to assess the effects of debt on firm performance. The findings of the research revealed that short-term debt was negatively correlated to return on assets but not significantly. Long-term debt was also negatively correlated to return on assets but less significantly than short term debt. There was a weak negative correlation between return on assets and total debt with a correlation of -0.337. According to the study, we underlined that debt has no significant influence on profitability either in a linear way, or in a non-linear way but recommended that firms should use more of long term debt since there is less negative impact on financial performance as long as the cost of debt does not exceed the required rate of return of the firm.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

When a company needs capital to finance new and existing activities there are two major decisions to take into consideration. There is the debt-versus-equity decision (capital structure) and there is also the decision on debt structure. Capital structure refers to the way a firm finances its assets through some combination of equity and debt. Debt structure can comprise of short term debt and long-term debt. Short-term debt is a type of debt, which has maturity tenure of one year or less, and is recorded as a current liability in a firm's balance sheet while long-term debt is an obligation that has a maturity period of more than one year such as bonds (Scherr and Hulburt, 2001).

Since the publication of the paper of Modigliani and Miller (1958) about the irrelevance of capital structure, the theory of corporate finance has since developed several hypotheses about the determinants of financing decisions. The first studies concentrated on the choice between equity and debt, considering the costs and benefits of each of the determinants such as taxes, bankruptcy costs, information asymmetry, market inefficiency, or efficiency, agency costs, among others. Later, in the 1970s, it was when other authors started concentrating on the analysis of debt financing. Jensen & Meckling (1976) and Myers (1977) discovered that the financial performance of the leveraged firms may decrease due to conflicts between shareholders and debt holders. Highly leveraged

firms also lose substantial market share to their low leveraged competitors during industry downturns (Opler and Titman, 1994).

Fama and French (1998) found that debt financing does not have a positive impact on the financial performance because there is no tax benefit of debt due to agency problems after controlling for earning, investment, research and development, and dividend. Cheng (2009) found significant negative relationship between debt financing and the operating performance of listed companies in Taiwan. However, the operating performance of firms with high cash flows is not negatively affected by debt financing.

Although many theories and empirical studies about debt financing have been developed, it still does not exist as a unified theory (Terra, 2011). Additionally, past research in the area of debt financing has been focusing on investigating firms in developed countries, many of them about firms in the United States of America. The analysis of firms in the developing countries is not as common, thereby the study aimed to explore more on the existing research and improve on decision-making in corporate financing particularly in the case of Kenyan firms. The study built on recent advances in the corporate capital structure literature on the role of the term structure of liabilities, by also establishing the relationship between the debt financing and firm's performance.

1.1.1 Debt Financing

Debt financing is the main element of external financing for corporations raising extra funds after creation (Baltacı and Ayaydın, 2014). Debt financing has both an advantage

and a disadvantage on the growth of corporations and for its strategic investments (O'Brien and David, 2010). According to Fama and French (2002), the benefits of debt financing include the tax deductibility of interest and the reduction of free cash flow problems, while the costs of debt financing include potential bankruptcy costs and agency conflicts between stockholders and debt holders. Therefore, in making debt financing decisions, managers try to create a balance between the corporate tax advantages of debt financing and the costs of financial distress that arise from bankruptcy risks (Kraus and Litzenberger, 1973) and agency costs (Jensen and Meckling, 1976).

The measure of debt in this study was the debt ratio. The debt ratio compares a company's total debt to its total asset. A low percentage means that the company is less dependent on debt i.e., money borrowed from and/or owed to others. The lower the percentage, the less debt a company is using and the stronger is its equity position. In theory, debt ratio can be measured in different ways i.e. total debt ratio, current debt ratio, and non-current debt ratio. In our study, we defined debt maturity ratios i.e. current debt to total assets, non-current debt to total assets, and total debt to total assets.

1.1.2 Financial Performance

Metcalf and Titard (1976) defined financial performance as the act of performing financial activity in order to achieve financial objectives over a specific period of time. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and

can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Metcalf & Titard (1976) pointed out that the financial performance is to convey an understanding of some financial aspects of a business firm. It may show the position of a firm at a moment in time as presented in statement of financial position or may reveal a series of activities over a given period of time as is presented in statement of comprehensive income. The financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the statement of financial position and statement of comprehensive income by selecting the information relevant to the decision under consideration from the total information contained in the financial statements, arranging the information in a way to highlight significant relationships and interpret and draw inferences and conclusions.

Ratios are used as a benchmark for evaluating financial performance of a firm and help to summarize large quantities of financial data and to make qualitative judgments about the firm's performance. Measures of financial performance of a firm are return on equity and return on assets (Tharmila & Arulvel, 2013). However, the performance measure, ROA is widely regarded as the most useful measure to test firm's performance (Reese and Cool, 1978 and Long and Ravenscraft, 1984, Abdel Shahid, 2003, among others), as a result, ROA was applied to measure the firm's performance of NSE companies.

1.1.3 Effect of Debt Financing on Financial Performance

Explaining the role of debt in firms' profitability is one of the primary objectives of contemporary researches for more than fifty years (Modigliani and Miller 1958). However, this role remains a questionable subject which attracts the attention of many researchers as Goddard et al. (2005), Berger and Bonaccorsi (2006), Rao et al, (2007), Baum et al. (2007), Weill (2008), Nunes et al. (2009), Margaritis and Psillaki (2010) and Kebewar (2012).

Indeed, researchers analyze the debt ratio and try to determine whether an optimal debt ratio exists or not. Optimal debt ratio is generally defined as the one which minimizes the cost of capital for the company, while maximizing the value of company. In other words, the optimal debt ratio is the one which maximizes the profitability of company. According to previous studies, debt affects cost of capital, ultimately influencing firms' profitability, and stock prices (Higgins, 1977; Miller, 1977; Myers, 1984; Sheel, 1994). In addition, several researchers have studied firms' debt use and suggested the determinants of financial leverage by reporting that firm's debt-equity decision is generally based on a trade-off between interest tax shields and the costs of financial stress (Kim, 1997; Sheel, 1994; Sunder & Myers, 1999; Titman & Wessles, 1988; Upneja & Dalbor, 2001).

Although many theories and empirical studies about debt financing have been developed as discussed earlier, it still does not exist as a unified theory (Terra, 2011). Additionally, past research in the area of debt financing has been focusing on investigating firms in developed countries. The analysis of firms in the developing countries is not as common,

thereby the study aimed to explore more on the existing research and improve our knowledge on decision-making in corporate financing particularly in the case of Kenyan firms.

1.1.4 Nairobi Securities Exchange

The NSE is the only stock exchange in Kenya. It began in 1954 as an overseas stock exchange while Kenya was still a British colony with permission of the London Stock Exchange (Nairobi Securities Exchange, 2015). The NSE is a member of the African Securities Exchanges Association. It is Africa's fourth largest stock exchange in terms of trading volumes, and fifth in terms of market capitalization as a percentage of GDP (Iraya & Musyoki, 2013). It's regulated by Capital Market Authority (Musiega et al, 2013).

The NSE are grouped into twelve sectors namely; agricultural, automobile and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, investment services, manufacturing and allied, telecommunication and technology and lastly the growth enterprise market segment (Nairobi Securities Exchange, 2015).

Listed firms on the NSE are loading more debt onto their books as they seek fresh capital to finance operations and implement ambitious development programmes (Nairobi Securities Exchange, 2015). Data from Kenya's CMA shows that a total of \$988 million was raised through rights issues by firms listed on the NSE between 2004 and 2014 (Anyanzwa, 2015).

The decision on whether debt or equity financing is the way to go has mostly remained the preserve of the boards of these companies but analysts now say debts can be more prized by shareholders if the proceeds are well spent and if the market rates are favorable (Anyanzwa, 2015.). The study investigated the impact of debt financing in Kenyan listed companies. To be able to carry out the study companies that are as comparable as possible within the same industry were investigated. The research therefore investigated all listed companies in the NSE with the exception of financial institutions such as banks because they are considered highly regulated and their leverage levels are heavily influenced by regulation. This approach enabled a fair comparison.

