THE RELATIONSHIP BETWEEN FINANCIAL PERFORMANCE AND CAPITAL STRUCTURE OF COMPANIES LISTED IN THE NAIROBI SECURITIES EXCHANGE

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DECLARATION

This project is my original work and has not been presented for a degree in any other university or for any other award.

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DEDICATION

This study is dedicated to my supportive wife Eunice, sons Ian and Shilton, and daughter Ivy who provided conducive environment to complete my studies.
ACKNOWLEDGEMENT

I would first of all like to thank God for the great opportunity to make this academic undertaking. My sincere appreciation goes to my Supervisor, Mr. Joseph M. Theuri for imparting ample skills and for guiding me through the process to conduct this research project and to Kenyatta University where I have acquired adequate knowledge and an opportunity to develop mastery in my field.

I cannot conclude this without the mention of my friends, colleagues, and all who made my time a pleasurable learning experience in this University. May the Almighty Lord bless you all.
ABSTRACT

Capital structure decisions are vital decisions with great implication for the firm's performance. The general purpose of this study was to determine the relationship between financial performance and capital structure of manufacturing firms listed in the Nairobi Securities Exchange (NSE) which was guided by the following objectives; to determine the extent to which interest coverage ratio affects the return on capital employed by firms, to assess whether the ratio of total debt to total assets impacts the return on capital employed by firms, to examine the relationship between the return on capital employed and the proportions of debt and equity by firms and, to evaluate the impact of long term debt and total capital on a firm's financial performance. This study used descriptive research design with a target population of all the 58 companies listed on the Nairobi Securities Exchange as at August 2013 where a sample size of 9 (nine) companies listed on the manufacturing sector were used. Secondary sources / annual financial reports for the financial years 2007 to 2011 were used in this study to collect data. The study used both descriptive (measure of central tendency) and inferential statistics (correlations and regression) to undertake data analysis. The major findings regarding the study were that there was a statistically significant strong positive relationship between the financial performance (ROCE) of listed manufacturing companies and the interest coverage ratio while there is also a statistically significant negative relationship between financial performance (ROCE) and debt to asset ratio, debt to equity ratio and long term debt to capital ratio. The study recommends that firms should try to operate using little amounts of loans to avoid higher finance costs which could otherwise be used to invest in other profitable ventures for the firm and even if increased liabilities enlarge repayment obligations curtail free cash flow, a right balance between debt and assets should be used to avoid corporate bankruptcies that can be caused by over-investment which reduces the cash flow and also short-term debt financing should be preferred to long-term debt financing because its associated with less agency costs and thus provides the firm with a lower cost of capital unlike long term debt financing. The study suggests further research to be done using interest rates, competition, and firm size as independent variables to determine the relationship between financial performance and capital structure.
<table>
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<tr>
<td>COMESA</td>
<td>Common Markets of East and Southern Africa</td>
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<tr>
<td>EBIT</td>
<td>Earnings Before Interest and Tax</td>
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<td>EPS</td>
<td>Earning Per Share</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>KAM</td>
<td>Kenya Association of Manufacturers</td>
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<td>MM</td>
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<td>MNC</td>
<td>Multi-national Companies</td>
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<td>NSE</td>
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OPERATIONAL DEFINITION OF TERMS

Capital Structure - The way a firm finances its assets through some combination of equity, debt or securities i.e. the composition of its liabilities.

Debt - An obligation owed by one party (the debtor) to a second party, the creditor; usually this refers to assets granted by the creditor to the debtor.

Equity - The residual claimant or interest of the investors in assets that would be due to stockholders after discharge of all senior claims such as secured and unsecured debt.

Financial performance - A measure of a company's level of performance and ability to generate income over a specified period of time expressed in terms of overall profits or firm's return on investment.

Leverage - The use of debt to finance a firm’s operations.
CHAPTER ONE

1.0: INTRODUCTION

In today’s highly dynamic, competitive and vibrant business environment, where many stakeholders have an interest, in some form or another, in the progress of a certain company, the various metrics of financial performance for a company is arguably as important as ever to measure and monitor for the company’s stakeholders. Capital structuring has been a debated subject ever since Miller and Modigliani (1958) presented their theories on debt financing. For a long time, academic and financial institutions have been trying to solve the puzzle of capital structure. Academically the problem is interesting since it is fairly open ended and therefore a subject to criticism and controversies while empirically, it has been proven that stock prices tend to change upon news on increased or decreased leverage mainly due to the market belief that value can be created or destroyed by using more or less debt (Shyam-Sunder, 1991).

1.1: Background to the study

Each and every corporation is confronted with the decision of how to finance its business activity by finding a specific mix of debt and equity capital. Because this decision is of high practical relevance, capital structure theories have gained popularity among financial academia in the last five decades. Scholars have developed a wide array of research on the determinants of optimal capital structures and on the question if such optimal design exists at all. Financial managers and corporate finance departments are interested in how the overall cost of capital is affected by changes in the firm’s capital structure and, accordingly, how the value of the firm will be impacted (Bierman, 2003). Additionally, the globalization of capital markets – involving a large heterogeneity of sources and design of financing – as well as the
recent global financial and credit crises gave rise to an enhanced interest in corporate leverage decisions and further complicated the above considerations regarding corporate capital structures.

The discussion, which continues ever since the middle of the last century, is built upon the defining work by Modigliani and Miller (1958), who succeeded – under very restrictive perfect market assumptions – to show that the value of a firm is not dependent of its capital structure. Following this initial contribution, the corporate finance literature saw the emergence of a vast number of new theories and concepts – such as the trade-off theory and the pecking order theory, to name the two most renowned ones – which dropped the stringent assumptions made in the initial irrelevance proposition. Nonetheless, until today, only little agreement could be reached with regard to the fundamental drivers behind observable corporate capital structures and the related managerial decision-making process. The capital structure is thereby of a very high significance to a company and its value, hence also an important question when it comes to financial decisions

1.1.1: Kenya’s Manufacturing Sector

Manufacturing companies can be defined as firms that buy certain product as inputs and processes (transforms) these inputs to a value added final product for sale. Based on data from 2007 Kenya Association of Manufacturers (KAM), the manufacturing sector plays a significant role in the overall economic performance in the country contributing about 10% to the country’s GDP and contributing to over 60% of government revenue through taxes with an output value estimated at over Kshs. 502 billion in 2005. The sector like the rest of the economy stagnated in the 90s and had a low growth of 1.6% in 2001 but has experienced a recovery in the last few years registering a growth of 4.9% in 2004, 5.8% in 2005 and 6.9%
in 2006. This impressive growth in the sector is closely aligned to the overall economic performance thus creating some linkage on the impact of manufacturing to the overall economic performance. KAM acknowledges that the growth in the sector has been driven more by an increase in the volumes supplied to the emerging markets of COMESA than efficiency and productivity improvements. In terms of external trade, the manufacturing sector accounts for 34% of exports.