1.2 Research Problem

The effect of debt financing on firm profitability is of considerable importance to all firms. The focus of most studies pertaining to the financial structure of companies has been on capital structure, and not on debt structure. In addition, there is currently no one unified theory to consider on the effect of debt financing on the financial performance of firms that will lead to predetermined results and consequences when a firm is acquiring or investing in new and existing assets. Thus the lack of focus on studies on debt financing and rather more concentration done on studies on capital structure, is what motivated my study.

Previous research studies have found debt having positive, negative and also both effects on the financial performance of firms. The research gap was discovered on the fact that previous studies have been focused on looking for the optimal proportion of capital

structure and not on debt financing. To also improve on the precision of estimation in order to reduce the heterogeneousness between sizes of companies, the study analyzed the behavior of firms listed at the NSE according to their size. The research focused on these gaps. In addition, the study covered a more recent period when there were changes at the NSE such as additional segments such as Growth Enterprise Market Segment in the year 2013 (Nairobi Securities Exchange, 2015).

A review of some of the global studies revealed a negative effect of debt on profitability. For example, Majumdar and Chhibber (1999), Eriotis et al. (2002), Ngobo and Capiez (2004) and Goddard et al. (2005) showed negative effect of debt on financial performance. On the other hand, Baum et al. (2006) and (2007), Berger and Bonaccorsi (2006) showed a positive influence. In addition, Simerly and LI (2000), Mesquita and Lara (2003) and Weill (2008), find both effects in their studies. Besides that, Berger and Bonaccorsi (2006), Margaritis and Psillaki (2007) and Kebewar (2012) finds the presence of a non linear effect (inverse U-shaped relationship). Finally, a non significant effect was confirmed by Baum et al. (2007) in American industrial companies.

Local studies, for example, Lishenga (2003) also examined the empirical determinants of a firm's debt maturity structures for a sample of 30 firms in Kenya over the period 1998-2002. The study revealed that firms with more growth options have less long term debt in their capital structure.

Given previous findings, the study broadened the perspective of the existing literature on debt financing and particularly on debt maturity decisions based on financial performance. The research explored the question: Does the level of debt financing influence firm performance of companies listed at the NSE?

1.3 Research Objective

The objective of the study was to establish the effect of debt financing on firm performance in companies listed at the Nairobi Securities Exchange.

1.4 Value of the Study

The study aims to contribute to the existing body of knowledge on the topic of debt financing. The study aims to apply a more holistic view on the topic of optimal debt financing and to make a unique contribution by comparing the various funding mechanisms and funding mix adopted by firms in Kenya in an attempt to identify best practices.

The study will also provide information to regulatory organizations that are involved in promoting investments such as Capital Markets Authorities in Kenya to assist in analyzing and harnessing financial resources relevant to business and form policies that foster investments in developing countries.

The study will be of assistance to management of firms in their decision making process and their attempts in maximizing their firms' value and performance and thereby contributing to maximization of shareholders wealth.

The findings will also provide information to institutions, consultants and entrepreneurs with the necessary tools on how to plan for financing the businesses and make informed decisions for investment.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The review of literature in this section covers theoretical framework and empirical studies that have been carried out in the area of debt maturity structure, financial performance and their relationship. The study explores the effects of debt financing on financial performance of firms listed at the NSE.

2.2 Theoretical Framework

There are essential theories which highlight the influence of debt on corporate profitability, namely: the trade-off theory, signaling and liquidity risk theory, pecking order theory and market timing theory.

2.2.1 Trade off Theory

It was Modigliani and Miller (1963) who introduced the tax benefit of debt. According to Modigliani and Miller (1963), the attractiveness of debt decreases with the personal tax on the interest income. The trade off theory states that there is an advantage to financing with debt, the tax benefits of debt and there is a cost of financing with debt, the costs of financial distress including bankruptcy costs of debt and non-bankruptcy costs (e.g. staff leaving, suppliers demanding disadvantageous payment terms, bondholder/stockholder infighting, etc). The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall

value will focus on this trade-off when choosing how much debt and equity to use for financing.

A firm experiences financial distress when the firm is unable to cope with the debt holders' obligations. If the firm continues to fail in making payments to the debt holders, the firm can even be insolvent. The first element of Trade-off theory of capital structure, considered as the cost of debt is usually the financial distress costs or bankruptcy costs of debt. It is important to note that this includes the direct and indirect bankruptcy costs.

However, researches on trade-off theory conclude mixed results. Titman and Wessels (1988), Rajan and Zingales (1995) and Fama and French (2002) affirm that higher profitability firms tend to borrow less that is inconsistent with the actual trade off prediction that higher profitability firms should borrow more to reduce tax liabilities. Graham (2000) estimating cost and benefit of debt finds that the large and more profitable firms with low financial distress expectation use the debt conservatively.

2.2.2 Signaling and Liquidity Risk Theory

The signaling model suggests that firms generate signals to the outside world about their credit quality or their cash flows when they use a specific type of financing option. Signaling took root in the idea of asymmetric information (a deviation from perfect information), which says that in some economic transactions, inequalities in access to information upset the normal market for the exchange of goods and services (Spence, 1973). In his seminal 1973 article, Spence proposed that two parties could get around the

problem of asymmetric information by having one party send a signal that would reveal some piece of relevant information to the other party. That party would then interpret the signal and adjust her purchasing behaviour accordingly — usually by offering a higher price than if she had not received the signal (Spence, 1973).

Flannery (1986) says debt maturity can reduce the costs of information asymmetry between firm managers and investors. He theoretically proves that if bond market investors cannot isolate good firms from bad ones, good firms will consider their long-term debt to be under-priced and will, therefore, issue short-term debt. Conversely in the same circumstances, bad firms will sell over-priced bonds. Flannery (1986) further argues that debt maturity serves as a signaling device. Short-term financing subjects a firm to more frequent monitoring; hence only good-quality firms will be more willing than bad-quality firms to use short-term debt. Highlighting the relevance of transaction costs of debt, Mitchell (1991) argues that low quality firms have no option but to use long-term debt because they will find it difficult to roll over short-term debt as it would subject them to transaction costs which may not be the case for high-quality firm.

Furthermore, financially strong firms can use more of short-term debt as they are better equipped to face refinancing risk and the interest risk of short-term debt [Jun and Jen (2003)]. Guedes and Opler (1996) find empirical support for the above argument and report that financially sound firms use more short-term nonconvertible debt as compared to firms that have low credit ratings.

Goswami and Rebello (1995) add another aspect of temporal distribution of information asymmetry. They say that a firm issues long-term debt when information asymmetry is related to uncertainty of long-term cash flows. However, a firm will issue short-term debt when informational asymmetry is randomly distributed across short and long-term debt. Contrary to the findings above, Lishenga (2003) finds little evidence that firms use the maturity structure of their debt to signal information to the market.

2.2.3 Pecking Order Theory

This theory was developed by Myers and Majluf (1984). According to this theory firms prefer internal funding to external funding. In case firms require external funding they would prefer debt over equity and equity is generated as last resort. So firms do not have predetermined or optimum debt to equity ratio due to information asymmetry. The firms adopt conservative approach when it comes to dividend and use debt financing to maximize the value of the firm. The theory suggests that firms have a particular preference order for capital used to finance their business (Myers and Majluf, 1984). Owing to this information asymmetries between the firm and potential investors, the firm will prefer retained earnings to debt, short term debt over long-term debt and debt over equity. Myers and Majluf (1984) argued that if firms issue no new security but only use its retained earnings to support the investment opportunities, the information asymmetry can be resolved. This implies that issuing equity becomes more expensive as information asymmetry between insiders and outsiders increases. Firms that have large information asymmetry should issue debts to avoid selling under-priced securities.

2.2.4 Market Timing Theory

Baker and Wurgler (2002) developed market timing theory. They argue that firms time their equity issues in the sense that they issue new stock when stock price is perceived to be overvalued and repurchase when they are undervalued. The fluctuations in stock prices affect firms' capital structure. According to the market timing theory, firms prefer equity when the relative cost of equity is low, and prefer debt otherwise.

Baker and Wurgler (2002) provided evidence that equity market timing has a persistent effect on the capital structure of the firm. They define a market timing measure which, is a weighted average of external capital needs over a number of years past where the weights used are market to book values of the firm. They find that leverage changes are strongly and positively related to their market timing measure hence it was concluded that the capital structure of a firm is the cumulative outcome of the past attempts to time the equity market. The Market timing theory has been questioned by many other studies. Havokimian (2006) provides confirmation that even if the market timing exists, it doesn't encompass long run impact on corporation power and that business does keenly rebalance their leverage fractions. However, most of the evidences support market timing theory in a sense that managers wait for the market condition to get better, that stocks' position in the market get better before the new issuance and before issuing new stocks, firms try to make their performance better (Jahanzeb et al ,2013).

2.3 Determinants of Financial Performance

The basic motive behind any investment, made by the corporate sector, is to earn profit (Kyereboah-Coleman, 2007). It is among the goals of the organization to maximize shareholders' wealth and generate enough profits to continue the business and to grow further in future. Performance of the firm is affected by multiple external and internal factors. The internal factors are firm specific while external factors can be same for all or most of the firms. The internal factors that affect firm performance as studied by Mizra (2013) are corporate governance, ownership structure, capital structure, risk management and certain firm characteristics such as size, growth rate, dividends liquidity and sales.

2.3.1 Corporate Governance

Corporate governance practices are the structures and behaviors that guide how a business entity sets its objectives, develops strategies and plans, monitors and reports its performance, and manage its risk (Reddy, 2010). Researchers are also of the view that good corporate governance practices enhance the performance of the firm (Chugh et al., 2009).

2.3.2 Ownership Structure

According to the agency theory, if managers of a firm also have ownership stake they are most likely to maximize shareholder wealth (Dutta, 1999). Managerial risk aversion limits the ownership of managers. Ownership structure of firm is also found to have a great impact on the performance. The phenomenon has been empirically tested on

various occasions that internal ownership results in long-term firm performance (Reddy, 2010).

2.3.3 Risk Management

Risk management of a firm may also impact its performance. Risky firms tend to attract only risk taking investors. The relationship of risk and returns has to be managed so that the investors do get the return associated and expected with the risk they are bearing.

2.3.4 Firm Characteristics

Certain firm characteristics are associated with high performance of firms. These include size (Love and Rachinsky, 2007), growth rate, dividends, liquidity (Gurbuz et al., 2010) and sales (Forbes, 2002). The forms that have better growth rate can afford better machinery, and then gradually the assets and size of the firm will increase. Large firms attract better managers and workers who in turn contribute to the performance of the firm. So, both firm and its people support each other's goals (Succuro) (n.d.).

2.3.5 Capital Structure

Finally is the Capital structure of the firm, which constitutes part (the debt part) of this study. Capital structure is to the ratio of debt and equity financing. In case of more debt financing, the company has to face certain bankruptcy risk, but there are also some tax benefits associated with debt financing (Su and Vo, 2010). A study on the effect of capital structure on the financial performance of firms listed under manufacturing, construction and allied sector at the NSE established that long-term debt had a significant

negative relationship with Return on Equity, which means the leverage has effect in the long term but not short term (Oguna, 2014).

2.4 Empirical Studies

Kebewar (2012) using a data from a sample of 2240 of French non listed companies of service sector during 1999-2006 did a study on the effect of debt on corporate profitability. According to the study, debt has no influence on profitability either in a linear way, or in a non-linear way. This finding is consistent with that of Baum et al. (2007) on American industrial companies. In addition, in order to improve the precision of the estimation by reducing heterogeneousness between different sizes of companies, the study analyzed the behavior of the French firms according to their size. The study concluded that there was no impact debt had on profitability, regardless of the size of the company.

Pouraghajan and Malekian (2012) conducted a study whose objective was to establish the impact of capital structure on financial performance of companies listed in the Tehran Stock Exchange in Iran. They studied and tested a sample of 400 firms in the form of 12 industrial groups during the years 2006 to 2010. Variables of return on assets ratio (ROA) and return on equity ratio (ROE) were used to measure financial performance of companies. The results suggest that there is a significant negative relationship between debt ratio and financial performance of companies. The result also shows that by reducing debt ratio, management can increase the company's profitability and thus the amount of the company's financial performance measures.

Dube (2013) did a study on the impact of debt financing on productivity of small and medium scale enterprises in Zimbabwe, and concluded that productivity in a firm was positively related to the level of debt financing and changes in investment. The study also concluded that expenditure on investment was an important determinant of productivity in SMEs operations. The level of debt financing must be moderate to avoid large interest payments which can prevent SMEs from investing using internal sources of finance.

Jaramillo and Schiantarelli (2002) conducted a study on access to long term debt and effects on firm performance in Ecuador. They found evidence that suggests that a shorter maturity is not conducive to greater productivity. Long-term debt may actually lead to productivity improvements.

Al-Tally (2014) revealed that there is a relationship between capital structure and financial performance in Saudi Arabian firms while conducting a study on the effect of financial leverage on firm financial performance in Saudi Arabia's public listed companies. On an average, the mean financial performance of 57 firms tended to increase with respect to a decrease in leverage level. Lower leverage levels were found to be linked with higher gross profit margins, NPM, ROA and ROE.

Ebaid (2009) carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. Performance was measured using ROE, ROA, and gross profit margin. Capital structure was measured by short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression analysis

was applied to estimate the relationship between the leverage level and performance. The study indicated that capital structure has little to no impact on a firm's performance.

Langat, et al., (2014) conducted a study on the effect of debt financing on the profitability of Kenya Tea Development Authority processing factories and indicated that firm performance, which was measured by (ROE and ROA), was significantly and positively associated with long-term debt and total debt at 1% and 5% respectively, while on the other hand, short-term debt showed a negative and significant relationship at 5% in the two models. The negative relation between short-term debt and the profitability of tea processing factories meant that supplying the finance through short-term debts does not lead to profitability.

Omesa, et al., (2013) examined the relationship between a firm's capital structure and financial performance among a sample of 30 companies listed at the NSE whose data for 5 years period 2007 - 2011. The findings indicate that there was a significant correlation between total assets of a firm and long term debt. Long term debt had a positive correlation with ROE which is insignificant and weak.

Maina & Ishmail (2014) did a study on capital structure and financial performance of firms listed at the NSE. Using a regression model and statistical software, the study concluded that debt and equity are major determinants of financial performance of firms listed at the NSE. There was evidence of a negative and significant relationship between capital structure financial performances. This implied that the more debt the firms used as

a source of finance the more they experienced low performance. The study also concluded that firms listed at NSE used more short-term debts than long term.

Chepkemoi (2013) carried out a study to analyze the effect of capital structure of SMEs on their financial performance. The sample of the study was 295 SMEs in Nakuru town. Descriptive statistics and multiple regression models were used. The finding revealed that capital structure had a negative effect on firm profitability but positive effect on sales growth. Magara (2012) did a study on capital structure and its determinants at Nairobi Securities Exchange. The study sought to find determinants of capital structure. It was established that from the period 2007 to 2011, there was a positive significant relationship between the size, tangibility and growth rate and degree of leverage of the firm.

Muchugia (2013) examined the effect of debt financing on firm profitability of commercial banks in Kenya. The study showed a significant positive relationship between short term debt financing and profitability since short-term debt tends to be less expensive and increasing it with a relatively low interest rate will lead to an increase in profit levels and hence performance.