Despite recording significant presence in the early years of independence, many MNCs moved out of Kenya as government policy was not conducive compared to other friendly emerging markets. Only 10% of the current firms in the sector date back to 1960 and before, 45% were established between 1980 and 2000 while the rest after 2000. In terms of ownership, 48% are privately owned by Kenyan citizens, 46% owned through partnerships between Kenyans and non-Kenyans. The balance includes some of the few remaining foreign owned that are fairly large with Kenya as the regional base to serve the East Africa region. The contribution of manufacturing industry is significant employing 88% of the total labour force in the industry, with value added and value output of 74% (Central Bureau of Statistics, 2010). This study seeks to determine the relationship between financial performance and capital structure of manufacturing firms in Kenya, specifically looking at manufacturing firms listed in the Nairobi Securities Exchange (NSE).

1.2: Statement of the Problem

The essential goal of running a business is to gain largest possible profit and increase the firm value, simplified by increasing revenue and decreasing cost. The value of a business is a difficult thing to determine, but nevertheless very important. One of the most common ways to estimate a firm’s value is to divide the future earnings by the cost of capital and to evaluate
the cost of capital one need to know the company’s capital structure (Damodaran, 2002). The
capital structure describes the relationship between equity and debt, that is, how a company’s
assets are financed, simplified by issuing stocks respectively bonds. A firm whom chooses to
raise money only through equity would be less risky in comparison to a company that is
financed partly by debt. Hence, an augmentation in debt, thereby leverage, increases the
business risk. On the other hand the increase in debt and its interests generates less tax
payments. The best balance between debt and equity, risk and cost, generates the optimal
capital structure (Bradley, Jarrell & Kim, 1984).

Manufacturing firms are viewed as an essential element of a healthy and vibrant economy.
They are seen as vital to the promotion of an enterprise culture and to the creation of jobs
within the economy (Opondo, 2004). Manufacturing firms are believed to provide an impetus
to the economic progress of developing countries and its importance is gaining widespread
recognition. Equally in Kenya they occupy a central place in the economy accounting for
90% of business stock and employing approximately 25% of private sector employees hence
their existence is vital and this can only be maintained through increased value. A firm’s
potential value always comes first in the minds of investors when they do consider
investment decision. There have been documented determinants of a firm’s value and these
include; cost of capital, sources of funds, management style, availability of resources and the
macro environment (Opondo, 2004).

Most manufacturing companies in Kenya and East Africa at large depend on the available
financing structures and this means that these companies rely on equity and debt. More so
when the company borrows to finance its operations, instability in interest rates affects the
firm’s value in terms of profitability and it’s against the above problems the study seeks to

1.3: Objectives of the Study

1.3.1: General Objective

The general objective was to determine the relationship between financial performance and capital structure of manufacturing firms listed in the Nairobi Securities Exchange (NSE).

1.3.2: Specific Objectives

i). To determine the extent to which interest coverage ratio affects the return on capital employed by firms.

ii). To assess whether the ratio of total debt to total assets impacts the financial performance of firms.

iii). To examine the relationship between the return on capital employed and the proportions of debt and equity by firms.

iv). To evaluate the impact of long term debt and total capital on a firms financial performance.

1.4: Research Questions

i). To what extent does the ability to finance interest on debt affect the return on capital employed by firms?

ii). What impact does the ratio of total debt to total assets have on the return on total capital employed by firms?

iii). What is the relationship between the return on capital employed and the proportions of debt and equity by firms?
iv). Does the proportion of long term debt and total capital have an effect on a firm’s financial performance?

1.5: Significance of the Study

The study will be of significance to the following;

1.5.1: Management of Manufacturing Firms in Kenya

The study will help managers identify how various performance determinants are affected by the changes in the capital structure. Managers have a critical role to play in reconciling the shareholders’ objective of maximizing wealth, therefore reducing the agency conflict between them and the shareholders.

1.5.2: Shareholders/ Investors

The study would be of importance to prospective and current investors by acting as a guide on which companies to invest since they would have information and understanding of the relationship of capital structure and firms’ performance.

1.5.3: Researchers

Other target groups besides investors and managers are also academics, students and the general public who have an interest in capital structure and firms’ performance. The study is expected to increase the pool of knowledge by providing more information.

1.6: Scope of the Study

This study was done at the Nairobi Securities Exchange headquarters in Nairobi. The population consisted of all the listed companies in the Nairobi Securities Exchange while the sample is the companies categorized under the manufacturing and allied sector. The research
time frame was limited to the period between 2007 and 2011. The fieldwork was done from September to October 2013.

1.7: Limitations and Assumptions of the Study

The time frame of the research was limited to the time period between 2007 and 2011. The main reason for excluding the period 2012 and 2013 is because most of the financial statements for 2012 and 2013 were either not audited or reported. An assumption for a time period of five years (2007-2011) was sufficient for the study and captured both the time before, during and after the recent financial crisis of 2009 and 2010.

The independent variables (capital structure indicators) were calculated as; the firm’s interest coverage ratio, debt to asset ratio, debt to equity ratio, and long term debt to total capital while the dependent variable (financial performance) was calculated as the returns on total capital employed by the firm.
CHAPTER TWO

2.0: LITERATURE REVIEW

2.1: Introduction

This chapter presents a review of the literature (theoretical and empirical) on the relationship between financial performance and capital structure of companies listed in the Nairobi Securities Exchange (NSE). The chapter is structured on the basis of the research questions. A summary of the reviewed literature is provided clearly indicating the research gap which has not been addressed by the previous researchers. Finally, a conceptual framework for the study is provided.

2.2: Theoretical Literature Review

Capital structure refers to mix of debt and equity capital maintained by a firm with different sources of funds, particularly to the long-term funds/capitals (Margaritis & Psillaki, 2010; Rocca & Rocca, 2007). Basically, it is a framework, which shows how equity and debt is used for financing firm’s operations. It could be argued as important to find an optimal capital structure or optimal combination of debt and equity because it maximizes the value of the firm. Capital structure has been an important focus point in the literature since Modigliani and Miller started publishing their research about it in 1958. The theory of capital structure can be classified into three groups: tax based theories; agency cost theories; asymmetric information and signaling theories (Michaelas et al., 1999).
2.2.1: Modigliani-Miller Capital Structure Theory

The modern theory of capital structure primarily was developed by Modigliani and Miller (1958), with an article in *The American Economic Review*. According to Hillier et al. (2010), Modigliani and Miller theorem is generally considered the beginning point of modern corporate finance and their irrelevance theorem argued that the firm’s capital structure does not have any impact on its value. They believed that the firm value is determined based on the active side of the balance sheet. Value is generated by the earning power and risk of the underlying asset. In other words, obtaining capital from restrictive payout ratio, issuance of new equity or borrowing has the same impact on the firm’s value. The MM theorem introduced two propositions under five assumptions as following: no taxes, no transaction costs, no costs of bankruptcy, no asymmetric information; homogeneous expectations; all investors are price-takers; the firm’s investment program is fixed and known; and the firm’s financing is fixed.