2.5 Summary of the Literature Review

This study contributes to the empirical literature by presenting evidence on the effect debt financing i.e. total debt, short and long term debt affects the financial performance of firms listed at the Nairobi Securities Exchange. To enhance the already available

literature, this study includes detailed analysis of data sets of individual listed firms, especially from developing countries. In addition to improve the precision of estimation by reducing the heterogeneousness between sizes of companies, we study the behavior of these firms according to their size. In this study, the focus is on the effect of debt on financial performance of companies listed at the NSE. There are three essential theories which highlight the influence of debt on corporate profitability, namely: Trade-off theory, Pecking order theory and market timing theory.

A review of some empirical studies revealed the absence of a unified theory. Jensen & Meckling (1976) and Myers (1977) discovered that the financial performance of the leveraged firms may decrease due to conflicts between shareholders and debt holders. However, Fama and French (1998) found that debt financing does not have a positive impact on the financial performance because there is no tax benefit of debt due to agency problems after controlling for earning, investment, research and development, and dividend. Due to lack of common agreement on what constitutes an optimal debt structure as evidenced in some empirical studies, it is significant to further explore the effects of debt structure on the firms' performance.

Additionally, past research in the area of debt financing has been focusing on investigating firms in developed countries, many of them about firms in the United States of America. The analysis of firms in the developing countries is not as common, thereby this study aims to explore more on the existing research and improve our knowledge on decision-making in corporate financing particularly in the case of Kenyan firms.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that was followed in completing the study. These include research design, target population and methods of data collection. The chapter further provides an operational definition of variables of the study and the methods of data analysis.

3.2 Research Design

The study applied a quantitative research design because the design involves collection of data in order to answer questions concerning the current status of the subjects in the study.

According to Creswell (2003), quantitative research establishes statistically significant conclusions about a population by studying a representative sample of the population. The population consists of the entire group being studied. It does not matter if the population is broad or narrow; only that it includes every individual that fits the description of the group being studied. Since it is impractical to conduct a census (include everyone in the population) because of constant turnover and resource constraints, a representative sample is chosen from the population. If chosen properly, the sample will be statistically identical to the population and conclusions for the sample can be inferred to the population (Campbell, 1963).

The Quantitative research can be either experimental or descriptive. The study applied an experimental research design because it tested the accuracy of a theory by determining if the independent variable(s) (controlled by the researcher) causes an effect on the dependent variable (Campbell, 1963).

3.3 Population

The population for this study was firms listed at the NSE as at 31st December 2014 (Appendix I), with the exception of financial institutions such as banks because they are considered highly regulated and their leverage levels are heavily influenced by regulation. The target population was composed of 50 firms.

3.4 Data Collection

The study used secondary data and utilized panel data which consisted of time series and cross sections. The data for all the variables in the study were extracted from published annual reports and financial statements of the listed companies in the NSE covering the period from 2009 to 2013 (Appendix I). Data was also obtained from the NSE hand books for the period of reference. Data that was extracted included the statement of comprehensive income, financial position and notes to the accounts.

The variables taken into consideration in the study were financial performance, debt maturity structures of firms, the size of the firm and growth opportunity of the firms, growth rate of the firm and the credit worthiness of the firms.

In this study, Return on Assets (ROA) was applied to measure the firm's performance of NSE Companies. The study identified debt maturity ratio as a proxy for firm's debt structure or policy that influenced the firm's performance and thus when measuring firm performance debt maturity was used as an explanatory variable. The study applied ROA, since it is widely regarded as the most useful measure to test firm's performance (Reese and Cool, 1978 and Long and Ravenscraft, 1984, Abdel Shahid, 2003, among others).

Debt maturity ratios used were short term liabilities to total assets (SLTA), long term liabilities to total assets (LLTA) and total liabilities to total assets (TLTA). Total debt to total assets is a leverage ratio that defines the total amount of debt relative to assets. This enabled comparisons of leverage to be made across different companies; the higher the debt to assets ratio, the higher the degree of leverage.

The study also took the size of the firm into consideration, measuring it using the natural log of total assets. The growth opportunity of the firms was measured by multiplying the retention ratio of the firm and the return on shareholders' equity. The sales growth rate was used to measure the growth rate of the firm. The net tangible assets ratio was also taken into consideration to measure the credit worthiness of the firm and show the actual amount of tangible assets for each ordinary share of the company. This revealed the worth of each share in a company in the eventuality of liquidating all assets, and paying off all debts.

3.5 Data Analysis

According to Bryman and Bell (2003) data analysis refers to a technique used to make inferences from data collected by means of a systematic and objective identification of specific characteristics. In case of debt financing, available options are whether to use debt in the form of short term debt or long term debt. If firms can instantly switch between these options and there are no costs of switching over or adjustments to reach the target debt financing structure, we can adopt static model for analysis. However, if firms experience delays in the process of adjustments then the use of static model will be inappropriate. As reported by Antoniou, et al. (2006) and Ozkan (2000), firms do experience delays in the process of adjustment which implies that their actual debt maturity structure may not be the desired debt maturity structure. This is why the study used descriptive statistics to summarize and classify the gathered data and inferential statistics methods applied to analyze them.

Descriptive statistics provides the means and standard deviations of the scores relating to each of the variables used in the factor analysis. Inferential statistics, mainly the ANOVA and t test, was used for testing significance levels and multiple regression for determining relationships. Correlation and regression analysis tools were used in this study. Statistical program for Social Sciences (SPSS) was used to provide descriptive and inferential statistics. Pearson correlation coefficient was used to determine the degree of relationship between total debt, long-term debt, short term debt and financial performance. The regression model used was sourced from a study by Maina and Ishmail (2014) on the effect of capital structure on financial performance. However, the model for the study

was modified to not only incorporate into analyses the effect of total debt on financial performance, but also the effect of long term debt and short term debt on financial performance, hence three models were used each testing the impact of the three scenarios (total debt, short term debt and long term debt) on financial performance. However each model taking into consideration the size of the firm, the growth rate, the credit worthiness of the firm, and the growth potential of the firm. The relationship between debt financing and financial performance was thus estimated in the following regression models:

$$Y_{it} = \alpha + \beta_1 TLTA_{it} + \beta_2 SZE_{it} + \beta_3 SG_{it} + \beta_4 Tang + \beta_5 GROW + e_{it} \quad (1)$$

The regression model above measures the effect of total debt on return on assets taking into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm.

$$Y_{it} = \alpha + \beta_1 LLTA_{it} + \beta_2 SZE_{it} + \beta_3 SG_{it} + \beta_4 Tang + \beta_5 GROW + e_{it} \quad (2)$$

The second regression model above measures the effect of long term debt on return on assets taking into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm.

$$Y_{it} = \alpha + \beta_1 SLTA_{it} + \beta_2 SZE_{it} + \beta_3 SG_{it} + \beta_4 Tang + \beta_5 GROW + e_{it} \quad (3)$$

The third regression model above measures the effect of short term debt on return on assets taking into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm.

Where:

Y_{it} is the ROA for firm i in time t as a measure of performance

SZE_{it} is the log of total assets for firm i in time t

$TLTA_{it}$ is the total debt to asset ratio for firm i in time t

$LLTA_{it}$ is the long term debt to asset ratio for firm i in time t

$SLTA_{it}$ is the short term debt to asset ratio for firm i in time t

Tang is the asset tangibility ratio of a firm i in time t

GROW is the growth opportunity of a firm i in time t

SG_{it} is annual sales growth for firm i in time t

e_{it} is the error term

α is a constant term

β^S are coefficients of the explanatory variables

3.5.1 Test of Significance

The model assisted in determining if there is an effect of debt financing on financial performance of companies listed in the NSE. The data collected was subject to the analysis tool SPSS. The data was collected from secondary sources and analyzed; the ANOVA test was used to determine the effect the independent variable has on the dependent variable in a regression analysis. ANOVA provided a statistical test of whether or not the means of several groups are equal.

Test of significance was assessed on the three models. Firstly, the test of significance of the total debt to total assets ratio on return on assets, secondly, the test of significance of the long term debt to total assets ratio on return on assets and finally the test of significance of short term debt to total assets ratio on return on assets.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers data analysis, findings and discussions of the research. The study investigated all listed companies in the NSE with the exception of financial institutions such as banks because they are considered highly regulated and their leverage levels are heavily influenced by regulation. The data was collected from Nairobi Securities Exchange Handbooks and published books of accounts of the companies listed in the NSE. Out the 53 companies that comprised the sample size, data was obtained for 48 companies representing a response rate of 90.57 % which was considered satisfactory for subsequent analysis.

The chapter was segmented into four sections: Section 4.2 described the descriptive analysis of the data and variables of the study. Section 4.3 illustrated the correlation analysis which disclosed the strength of the relationship between the variables. In section 4.4, regression analysis was done in order to present the main findings of the study. Finally section 4.5 Discussion on the findings.

4.2 Descriptive Statistics

Descriptive statistics were computed so as to help in making inferential to the nature of the relationship between the variables. The study used the mean and standard deviation.

Table 4.1: Return on Assets

	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	246	-.27	.62	.0738	.09874
Valid N (list wise)	246				

Source: Research Data 2015

The summary statistics from the study show that the mean value for Return on Assets was 7.38%. The standard deviation, of 0.09874 with respect to ROA suggests that while a few firms are doing well, most of them are not. This is given more credence with (2.7) % and 62% representing minimum and maximum ROA respectively for a firm in a given year.

Table 4.2: Debt to Assets Ratio

	N	Minimum	Maximum	Mean	Std. Deviation
Total Debt to Total Assets	246	.00	.82	.1640	.18833
Long Term Debt to Total Assets	246	.00	.82	.0849	.14674
Short Term Debt to Total Assets	246	.00	.53	.0791	.11457
Net Asset Tangibility Ratio	244	-8.40	281250.00	2060.1270	20872.72299
Valid N (list wise)	244				

Source: Research Data 2015

The debt to asset ratio shows that firms listed at the NSE finance 8.49% of their total assets using long-term debt and 7.9% of their total assets using short term debt. This shows that the firms use more of long-term debt than short term debt by a small margin and the assets are tangible to an extent of KES 2,060.12 for each share in companies listed at the NSE.

4.3 Correlation Analysis

The correlation analysis (Appendix III) provided that short-term debt was negatively correlated to return on assets. Long-term debt was also negatively correlated to return on assets. The table also indicated that for the 5 years under consideration, there was a weak negative correlation between return on assets and total debt with a correlation of -0.337. The level of influence on usage for any of the two structures of debt was found to negatively affect return on assets.

The results also showed there was a negative but not significant relationship between ROA and the log of total assets with a correlation of -0.016. There was also no relationship between annual sales growth and ROA with a correlation of -0.006. The same applied to asset tangibility ratio which is a measure of the company's credit worth had a correlation of -0.123. The growth rate of the firms listed at the NSE, measured by analyzing the sales growth of the firms with the prior year revealed a positive but weak relationship to the return on assets. Thus, they are not major determinants of the sampled firms' performance.

Correlation is significant at the 0.01 level (2-tailed). The significance of the correlation between the return on assets and total debt, return on assets on long term debt and return on assets on short term debt at Sig. 2-tailed level are all 0, which shows that there is no or little significance between return on assets and total debt, long term debt and short term debt and the relationship is a negative 33.7%, 20% and 29.7%, which means that as one variable goes up or down the other variable will move in the opposite direction.

4.4 Regression Analysis

The study sought to establish a linear regression function of the variables with return on asset as the dependent variable. From the regression analysis (Appendix IV) the study established the following regression equations:

$$ROA = 0.126 - 0.192TLTA - 0.001SZE + 0.003SG + 0.029GROW \quad (1)$$

From the above equation, holding total debt of the listed firms under study to constant zero resulted to an ROA (performance) of the firm at 0.126. Also in the equation above a unit increase in total debt lead to a decrease in firm performance (ROA) by 0.192.

$$ROA = 0.115 - 0.166LLTA - 0.001SZE + 0.005SG + 0.032GROW \quad (2)$$

In the equation above a unit decrease in long-term debt lead to an increase in firm performance (ROA) by 0.166.

$$ROA = 0.142 - 0.256SLTA - 0.002SZE + 0.004SG + 0.018GROW \quad (3)$$

A factor increase in short term debt in the above equation would lead to a decrease in financial performance (ROA) by factor of 0.256.

The following acronyms applied to the above equations:

TLTA is the total debt to asset ratio

LLTA is the long term debt to asset ratio

SLTA is the short term debt to asset ratio

SZE is the log of total assets

SG is annual sales growth

GROW is the growth opportunity of the firms

In summary the findings showed that there's a negative relationship between return on asset (ROA), total debt, long term debt and current debt.

Table 4.5: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.408 ^a	.167	.149	.08931	.167	9.360	5	234	.000	1.211
2	.299 ^b	.090	.070	.09334	.090	4.607	5	234	.000	1.103
3	.354 ^c	.125	.106	.09151	.125	6.685	5	234	.000	1.208

Source: Research Data 2015

R^2 is the coefficient of determination. This value explains how effect of debt financing on financial performance a case of listed companies at the NSE varied with Short-term debt, long term debt and total debt. The adjusted R^2 for the three models was more or less the same and found to be 0.149 for total debt, 0.07 for long term debt and 0.106 for short term debt.

The first regression model in the table (Table 4.5) above measured the effect of total debt on return on assets, which is the main subject of this research, taking into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm. The adjusted R^2 of 0.149 meant that there was a 14.9% variation in return on assets (ROA) due to changes in total debt of the listed firms. The correlation coefficient was also measured and the correlation coefficient tells us the strength of relationship between the variables. The study found that the correlation coefficient of ROA on total debt, which is the main subject of this research, was 0.408 thus there was a weak positive relationship between total debt and the firm performance

as measured by return on asset. The R^2 equally confirmed that there was a weak correlation between the return on asset and total debt with 16.7% of the return on asset changes depending on the changes in total debt.

The Second regression model in the table (Table 4.5) above measured the effect of long term debt on return on assets. It also took into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm. The adjusted R^2 of 0.07 meant that there was a 7% variation in return on assets (ROA) due to changes in long term debt of the listed firms. The study found that the correlation coefficient of ROA on long term debt was 0.299 thus there was a weak positive relationship between long term debt and the firm performance as measured by return on asset. The R^2 equally confirmed that there was a weak correlation between the return on asset and total debt with 9% of the return on asset changes depending on the changes in long term debt.

The third regression model in the table (Table 4.5) above measured the effect of short term debt on return on assets. It also took into consideration the rest of the same variables as the above two models. The adjusted R^2 of 0.106 meant that there was a 10.6% variation in return on assets (ROA) due to changes in short term debt. The study found that the correlation coefficient of ROA on short term debt was 0.354 thus there was a weak positive relationship between short term debt and the firm performance as measured by return on asset. The R^2 equally confirmed that there was a weak correlation between

the return on asset and short term debt with 12.5% of the return on asset changes depending on the changes in short term debt.

The adjusted R^2 for the three models was more or less the same. From the analysis, the effect of debt on financial performance of the companies studied is weak and is not significant.

Table 4.6: Analysis of Variance

Analysis of variance was computed so as to establish the reliability of the regression model in analyzing the variables. The findings are shown below:

ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.373	5	.075	9.360	.000 ^d
Residual	1.866	234	.008		
Total	2.240	239			
2 Regression	.201	5	.040	4.607	.000 ^e
Residual	2.039	234	.009		
Total	2.240	239			
3 Regression	.280	5	.056	6.685	.000 ^f
Residual	1.960	234	.008		
Total	2.240	239			

Source: Research Data 2015

According to Mugenda and Mugenda (2003), ANOVA is a data analysis procedure that is used to determine whether there are significant differences between two or more groups or samples at a selected probability level. An independent variable is said to be a significant predictor of the dependent variable if the absolute t-value of the regression

coefficient associated with that independent variable is greater than the absolute critical t-value. The regression analysis also yields an F-statistic where if the calculated F-value is greater than the critical or tabled F-value, the prediction will be rejected.