The first proposition is about the capital structure, and the second one concerns the cost of capital. The first proposition says that the value of levered firm is equal to the value of the un-levered firm. The second proposition goes hand in hand with the first proposition. The second proposition explains that the cost of equity is a linear function of the firm debt/equity ratio (Modigliani and Miller, 1958).

Modigliani and Miller (1958) developed their theorem further because there is no such an economy with the perfect capital market. In the economy with the transaction costs and taxes, capital structure composition is a significant matter. In most of the countries, taxes are deductible; hence the value of the levered firm exceeds the value of the un-levered firm. The effect of leverage generates the tax shield with the same value of the deductible interest of
the debt. The conclusion is that if a firm wants to maximize its value then it should be
financed by debt only. Therefore, the propositions were extended to contain tax shield, which
affect the market capitalization and the expected return on equity.

2.2.2: Static Trade-off Theory

The tax adjusted MM theory results to an incredible conclusion that firms should use only
debt to maximize their value. However, empirical evidence refuted this extreme conclusion.
The purpose of the trade-off theory is to explain why firms are financed partly by debt and
partly by equity. The optimal capital structure of a firm is often explained as a tradeoff
between the cost and the merits of debt. The optimal capital structure occurs when the merit
and cost of debt is equal.

According to Jensen and Meckling (1976) cost in this theory is represented by the agency
cost arising among creditors and owners and the cost of financial distress. Merit is
measurable by the tax shield of debt (Myers, 1984). However, the optimal point differs from
one firm to another due to the characteristics of each firm. The optimized capital structure
exists when the marginal cost of debt is equal to the marginal benefit of debt. If an unlevered
firm starts to adjust its capital structure to small level of leverage, this act will create a high
benefit from interest tax shield without any huge increase in the distress cost. If the company
increases its leverage more, the benefit would still be considerable but not as high as before.
The cost of financial distress would also be high. If the rise in leverage increases, the cost of
financial distress would exceed the tax shield benefit (Hillier et al. 2010).

According to the trade-off theory, at the point of optimal balance between the cost and the
benefit of debt finance, a firm should stop increasing the D/E ratio. At the optimal D/E ratio
the firm market value should be maximized and the cost of capital should be as low as possible. The cost of debt is the cost of financial distress and bankruptcy therefore; the expected cost of financial distress in future is the cost if financial distress happens multiply its probability. One of the advantages of this theory is about costs, which are 'fiscally deductible' from the company’s tax as a result of paying interests (Modigliani and Miller, 1963; DeAngelo and Masulis, 1980); the other advantage is lessening of the free cash flow problem (Jensen and Meckling 1976; Stulz, 1990). The disadvantage of debt contains the potential costs as a result of financial distress (Kraus and Litzenberger, 1973), and the agency costs occurring between the financial creditor and the company’s owner (Jensen and Meckling, 1976).

2.2.3: Pecking Order Theory

Myers and Majluf developed the pecking order theory in 1984. The theory is applicable by financial managers in comparison to the trade-off theory. The pecking order theory underlying assumption is that there exists asymmetric information among the managers of the firm and outside stakeholders. It is assumed that managers who work on behalf of the company’s stakeholders have better information than the company’s stakeholder and other investors. The pecking order theory is the order, which shows the preferences of financial managers in raising new capital. According to this theory, manager’s first choice is to use internal financing or retained earnings. Internal financing indicates that there is no need to issue debt or equity and the firm can inject its own money to finance a project. If the firm does not possess enough internal resources, the second option will be external financing. The external financing is divided into issuing debt and equity, and there is a preference with the issuance of debt and equity. The first choice in external finance is issuing debt. Debt is a
safer security and less risky than equity. The pecking order allows issuing equity when the capacity of debt is fully used (Myers and Majluf, 1984).

2.2.4: Agency Cost Theory

Agency theory is concerned with the diverging interest when the firm ownership and management are separated. The theory argues about the relationship between the agent (e.g. the manager), and the principal (e.g. the shareholders). The major assumption of this theory is that the separation of ownership and management creates conflicts among principals and agents. The main argument behind the agency theory is that the corporate managers act in their own interest. They are looking for job security, prerequisites, and in the worst cases getting hand on assets and cash flows. The ethics of the free cash flow theory has been built due to the agency cost approach. Managers have incentives to decrease the firm value unless the free cash flow distributes between stakeholders. Jensen (1986) argues that the problem is how to motivate managers to disgorge the cash rather than investing it below the cost of capital and/or wasting it on organization inefficiencies. One solution to this problem is to apply more debt in capital structure to confine the managers. This strategy would force the firm to limit its spending or perks in order to avoid the default risk.

In regard to agency theory, Jensen and Meckling (1976) argued that there is less conflict between principals and agents in small and medium size enterprises. The reason is that in the SMEs, owner and the manager is one person. According to Ang (1992), family or small firms can be considered as zero agency cost since the level of conflict is low in these kinds of firms. The idea of zero agency cost is also supported by Anderson and Reeb (2003) and McConaughy (2000). They argued that the existing incentive structured in the small and medium size firms create fewer agency conflicts between different claimants.
2.3: Empirical Literature Review

Return on capital employed (ROCE) compares income with the operational assets that produce the income. It shows the relationship between the firm's net profit (outputs) and the long-term invested capital (inputs) (Foster, 1978). It also shows how a firm uses operating capital in order to generate net operating profits (Brigham & Ehrhardt, 2005). In addition, ROCE conveys the return on invested capital from the different perspectives of contributors including creditors and shareholders (Wild, Subramanyan, & Hasle, 2003). Therefore, ROCE is a popular measurement of corporate performance because it contrasts the net income generated with the total value of assets under management control. Consequently, it shows the effectiveness of management in terms of utilizing firm assets and its power to create shareholder value.