In this study, the significance value is .000 ($P = 0.000$), which is less than 0.05, thus the model is statistically significant in predicting total debt, short term debt and total debt and in addition each model taking into consideration the sales growth, credit worthiness of the firms, growth potential and firm size. From the ANOVA table the P- value for the three models was 0.000 which means that the model was statistically significant since the P-value was less than 0.05.

4.5 Findings and Discussions

Descriptive statistics were computed so as to help in making inferential to the nature of the relationship between the variables. The mean of debt to asset ratios of the listed firms shows that firms listed at the NSE finance 8.49% of their total assets using long-term debt and 7.9% of their total assets using short term debt. This shows that the firms use more of long-term debt than short term debt by a small margin. This is probably because the interest rates of long term loans are normally lower based on the fact that they are usually secured with property.

The correlation analysis indicated that for the 5 years under consideration, there was a weak negative correlation between return on assets and total debt with a correlation of -0.337. The level of influence on usage for any of the two structures of debt was found to

negatively affect return on assets. The results also showed there was a negative but not significant relationship between ROA and the log of total assets with a correlation of -0.016. There was also no relationship between annual sales growth and ROA with a correlation of -0.006. The same applied to asset tangibility ratio which is a measure of the company's credit worth, had a correlation of -0.123. The growth rate of the firms listed at the NSE, measured by analyzing the sales growth of the firms with the prior year revealed a positive but weak relationship to the return on assets. Thus, they are not major determinants of the sampled firms' performance.

The study sought to establish a linear regression function of the variables with return on asset as the dependent variable. The findings showed that there's a negative relationship between return on asset (ROA) with total debt, long term debt and current debt. The regression model in the table (Table 4.5) measured the effect of total debt on return on assets, taking into consideration the size of the firm, growth of the firm in terms of sales, the credit worthiness of the firm and the growth potential of the firm. The adjusted R^2 of 0.149 meant that there was a 14.9% variation in return on assets (ROA) due to changes in total debt of the listed firms. The correlation coefficient was also measured and it was found that the correlation coefficient of ROA on total debt, which is the main subject of this research, was 0.408. There was a weak positive relationship between total debt and the firm performance as measured by return on asset. The R^2 equally confirmed that there was a weak correlation between the return on asset and total debt with 16.7% of the return on asset changes depending on the changes in total debt. The adjusted R^2 for the

three models was more or less the same. From the analysis, the effect of debt on financial performance of the companies studied is weak and is not significant.

Analysis of variance was computed so as to establish the reliability of the regression model in analyzing the variables. In the study, the significance value was .000 ($P = 0.000$), which is less than 0.05, thus the model was statistically significant in predicting total debt, short term debt and total debt and in addition each model taking into consideration the sales growth, credit worthiness of the firms, growth potential and firm size.

According to the study, we underlined that debt has no significant influence on profitability either in a linear way, or in a non-linear way but recommended that firms should use more of long term debt since there is less negative impact on financial performance as long as the cost of debt does not exceed the required rate of return of the firm.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of key findings, which were set out in order with the study objectives. The objective of the study was: to examine the effect of debt financing on the financial performance of companies listed at the Nairobi Securities Exchange.

5.2 Summary of Findings

The main findings of the study were that total debt was found to have a negative but not significant effect on return on assets as illustrated by the table on Regression Coefficients (Appendix IV).

From regression coefficients table, the study found that holding total debt to constant zero, ROA (performance) of the firm would be 0.126. A factor decrease in total debt would lead to an increase in financial performance (ROA) by a factor of 0.192. This information showed that there was an inverse relationship between return on assets and total debt. The study found that the correlation coefficient was 0.408 thus there was a weak positive relationship between total debt, and the firm performance as measured by return on assets (ROA). The R^2 equally confirmed that there was a weak correlation between the return on assets and total debt with 16.7% of the return on asset changes depending on the changes in total debt (table 4.5).

The results of the study were found consistent with Ebaid (2009), who carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. Performance was measured using ROE, ROA, and gross profit margin. Capital structure was measured by short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression analysis was applied to estimate the relationship between the leverage level and performance. The study indicated that capital structure has little to no impact on a firm's performance.

Kebewar (2012) was also one that was consistent with this study. Using a data from a sample of 2240 of French non listed companies of service sector during 1999-2006 he did a study on the effect of debt on corporate profitability. According to the study, debt has no influence on profitability either in a linear way, or in a non-linear way. This finding is consistent with that of Baum et al. (2007) on American industrial companies. In addition, in order to improve the precision of the estimation by reducing heterogeneousness between different sizes of companies, the study analyzed the behavior of the French firms according to their size. The study concluded that there was no significant impact debt had on profitability, regardless of the size of the company.

5.3 Conclusion

Findings of the study on the effect of debt financing on the financial performance of companies listed at the Nairobi Securities Exchange revealed that both current debt and long term debt do not significantly affect ROA and thus the firm's performance. (Table 4.1, 4.2 and the correlation analysis table in Appendix III) showed that total debt has a

negative but not significant relationship with return on assets, which means when a firm uses more of debt in financing; its performance is negatively affected. From the research findings the study concludes that firms use more of long term debt than short term debt.

The reason behind the preference of long term loans over short terms loans is that long-term loans are secured by assets and generally have a low cost of borrowing. An added benefit, along with relatively low financing costs, is that interest paid on assets acquired for the business is generally tax-deductible. This further reduces the total cost of borrowing with long-term debt.

From the study findings it would be safe to conclude that debt ratio had no significant relationship with return on assets. Capital structure theory as attributed to Modigliani and Miller concluded that it doesn't matter how a firm finances its' operations and that the value of a firm is independent of its' capital structure making capital structure irrelevant.

The conclusion is supported by the results of the regression analysis that the adjusted R^2 for the three models was more or less the same. From the analysis, the effect of debt on financial performance of the companies studied is weak and is not significant. The results of this research are consistent with Kebewar (2012), that debt has no influence on profitability either in a linear way, or in a non-linear way. The results of the study are also consistent with that of Baum et al. (2007) on American industrial companies. The study concluded that there was no significant impact debt had on

profitability, regardless of the size of the company, but recommend that firms should use more of long term debt since there is less negative impact on financial performance as long as the cost of debt does not exceed the required rate of return of the firm.

5.4 Limitations of the Study

There were challenges of getting some data from some companies because these firms had not submitted their annual financial results to CMA and the NSE hand books lacked some financial data. As a result, data had to be sought after from the companies and also through staff personnel at the NSE involved in research who were of great assistance. This delayed the completion of the data collection.

This study was limited because only firms listed under NSE were used as the case study for the entire population. Thus other firms with different characteristics which otherwise could provide different results were not considered. Thus there's room for little variations in the findings with respect to firms.

The model used considered a select few of the factors that can be considered when studying the effects of debt financing on financial performance. There is room for improvement in the model by considering more factors can be included in the model.

Time allocated for the study was not as sufficient while holding a full time job and studying part time. This was encountered during the collection of material as well as

the data to see the study a success. However the researcher tried to conduct the study within the time frame as specified.

The data collected and analyzed was only for a period covering five years. More data collection over a span of about 10 years or more would possibly lead to a slight variation to the findings.

5.5 Recommendations

According to this study, we can underline that debt has no influence on profitability either in a linear way, or in a non-linear way. This finding is consistent with that of Baum et al. (2007) on American industrial companies. In addition, when we present the analysis using different size classes, with relation to growth, and credit worth of a firm we also find that there is no impact regardless the size of firm. It was also discovered that there was a slight negative impact on firms that used more of long term debt than short term debt on financial performance.

Firms would be in a better position to use long term debt than short term debt because there is a lesser negative impact on financial performance (Appendix III). However, due to the insignificant impact, debt structure has no immediate or long-term effect on returns to the firms.

5.5.1 Policy Recommendations

Borrowing introduces a risk to the company and on the return to shareholders in terms of reducing the amount of profit available to them, as well as exposing their assets to dissolution in the event of failing to repay the debt in the stipulated time. When a firm's returns are likely to fluctuate greatly, the use of increased debt magnifies the risk. Adequate emphasis must be placed on enabling such companies to employ more shareholders' funding than debt and reduce the risk that is inherent in the increased use of debt.

When a firm has exhausted its shareholders' funding and chooses to finance its expansion of operations by borrowing, special consideration must be taken to ensure that the assets financed by the borrowed funds bring in a higher return than the interest the firm is required to pay on the debt. If this is not done, the firm will erode the reserves in order to pay the debt as the assets financed will not be making enough returns to cover the debt. The firm must select its source of funding carefully to avoid falling into the leverage risk trap.

5.5.2 Suggestions for Further Research

To improve on this study, it is suggested that a similar study should be carried out over a longer period of time so as to obtain more findings on the impact debt financing has on financial performance.

More studies should be undertaken on firms that are not listed at the NSE since the research only dealt with firms listed in the NSE. Capital structure is a useful tool for growth and expansion and the overall financial performance of any firm.

The model used considered a select few of the factors that can be considered when studying the effects of debt financing on financial performance. The study recommends that it's important to study other variables such as working capital management, customer satisfaction, corporate governance and dividend payout ratio and their effect on financial performance of listed firms in the NSE. There is room for improvement in the model by considering more factors.

This study focused on the listed companies in the Nairobi Securities Exchange excluding financial and banking institutions. Therefore, generalizations could not adequately be extended to every listed company as they have varying industry risk and asset structure. Based on this fact among others, it is therefore, recommended that a narrow based study covering a specific segment be done to find out the impact of debt financing on financial performance.

Finally a study on establishing the optimal range for debt structure should be undertaken so as to form a good basis for forming decisions relating to the debt structure of firms.

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APPENDICES

APPENDIX I: List of Companies Studied

AGRICULTURAL

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi Ltd
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd

AUTOMOBILES AND ACCESSORIES

8. Sameer Africa Ltd
9. Marshalls (E.A.) Ltd
10. Car and General (K) Ltd

COMMERCIAL AND SERVICES

11. Express Ltd
12. Kenya Airways Ltd
13. Nation Media Group
14. Standard Group Ltd
15. TPS Eastern Africa (Serena) Ltd
16. Scangroup Ltd
17. Uchumi Supermarket Ltd
18. Longhorn Kenya Ltd

CONSTRUCTION AND ALLIED

- 19. Athi River Mining
- 20. Bamburi Cement Ltd
- 21. Crown Berger Ltd
- 22. E.A.Cables Ltd
- 23. E.A. Portland Cement Ltd

ENERGY AND PETROLEUM

- 24. Kenol Kobil Ltd
- 25. Total Kenya Ltd
- 26. KenGen Ltd
- 27. Kenya Power & Lighting Co Ltd
- 28. Umeme Ltd

INSURANCE

- 29. Jubilee Holdings Ltd
- 30. Pan Africa Insurance Holdings Ltd
- 31. Kenya Re-Insurance Corporation Ltd
- 32. Liberty Kenya Holdings Ltd
- 33. British-American Investments Company (Kenya) Ltd
- 34. CIC Insurance Group Ltd

INVESTMENT

- 35. Olympia Capital Holdings ltd
- 36. Centum Investment Co Ltd
- 37. Trans-Century Ltd

INVESTMENT SERVICES

- 38. Nairobi Securities Exchange

MANUFACTURING AND ALLIED

- 39. B.O.C Kenya Ltd
- 40. British American Tobacco Kenya Ltd
- 41. Carbacid Investments Ltd
- 42. East African Breweries Ltd
- 43. Mumias Sugar Co. Ltd
- 44. Unga Group Ltd
- 45. Eveready East Africa Ltd
- 46. Kenya Orchards Ltd

TELECOMMUNICATION AND TECHNOLOGY

- 47. Safaricom Ltd

GROWTH ENTERPRISE MARKET SEGMENT

- 48. Home Afrika Ltd
- 49. Kurwitu Ventures Limited
- 50. Flame Tree Group Holdings Limited

APPENDIX II: Panel Data for firms Listed at the NSE

	Company Name	Return on Assets	Total Debt to Total Assets	Long Term Debt to Total Assets	Short Term Debt to Total Assets	Log of Total Assets	Annual Sales Growth	Net Asset Tangibility Ratio	Growth Rate
1	ARM CEMENT	0.0614	0.5156	0.3736	0.1421	23.7254	0.2564	35.9204	0.1638
2	BAMBURI CEMENT	0.1563	0.0344	0.0157	0.0187	24.3253	0.0512	64.6684	0.0664
3	BAT KENYA	0.2023	0.1075	0.0649	0.0426	23.3108	0.1322	61.5964	0.0038
4	BOC KENYA	0.0771	0.0000	0.0000	0.0000	21.4520	(0.0046)	80.9213	0.0175
5	BRITAM	0.0346	0.0226	0.0212	0.0014	24.0625	0.3891	108.0233	0.0670
6	CAR & GENERAL SEPT.	0.0585	0.3045	0.0215	0.2830	22.3051	0.1994	51.9559	0.1798
7	CARBACID INVESTMENTS	0.2060	0.0000	0.0000	0.0000	21.2786	0.2225	44.1781	0.0494
8	CENTUM INVESTMENTS	0.1335	0.0967	0.0613	0.0354	23.1011	0.8271	15.4695	0.1568
9	CIC	0.0872	0.0000	0.0000	0.0000	22.9273	2.5024	34.6936	0.2096
10	CMC LTD. SEPT.	0.0151	0.3355	0.0179	0.3176	23.3280	0.0140	9.4205	0.0248
11	CROWN PAINTS	0.0593	0.1466	0.0000	0.1466	21.5211	0.1682	44.0052	0.0360
12	EAAGAD LTD. MARCH	0.0637	0.0000	0.0000	0.0000	19.7398	0.2310	24.7418	0.0656
13	EAST AFRICAN BREWERIES	0.2066	0.2223	0.1568	0.0655	24.5548	0.1289	18.7610	0.1191
14	EAST AFRICAN CABLES	0.0711	0.2623	0.0598	0.2025	22.3497	0.0578	8.4654	0.0550
15	EAST AFRICAN PORTLAND	0.0395	0.3408	0.2940	0.0468	23.3231	0.0572	64.6054	0.0788
16	EVEREADY EAST AFRICA	0.0070	0.3641	0.0000	0.3641	20.7778	(0.0399)	1.7350	0.0156
17	EXPRESS KENYA LTD. DEC.	(0.0412)	0.3755	0.1385	0.2371	20.4951	(0.0414)	7.1941	(0.1618)
18	FLAME TREE GROUP	0.1414	0.2754	0.1841	0.0913	20.4680	(0.1586)	7.4671	(0.2605)
19	HOME AFRIKA	(0.0335)	0.1477	0.0505	0.0972	20.9429	6.6998	95,994.1051	(0.0997)
20	JUBILEE HOLDINGS	0.0529	0.0343	0.0325	0.0018	24.3637	0.2603	131.8328	0.2477
21	KAKUZI LTD. DEC	0.1214	0.0000	0.0000	0.0000	21.9533	0.0099	128.1716	0.1459
22	KAPCHORUA TEA COMPANY LTD. MAR	0.0849	0.0053	0.0004	0.0049	21.2067	0.2013	250.4035	0.1134
23	KENGEN	0.0210	0.3876	0.3606	0.0270	25.7469	0.0827	31.2680	0.0275
24	KENKOBIL	0.0107	0.4234	0.0156	0.4078	24.2127	0.0787	16.5944	(0.0572)
25	KENYA AIRWAYS LTD. MAR	(0.0074)	0.4016	0.3010	0.1006	25.1532	0.1119	38.2286	(0.0457)
26	KENYA ORCHARDS	(0.0036)	0.7767	0.7767	0.0000	18.0996	0.2211	0.0089	2.7058
27	KENYA POWER	0.0405	0.2153	0.1736	0.0417	25.4359	0.1857	116.8028	0.0250