The value is created for the shareholders only when the firm earns a rate of return on new invested capital that exceeds its cost of capital (Copeland, Koller & Murnin, 2000). Additionally, this measure is considered more accurate than others that depend only on the balance sheet. ROCE relies on two financial statements, balance sheet (financing) and income statement (profit). Moreover, according to Friedlob and Plewa (1996), "The relationship between profit and investment that generates profit is one of the most widely used measures of firm performance. As a quantitative measure of investment and results, ROCE provides of firm’s management with a simple tool for examining performance". Therefore, ROCE is used as a primary tool to evaluate financial performance of a firm.
2.3.1: Capital Structure and Financial Performance.

Local studies (Kamere, 1997; Omondi, 1996; Odinga, 2003) constitute important steps towards more realistic tests of determinants of capital structure. However, these studies have not captured the concept of target leverage and the adjusting process towards target leverage. Some studies have focused more on testing the pecking order hypothesis. Kiogora (2000) for instance using regression model finds a negative relationship between returns of firms quoted on the Nairobi Stock Exchange and their level of leverage; consistent with the pecking order prediction. Omondi (1996) on the other hand finds that firms with high return on investment use relatively high debt. Gachoki (2005) finds that firms listed on the NSE follow the pecking order theory of capital structure.

Regarding the negative effects of liabilities on corporate management, however, it is noted that liabilities can influence corporate behaviors through the following three channels. Firstly, as increased liabilities raise bankruptcy risks, corporate managers who fret over the possibility of shareholders holding them accountable tend to move to curb borrowings and/or reduce investments, potentially raising the prospect of underinvestment. Secondly, as larger interest payment burdens resulting from higher debts reduce funds in hand, so debt has a negative impact on the investment activities of companies with promising investment opportunities. Thirdly, managers of companies with declining equity ratios have an incentive to make investments with a high expected rate of return even at the risk of sacrificing creditors. Therefore, as liabilities increase, creditors become increasingly reluctant to provide more funds, a development that can lead to underinvestment (Jensen and Meckling, 1976).

Meanwhile, in contrast to the negative effect of liabilities on corporate management, Jensen (1986) points out that liabilities can help avoid overinvestment by reducing the cash flow left
up to corporate managers' own discretion and constraining investments in investment projects that might be desirable for corporate managers but not desirable for companies' future profitability. Jensen (1986) argues that whether liabilities restrain overinvestment depends largely on whether companies have growth opportunities. In short, Jensen points out that liabilities have (not only the negative effect of causing underinvestment by high-growth companies but also) the potentially positive effect of restraining overinvestment by low-growth companies. Like Jensen (1986), Stulz (1990) and Hart and Moore (1995) argue that liabilities effectively restrain overinvestment. They reason that increased liabilities, by enlarging repayment obligations, not only curtail free cash flow but also raise the possibility of corporate bankruptcies, thus prompting corporate managers to reduce investments and sell off unprofitable business divisions.

A more recent study carried out by Ngugi (2008) investigated capital financing behaviour of firms listed on the Nairobi Stock Exchange. The results show that a pecking order model with an adjustment process cannot be rejected. Specifically, the study finds that the main determinants of capital financing behaviour consist of information asymmetries, non-debt tax shields and local capital market infrastructure. This study extended the empirical research on the subject of target capital structure by focusing on the dynamics of capital structure decisions and the nature of adjustment process. A study by Flannery and Rangan (2006) show that more than half of the observed changes in capital structures can be attributed to targeting behaviour whereas market timing and pecking order considerations explain less than 10%.

In contrast to the Miller and Modigliani (1958) propositions, there are several theories arguing for capital structure being an active, dynamic, choice and not at all a fixed, static
decision, but instead a function of a company's strategies, life cycle stage, size and industry, to mention some common factors influencing capital structure discussed in past research. For instance, as companies in these days need to employ dynamic strategies to remain competitive in business environments characterized by increased levels of dynamism, by sensing and seizing opportunities as well as constantly re-configuring its capabilities. Thus employing a dynamic capability perspective to its strategy development (Teece, 2007), it is logical to assume that this also implies that a company's capital structure decisions would change over time as its strategic choices has to.

One study attempting to look at and consider these types of issues noted that companies with a high degree of an innovative strategy tend to have lower levels of leverage, as they need a higher degree of financial slack to pursue their investments (O'Brien, 2003). O'Brien (2003) then further argues that there is a dynamic relationship between capital structure and the strategy of a company, meaning that each affects each other. A low cost, large-scale company tends to be highly levered, while a company competing on the basis of innovation and differentiation in an industry has lower leverage and higher financial slack. This could also be in line with Teece's (2007) notion of dynamic capability, in the sense that capital structure, just as strategy, has to be dynamic to ensure to survival and profitability of a company in a dynamic and changing business environment with innovative competitors. More recent studies have also given support to the notion that intra-industry heterogeneity could be seen in leverage ratios and thus the capital structure choice (Degryse, Goeij & Kappert, 2010).

Akhtar (2005) argues that new and younger types of companies have an equity gap. That means that they cannot finance or sustain their growth based on internally generated cash-
flows or the equity capital of the existing owners. Thus growing companies need access to external financing to mitigate their equity gap and such financing may come through equity financing from for instance venture capital firms or through debt financing provided by banks or similar institutions. From a capital structure perspective, it is hence generally argued that companies with relatively higher growth also have a higher leverage due to increased debt financing, particularly short-term debt financing. Short-term debt financing is said to be preferred to long-term debt financing, as the former is argued to be associated with less agency costs and thus provides the company with a lower cost of capital (Lindblom et al., 2011; O’Brien, 2003).

The notion of the industry as an important factor when looking at capital structure choice has been supported by Cassar and Holmes (2003), who in a large study of Australian firms notes that companies operating in the wholesale industry tends to utilize a high portion of short-term debt in order to finance its operations and probably large inventories. Looking at the overall debt-to-assets ratio, the study found that companies within the wholesale industry together with companies in the retail industry had the highest figures on average. Furthermore, Degryse et al. (2010) states that the level of competition in an industry is a determinant of the capital structure choice, as companies in industries with higher level of competition are pressured towards aligning the company to financially optimal degree of leverage for that particular industry, whereas companies in industries with lower levels of competition does not have the same pressure to stay close to the theoretically optimal target.

According to Titman & Wessel (1998), the appropriate capital structure helps to decrease a firm's cost of capital; as a result a firm maximizes its performance. Therefore, managers try to maintain this appropriate capital structure and minimize financing costs to improve their
firm's performance. Eventually, it is expected that there is positive relationship between debt level and firm's performance. A number of studies provide empirical evidence supporting this positive relationship between debt level and firm's performance (Taub, 1975; Roden & Lewellen, 1995; Champion, 1999; Ghosh et al., 2000). Mesquita and Lara (2003) conducted a study of 70 Brazilian companies covering the period of 7 years (1995–2001). They found that there is a positive relationship between firm performance and short-term debt and with equity and inverse relationship with company's long-term debt. Chou and Lee (2010) assert that relationship between level of debt and firm performance is coherent with the trade-off theory according to their study, which includes 37 Taiwanese companies during the period of 20 years (1987–2007).

However, some of studies have had opposite conclusion that the relationship between leverage/debt ratio and performance is negative. Fama and French (1999) claim that profitability seems to be negatively related to leverage. Myers (1989) also found that there is inverse relationship between leverage/debt ratio and financial performance (profitability). Furthermore, the theory asserts that larger firms have relatively less adjustment costs and it is easy for them to access to credit market, have more debt and benefit from tax shield at most.

A study done by Hung et.al(2002) examining the inter-relationship between profitability, cost of capital and financial structure among property developers and contractors in Hong Kong indicated that capital gearing is positively related with asset but negatively related with profit margins. On the other hand, a study done by Raheman (2007) in the estimation of a function relating to the net operating profitability with the independent variables including debt ratio, long term debt to liabilities, equity to liabilities and size of the firm measured in terms of natural logarithm of sales. The results indicate that the financial structure of the non-financial
firms listed on Islamabad Stock Exchange has a significant effect on the profitability of these firms. If these firms want to increase their profitability, they will have to give due consideration to the financing mix, otherwise it may suffer from losses.

Studies on the effect of debt on returns have generated mixed results ranging from those supporting a positive relationship hypothesis to those opposing it. Some of the studies did not come up with any effect on returns, that is, they found out that capital structure did not portray any relationship with the returns of a firm. Abor (2005) conducted a study on the effect of debt on firms in Ghana which indicated a significantly positive association between total debt and total assets and return on equity. The results therefore portrayed a positive leverage. According to Berkivitch and Israel (1996), a firm’s debt level and its value will be positively related especially when shareholders have absolute control over the business of the firm and it will be negatively related when debt holders have the power to influence the course of the business. The impact of debt on value of firms therefore, depends on the balance of power within a firm. If shareholders have more power, a positive leverage will prevail and if debt holders have more power, a negative leverage would take place.

In a study by Ibrahim (2009), using three of accounting-based measures of financial performance (i.e. return on equity (ROE), return on assets (ROA), and gross profit margin), and based on a sample of non-financial Egyptian listed firms from 1997 to 2005 reveal that interest coverage ratio in general terms, has positive strong impact on firm's financial performance and that a lower ICR means less earnings are available to meet interest payments and that the business is more vulnerable to increases in interest rates making its ability to meet interest expenses questionable. Recent study done by Saedi and Mahmoodi (2011) indicated that firm performances with a higher ratio indicates a better financial health
as it means that the company is more capable to meeting its interest obligations from operating earnings. On the other hand, a high ICR may suggest a company is "too safe" and is neglecting opportunities to magnify earnings through leverage.

Earlier study with regards to Malaysian perspective done by Mohamad (2011) conducted a study to examine the determinants of firms' financial structure in Malaysia that covers the period from 1986 to 1990 by using a sample of 108 large Malaysian firms. He found that highly leveraged firms are more likely to earn higher profits than lowly leveraged firms. In contrast, Wan and Rozimah (2007) using the sample of 25 property companies and 20 construction companies in Malaysia for a period of eight years found that capital gearing is negatively related with net profit margins and price earnings ratio for both property and construction sectors.

Mustapha et al., (2011) explored the factors associated with debt structure of public listed companies in Malaysia found that profitability, asset tangibility; growth and ownership structure affect the debt structure. However size is only a significant variable when the companies are further categorized into their respective sectors. The finding also suggests that companies in construction and property sectors are more leveraged compared to companies in other sectors. The findings appear to suggest that the capital structure of Malaysian companies can be explained in light of the theoretical relationship, by pecking order theory (influence of profitability, ownership structure and growth on debt) and the trade-off theory (influence of size and tangibility of assets on debt).

Kiogora (2000) using regression model finds a negative relationship between returns of firms quoted on the Nairobi Stock Exchange and their level of leverage; consistent with the
pecking order prediction. Omondi (1996) on the other hand finds that firms with high return on investment use relatively high debt. Gachoki (2005) finds that firms listed on the NSE follow the pecking order theory of capital structure.

Other similar researches that have been done include that of Musilo (2005): capital structure choices, a survey of industrial firms in Kenya. His objective was to find out the factors that motivate management of industrial firms in choosing their capital structure. The research found out that industrial firms are more likely to follow a financing hierarchy than to maintain a target-debt to equity ratio, and that the models based on corporate and personal taxes, bankruptcy, and other leverage related cost are not as useful in determining the financing mix as are the models that suggest that new financing reveals aspects of the firm's marginal asset performance. He further added that, the importance managers attach to specific capital structure theories is not related to managerial perceptions of market efficiency.

2.4: Summary and Research Gap

The trade-off theory determines that optimal firm and industry-specific (also time-specific in dynamic trade-off) debt ratios exist due to the balance between varying tax shields and costs of financial distress. In contrast, the pecking order theory claims that observed debt ratios merely represent cumulative past decisions for different financing sources according to the hierarchy suggested by the pecking order. Ultimately, the market timing theory concludes that a firm's debt ratio reflects the cumulative outcome of past efforts to time the equity market ("windows of opportunity"). Managers are seen to intend to exploit market inefficiencies in the timing of security issues rather than aiming for a target debt ratio. Here,
the market valuation of a company implicitly impacts the capital structure decisions of a firm.

The question of whether the specific debt structure within the capital structure has any significant impact on firms’ performance is something that the studies mentioned above have not addressed and it is therefore interesting to look at the debt structure and if it affects a firm’s performance. Previous researchers have concentrated on looking at the capital structure as a dependable variable and financial performance parameters such as; gross profit, firm size, firm growth, return on assets, return on equity and return on investments being the independent variables. The research gap to be filled is examining the relationship between financial performances (return on capital employed) as the dependent variable and capital structure (financial leverage, debt to asset ratio, debt to equity ratio and long term debt to capital) as independent variables thus explaining how various components of capital structure affects the financial performance.
2.5: Conceptual Framework

**Independent Variables**

(Capital Structure)

- **Interest Coverage Ratio**
  - EBIT
  - Interest Expense

- **Debt to Asset Ratio**
  - Total Liabilities
  - Total Assets

- **Debt to Equity Ratio**
  - Long Term Debt
  - Shareholders’ Equity

- **Long Term Debt to Capital**
  - Long Term Debt
  - Available Total Capital

**Dependent Variable**

(Financial Performance)

- **Return on Capital Employed**
  - EBIT
  - Net Assets

**Intervening variables**

- Interest Rates
- Competition
- Firm Size

Figure 1.0: Conceptual Framework

Source: (Author, 2013)
CHAPTER THREE

3.0: RESEARCH METHODOLOGY

3.1: Introduction

This chapter covers the methodology and procedures that were used for the collecting and analyzing the data for the study. This chapter deals with the type of research design; the population and sampling design; data collection methods and data analysis methods. The chapter summary provides an outline of the areas covered in this chapter.