	Company Name	Return on Assets	Total Debt to Total Assets	Long Term Debt to Total Assets	Short Term Debt to Total Assets	Log of Total Assets	Annual Sales Growth	Net Asset Tangibility Ratio	Growth Rate
28	KENYA REINSURANCE	0.1080	0.0000	0.0000	0.0000	23.7261	0.2034	19.6580	0.1523
29	KURWITU VENTURES	(0.0009)	0.0000	0.0000	0.0000	19.4828	(0.4367)	3,569.6950	(0.0009)
30	LIBERTY KENYA	0.0251	0.0215	0.0209	0.0006	23.8464	0.3298	4.8261	0.1335
31	LIMURU TEA COMPANY LTD. DEC	0.3421	0.0000	0.0000	0.0000	19.0865	0.1055	137.9075	0.3925
32	LONGHORN KENYA LTD. DEC	0.0813	0.0323	0.0115	0.0209	20.1986	0.1873	18.2142	0.0506
33	MARSHALLS (E.A.) LTD MAR	(0.1196)	0.3518	0.1257	0.2261	20.5878	(0.2016)	23.4146	(0.3046)
34	MUMIAS SUGAR	0.0323	0.1823	0.1191	0.0633	23.7949	0.0149	7.9094	0.0223
35	NATION MEDIA GROUP DEC.	0.2022	0.0101	0.0063	0.0038	22.9116	0.1034	36.9376	0.0807
36	NSE	0.1382	0.0970	0.0871	0.0099	20.1568	0.2215	75.4274	0.1474
37	OLYMPIA CAPITAL	0.0239	0.0744	0.0514	0.0230	20.9259	(0.0192)	3.2396	0.0395
38	PAN AFRICA INSURANCE	0.0481	0.0000	0.0000	0.0000	23.2640	0.3212	29.3223	0.1622
39	REA VIPINGO PLANTATIONS LTD. SEPT.	0.1418	0.0944	0.0212	0.0732	21.4440	0.1489	24.1714	0.2156
40	SAFARICOM	0.1299	0.1460	0.0848	0.0613	25.4354	0.1518	1.6001	0.0933
41	SAMEER AFRICA DEC.	0.0551	0.1437	0.0013	0.1425	21.8851	0.0595	8.4118	0.0532
42	SASINI LTD. SEPT.	0.0468	0.0364	0.0240	0.0123	22.9077	0.1537	27.0917	0.0543
43	SCAN GROUP LTD DEC	0.0985	0.0008	0.0001	0.0007	22.7780	0.2360	13.2974	0.1346
44	STANDARD GROUP LTD	0.0653	0.2200	0.0809	0.1391	21.9683	0.1195	16.7854	0.1298
45	TOTAL KENYA	0.0157	0.2758	0.0614	0.2144	24.2451	0.2859	21.5956	0.0279
46	TPS EASTERN AFRICA	0.0484	0.1563	0.1104	0.0459	23.2008	0.1668	42.6343	0.0510
47	TRANS-CENTURY	0.0345	0.2934	0.1997	0.0937	23.5136	0.1612	20.9946	0.0701
48	UCHUMI SUPERMARKETS	0.1511	0.2136	0.1071	0.1065	22.0721	0.1643	7.3369	0.1918
49	UNGA GROUP	0.0638	0.0043	0.0036	0.0008	22.5347	0.1128	49.4693	0.0839
50	WILLIAMSON TEA LTD. MAR.	0.0891	0.0305	0.0135	0.0170	22.3727	0.2920	444.0550	0.1099
	TOTAL	0.0738	0.1640	0.0849	0.0791	22.4902	0.2985	2,060.1270	0.1249

APPENDIX III: Correlation Analysis Table

		Return on Assets	Total Debt to Total Assets	Long Term Debt to Total Assets	Short Term Debt to Total Assets	Log of Total Assets	Annual Sales Growth	Net Asset Tangibility Ratio	Growth Rate
Return on Assets	Pearson Correlation	1	-.337**	-.200**	-.297**	-0.016	-0.006	-0.123	0.115
	Sig. (2-tailed)		0	0.002	0	0.798	0.929	0.056	0.072
	N	246	246	246	246	246	242	244	246
Total Debt to Total Assets	Pearson Correlation	-.337**	1	.794**	.627**	0.028	0.003	0.018	.171**
	Sig. (2-tailed)	0		0	0	0.662	0.963	0.784	0.007
	N	246	246	246	246	246	242	244	246
Long Term Debt to Total Assets	Pearson Correlation	-.200**	.794**	1	0.024	0.004	0	0.005	.319**
	Sig. (2-tailed)	0.002	0		0.707	0.955	0.996	0.944	0
	N	246	246	246	246	246	242	244	246
Short Term Debt to Total Assets	Pearson Correlation	-.297**	.627**	0.024	1	0.041	0.005	0.023	-.128*
	Sig. (2-tailed)	0	0	0.707		0.518	0.935	0.72	0.045
	N	246	246	246	246	246	242	244	246
Log of Total Assets	Pearson Correlation	-0.016	0.028	0.004	0.041	1	-0.042	-.130*	-.174**
	Sig. (2-tailed)	0.798	0.662	0.955	0.518		0.517	0.042	0.006
	N	246	246	246	246	246	242	244	246
Annual Sales Growth	Pearson Correlation	-0.006	0.003	0	0.005	-0.042	1	.818**	-0.018
	Sig. (2-tailed)	0.929	0.963	0.996	0.935	0.517		0	0.78
	N	242	242	242	242	242	242	240	242
Net Asset Tangibility Ratio	Pearson Correlation	-0.123	0.018	0.005	0.023	-.130*	.818**	1	-0.03
	Sig. (2-tailed)	0.056	0.784	0.944	0.72	0.042	0		0.636
	N	244	244	244	244	244	240	244	244
Growth Rate	Pearson Correlation	0.115	.171**	.319**	-.128*	-.174**	-0.018	-0.03	1
	Sig. (2-tailed)	0.072	0.007	0	0.045	0.006	0.78	0.636	
	N	246	246	246	246	246	242	244	246

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

* . Correlation is significant at the 0.05 level (2-tailed).

APPENDIX IV: Regression Coefficients Table

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.126	.077		1.635	.103
Total Debt to Total Assets	-.192	.031	-.369	-6.108	.000
Log of Total Assets	-.001	.003	-.017	-.282	.778
Annual Sales Growth	.003	.007	.047	.452	.652
Net Asset Tangibility Ratio	-3.548E-07	.000	-.067	-.642	.522
Growth Rate	.029	.009	.200	3.302	.001
2 (Constant)	.115	.080		1.432	.154
Long Term Debt to Total Assets	-.166	.044	-.244	-3.789	.000
Log of Total Assets	-.001	.004	-.023	-.365	.715
Annual Sales Growth	.005	.007	.076	.702	.483
Net Asset Tangibility Ratio	-5.500E-07	.000	-.104	-.955	.341
Growth Rate	.032	.009	.218	3.363	.001
3 (Constant)	.142	.079		1.796	.074
Short Term Debt to Total Assets	-.256	.052	-.305	-4.939	.000
Log of Total Assets	-.002	.003	-.037	-.602	.548
Annual Sales Growth	.004	.007	.060	.559	.577
Net Asset Tangibility Ratio	-4.476E-07	.000	-.085	-.791	.430
Growth Rate	.018	.009	.121	1.952	.052