3.2: Research Design

The research design used for this study was descriptive. Descriptive research design facilitates the understanding of the characteristics associated with a subject population (Cooper and Schindler, 2006) and has a wide, inclusive coverage and involves empirical research. Survey technique which falls under cross-sectional studies of descriptive design was utilized in the study with a data collection guide as the data collection tool. Cross-sectional studies collect data on all variables in the study at a single point in time; there is no opportunity to examine 'before and after' effects (Lee and Lings, 2008).

The reason for utilizing the research design is because the researcher sought to describe the relationship between financial performance and capital structure among the companies listed in the NSE.

3.3: Target Population

Bryman and Bell (2007) define a population as the total population as the universe of units from which a sample is to be selected. The population is the larger set of observations in
which the smaller set is called the sample. A sample is the segment of the population that is selected for investigation or a subset of the population (Bryman and Bell, 2007). The population of this study was all the 58 companies listed on the Nairobi Securities Exchange as shown in Table 3.1 below. This number was according to updated statistics of the NSE (NSE, 2013).

Table 3.1: Population Distribution

<table>
<thead>
<tr>
<th>CATEGORY/SECTOR</th>
<th>NO. OF COMPANIES</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>7</td>
<td>12%</td>
</tr>
<tr>
<td>Commercial and Services</td>
<td>8</td>
<td>14%</td>
</tr>
<tr>
<td>Telecommunication and Technology</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Automobiles and Accessories</td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td>Banking</td>
<td>10</td>
<td>17%</td>
</tr>
<tr>
<td>Insurance</td>
<td>5</td>
<td>9%</td>
</tr>
<tr>
<td>Investment</td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td>Manufacturing and Allied</td>
<td>9</td>
<td>15%</td>
</tr>
<tr>
<td>Construction and Allied</td>
<td>5</td>
<td>9%</td>
</tr>
<tr>
<td>Energy and Petroleum</td>
<td>4</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Nairobi Securities Exchange (NSE, 2013)

3.4: Sampling and Sample Size

A sample frame is a list that constitutes the population. The basic idea of sampling is that by selecting some of the elements in the population, one can draw conclusions about the entire
population. Therefore, a sample frame is a representation of the elements of the target population that consists of a list of all the elements of that population (Cooper and Schindler, 2006). In this study the sampling frame consisted of a list of all companies listed on the NSE as described in Table 3.1. The researcher obtained the sampling frame from the Nairobi Securities' Exchange because it had the most recent, accurate and complete list of companies quoted on the exchange as shown in Appendix I.

Sampling technique refers to strategies applied by researchers during the statistical sampling process (Ghauri and Gronhaug, 2002). The study utilized stratified sampling technique which is probabilistic followed by purposive sampling technique which is non-probabilistic. In probabilistic sampling each unit has a known, non-zero chance of being included in the sample which allows for statistical inferences while in non-probabilistic sampling, it is not possible to make valid inferences about the population as the samples are not representative (Ghauri and Gronhaug, 2002). Stratified sampling was used to enable the researcher select the particular strata or investment class among the categories listed on the NSE. Purposive sampling technique enabled the researcher select the sample according to his judgment in order to facilitate collection data for the study.

To determine the specific sample size, the researcher considered accessibility, convenience, cost and availability of the respondents. According to Troendle and Kai (2003), size of a sample should be determined by adequacy and resource considerations. This means that the sample should be large enough to enable reasonable estimates of variables to be obtained, capture variability of responses and facilitate comparative analysis. The sample size consisted of companies listed on the manufacturing sector of the NSE as per Table 3.2 below.
The sample size was determined in line with trends set by previous studies carried out in other sectors where the researchers focused on individual sectors of the NSE.

Table 3.2: Sample Size Distribution

<table>
<thead>
<tr>
<th>MANUFACTURING AND ALLIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. B.O.C Kenya Ltd</td>
</tr>
<tr>
<td>2. British American Tobacco Kenya Ltd</td>
</tr>
<tr>
<td>3. Carbacid Investments Ltd</td>
</tr>
<tr>
<td>4. East African Breweries Ltd</td>
</tr>
<tr>
<td>5. Mumias Sugar Co. Ltd</td>
</tr>
<tr>
<td>6. Unga Group Ltd</td>
</tr>
<tr>
<td>7. Eveready East Africa Ltd</td>
</tr>
<tr>
<td>8. Kenya Orchards Ltd</td>
</tr>
<tr>
<td>9. A.Baumann CO Ltd</td>
</tr>
</tbody>
</table>

3.5: Data Collection Procedure

Secondary sources were used in this study to collect data through the adoption of a data collection guide to collect the required data. The data collection guide was used by the researcher to pick out the needed information from financial statements of companies quoted on the manufacturing sector of the NSE over five years (2007-2011). The data collection guide was used because the researcher collected secondary data only and also because previous studies in this area adopted a data collection tool to gather data.

The data collection tool was pre-tested prior to conduct of the actual research. The pre-test was conducted on two companies listed on the NSE in the Construction and Allied industry. The purpose of pre-testing was to refine the data collection guide and also ensure that research assistants know exactly what to capture from the companies’ financial statements.
The Construction and Allied industry was used for the pre-test because it is the nearest to the Manufacturing and Allied industry amongst the various sectors of the NSE.

After the pre-test, the data collection guide was amended accordingly. The data collection tool was used by research assistants to capture financial data in the end of financial years 2007-2011. To ensure the right data was captured, the researcher conducted reviews on information collected on two of the companies on the Manufacturing and Allied sector out of the nine listed companies.

3.6: Data Analysis and Interpretation

The study utilized both descriptive and inferential statistics to undertake data analysis. Under descriptive statistics, the study used the mean as a measure of central tendency and standard deviation as a measure of dispersion. Under inferential statistics, the study also used correlations and regressions to deduce relationships and analyze data. Data presentation was done by use of tables and figures.

The regression analysis model was as follows:

\[ Y = \beta_0 + \beta_1 \text{ICR} + \beta_2 \text{DAR} + \beta_3 \text{DER} + \beta_4 \text{LTDC} + e \]

Where;

- \( Y \) = Financial Performance expressed by ROCE.
- \( \beta_0 \) = Intercept/ Constant
- \( \beta_1 \text{ICR} \) = coefficient of interest coverage ratio
- \( \beta_2 \text{DAR} \) = coefficient of the debt to asset ratio
- \( \beta_3 \text{DER} \) = coefficient of debt to equity ratio
• $\beta_{4LTDC} =$ coefficient of long term debt to total capital

• $e =$ error term due to intervening variables
CHAPTER FOUR

4.0: RESEARCH FINDINGS

4.1: Introduction

This chapter presents the results and findings of the study. The general objective was to determine the relationship between financial performance and capital structure of manufacturing firms listed in the Nairobi Securities Exchange (NSE).

The first part presented an analysis of the response rate. The second part explored the inferential analysis of the collected secondary data guided by the research objectives which were outlined as: to determine the extent to which interest coverage ratio affects the return on capital employed by firms; to assess whether the ratio of total debt to total assets impacts the financial performance of firms; to examine the relationship between the return on capital employed and the proportions of debt and equity by firms, and to evaluate the impact of long term debt and total capital on a firm’s financial performance.

4.2: Response Rate

Data was gathered in a quantitative form from audited annual financial reports (2007-2011) of eight public listed companies in the manufacturing and allied sector of the NSE out of the targeted sample of nine. Data from one company was missing because it was suspended from trading in the NSE and as such its financial statements could not be obtained from the NSE. This represented a response rate of 88.9 percent, which was acceptable for this research.
Figure 4.1: Annual Return on Capital Employed

Figure 4.1 above shows the financial performance of the listed manufacturing and allied companies between 2007 and 2011 financial years. In the 2007 financial year, the average ROCE was 32.9% while in the 2008 financial year, the ROCE dropped 26.4% which was attributed to having higher operating assets than the realized assets. In the 2009 financial year, the ROCE increased slightly to 26.9% but in the 2010 and 2011 financial years, the ROCE for the manufacturing sector of the NSE decreased sharply to 18.8% and 16.8% respectively.

The financial analysis above shows that higher ROCE was achieved when operating profits are higher than the net assets used to generate that income by the companies listed in the NSE manufacturing sector. This concurs with (Brigham & Ehrhardt, 2005) that ROCE show
how the firms used operating capital to generate operating profits and that higher ROCE is as a result of the net income generated exceeding total net value of assets.

4.3.2: Interest Coverage Ratio

Figure 4.2: Annual Interest Coverage Ratio

Figure 4.2 above shows the various annual interest coverage ratios with the return on capital employed by manufacturing companies listed in the NSE between 2007 and 2011 financial years. In the 2007 financial year, the average ROCE by manufacturing companies was 32.9% against interest coverage ratio of 19.5 while in the 2008 financial year the ROCE decreased to 26.4% with the interest coverage ratio increasing to 53.2. During the 2009 financial year there was a slight increase in the ROCE to 26.9% accompanied by subsequent drop in the interest coverage ratio to 34.8. The 2010 financial year recorded the highest interest coverage ratio of 83.8 but also the ROCE dropped to 18.8%. In the 2011 financial year, the ROCE and
interest coverage ratio were 16.8% and 23.8 respectively. The ICR results above supports findings by Ibrahim (2009) that interest coverage ratio in general terms, has positive strong impact on firm's financial performance and that a lower ICR means less earnings are available to meet interest payments and that the business is more vulnerable to increases in interest rates, making its ability to meet interest expenses questionable. The findings also concurs with the study done by Saedi and Mahmoodi (2011) which found out that firm performances with a higher ratio indicates a better financial health as it means that the company is more capable to meeting its interest obligations from operating earnings. On the other hand, a high ICR may suggest a company is "too safe" and is neglecting opportunities to magnify earnings through leverage.

4.3.3: Debt to Asset Ratio

![Annual Debt Asset Ratio](chart.png)

Figure 4.3: Annual Debt Asset Ratio
Figure 4.3 above shows the annual debt to asset ratios with the return on capital employed by manufacturing companies listed in the NSE between 2007 and 2011 financial years. In the 2007 financial year, the average ROCE by manufacturing companies was 32.9% against highest debt to asset ratio of 50.8% while in the 2008 financial year the ROCE decreased to 26.4% with the debt to asset ratio also decreasing to 45.3%. During the 2009 financial year there was a slight increase in the ROCE to 26.9% accompanied by subsequent increase in the debt to asset ratio to 48.1%. The 2010 financial year saw both the debt to asset ratio and the ROCE decrease to 46.4% and 18.8% respectively. In the 2011 financial year, had the lowest ROCE of 16.8% but there was a slight increase of the debt to asset ratio to 48.3%.

From the trends shown above, it can be seen that most of the companies that had higher DAR tend to have lower ROCE. These findings concur with Jensen (1986) who argues that liabilities can help avoid overinvestment by reducing the cash flow left up to corporate managers’ own discretion and constraining investments in investment projects that might be desirable for corporate managers but not desirable for companies’ future profitability. Hart and Moore (1995) arguments support the above findings by also acknowledging that increased liabilities, by enlarging repayment obligations, not only curtail free cash flow but also raise the possibility of corporate bankruptcies, thus prompting corporate managers to reduce investments that could in turn improve financial performance.
Figure 4.4: Annual Debt Equity Ratio

Figure 4.4 above shows annual debt equity ratios with the return on capital employed by manufacturing companies listed in the NSE between 2007 and 2011 financial years. In the 2007 financial year, the average ROCE by manufacturing companies was 32.9% against debt equity ratio of 20% while in the 2008 financial year the ROCE decreased to 26.4% with the debt equity ratio decreasing to 6.8%. During the 2009 financial year there was a slight increase in the ROCE to 26.9% accompanied by subsequent increase in the debt equity ratio to 22.0%. The 2010 financial year recorded the highest debt equity ratio of 28.4% but also the ROCE dropped to 18.8%. In the 2011 financial year, the ROCE and debt equity ratio were 16.8% and 24.8% respectively.
The results above support findings by Berkivitch and Israel (1996) who found out that a firm's debt level and its value will be positively related especially when shareholders have absolute control over the business of the firm and it will be negatively related when debt holders have the power to influence the course of the business. The impact of debt on value of firms therefore, depends on the balance of power within a firm. If shareholders have more power, a positive leverage will prevail and if debt holders have more power, a negative leverage would take place.

4.3.5: Long Term Debt to Capital Ratio

Figure 4.5: Annual Long Term Debt to Capital Ratio

Figure 4.5 above shows the annual long term debt to capital ratio with the return on capital employed by manufacturing companies listed in the NSE between 2007 and 2011 financial
years. In the 2007 financial year, the average ROCE by manufacturing companies was 32.9% against the lowest long term debt to capital ratio of 8.4% while in the 2008 financial year the ROCE decreased to 26.4% with the long term debt to capital ratio increasing to 9.9%. During the 2009 financial year there was a slight increase in the ROCE to 26.9% accompanied by subsequent increase in the long term debt to capital ratio to 11.3%. The 2010 financial year saw the long term debt to capital ratio increase to 12% and the ROCE decrease to 18.8% respectively. The 2011 financial year, had the lowest ROCE of 16.8% and the highest long term debt to capital ratio of 12.4%.

The above results show that there is a negative relationship between LTDCR and ROCE. This is in support of the findings by Lindblom et al., (2011) and O’Brien, (2003) who argued that companies with relatively higher growth also have a higher leverage due to increased debt financing, particularly short-term debt financing and not long term debt financing. Short-term debt financing is said to be preferred to long-term debt financing, as the former is argued to be associated with less agency costs and thus provides the company with a lower cost of capital unlike long term debt financing.

4.4: Relationship between Financial Performance and Capital Structure

4.4.1 Correlation Analysis

In the analysis shown in Table 4.1 below, there is a statistically significant strong positive relationship between the financial performance (ROCE) of listed manufacturing companies and the interest coverage ratio as indicated by, \( r = 0.672, \ p < 0.01 \) while there is also a statistically significant negative relationship between ROCE and debt to asset ratio, debt to equity ratio and long term debt to capital ratio as indicated by \( r = -0.502, \ p < 0.01 \) \( r = -0.507, \ p < 0.01 \) and \( r = -0.513, \ p < 0.01 \) respectively.
### Table 4.1: Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>Return on Capital Employed</th>
<th>Interest Coverage Ratio</th>
<th>Debt to Asset Ratio</th>
<th>Debt to Equity Ratio</th>
<th>Long Term Debt to Capital Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Return on Capital Employed</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td>1</td>
<td>-.672**</td>
<td>-.502**</td>
<td>-.507**</td>
</tr>
<tr>
<td></td>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Interest Coverage Ratio</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td>.672**</td>
<td>1</td>
<td>-.494**</td>
<td>-.514**</td>
</tr>
<tr>
<td></td>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.006</td>
<td>.004</td>
<td>.065</td>
</tr>
<tr>
<td><strong>Debt to Asset Ratio</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td>-.502**</td>
<td>-.494**</td>
<td>1</td>
<td>.961**</td>
</tr>
<tr>
<td></td>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.001</td>
<td>.006</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Debt to Equity Ratio</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td>-.507**</td>
<td>-.514**</td>
<td>.961**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.001</td>
<td>.004</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Long Term Debt to Equity Ratio</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td>-.513**</td>
<td>-.341</td>
<td>.546**</td>
<td>.488**</td>
</tr>
<tr>
<td></td>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.001</td>
<td>.065</td>
<td>.000</td>
<td>.001</td>
</tr>
</tbody>
</table>

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

### 4.4.2 Regression Analysis

#### 4.4.2.1 Model Summary

A model summary is used when predicting the value of a variable based on the value of another variable. In this case, the variable being used to predict the other variable's value is called the independent variable or sometimes the predictor variable. The variable being predicted is called the dependent variable or sometimes the outcome variable. In this study, financial performance (ROCE) was the dependent variable while interest coverage ratio, debt to asset ratio, debt to equity ratio and long term debt to capital ratio were the independent variables used for the model summary.
Table 4.2: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.776a</td>
<td>.602</td>
<td>.538</td>
<td>18.158</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Long Term Debt to Equity Ratio, Interest Coverage Ratio, Debt to Equity Ratio, Debt to Asset Ratio

The Table 4.2 of the model summary above provides the R and R² value. The R-value was 0.776, which represented the sample correlation and, therefore, indicated a high degree of correlation. The R² value indicated how much of the dependent variable, financial performance could be explained by the independent variables, interest coverage ratio, debt to asset ratio, debt to equity ratio and long term debt to capital ratio. In this case, 53.8% could be explained, which was significant enough in explaining the dependent variable financial performance (ROCE).

4.4.2.2 ANOVA

Table 4.3: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12445.95</td>
<td>4</td>
<td>3111.488</td>
<td>9.43691</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>8242.867</td>
<td>25</td>
<td>329.7147</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20688.82</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Capital Employed
b. Predictors: (Constant), Long Term Debt to Equity Ratio, Interest Coverage Ratio, Debt to Equity Ratio, Debt to Asset Ratio

The ANOVA Table 4.3 indicated that the regression model predicted the outcome variable significantly well. This is shown when you look at the "Regression" row and go to the Sig. column. This indicated the statistical significance of the regression model that was applied.
Here, $P$ is 0.000 which is less than 0.05 and indicated that in general, the model applied is significantly good enough in predicting the outcome variable i.e. financial performance using Long Term Debt to Capital Ratio, Interest Coverage Ratio, Debt to Equity Ratio and Debt to Asset Ratio as predictors.

**4.4.2.3: Regression Coefficients**

The regression coefficient values helped in writing the regression equation, which indicates the coefficients part of the outputs. This equation took the following form: Predicted variable (dependent variable) = slope, times independent variable, and intercept. The dependent variable is financial performance (ROCE) and independent variables are Long Term Debt to Capital Ratio, Interest Coverage Ratio, Debt to Equity Ratio, Debt to Asset Ratio.

**Table 4.4: Regression Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>27.919</td>
<td>12.324</td>
<td>0.483</td>
<td>2.266</td>
</tr>
<tr>
<td>Interest Coverage Ratio</td>
<td>0.630</td>
<td>0.192</td>
<td>0.483</td>
<td>3.280</td>
</tr>
<tr>
<td>Debt to Asset Ratio</td>
<td>0.105</td>
<td>0.408</td>
<td>-0.106</td>
<td>-0.256</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
<td>-0.067</td>
<td>0.407</td>
<td>-0.065</td>
<td>-0.165</td>
</tr>
<tr>
<td>Long Term Debt to Equity Ratio</td>
<td>-0.701</td>
<td>0.394</td>
<td>-0.301</td>
<td>-1.781</td>
</tr>
</tbody>
</table>

*a. Dependent Variable: Return on Capital Employed*

Table 4.4 above presents coefficients information on each predictor variable. This provided the information necessary to predict the financial performance from the provided variables.
According to the above result, when Interest Coverage Ratio, Debt to Asset Ratio, Debt to Equity Ratio and Long Term Debt to Capital Ratio changes by one unit each, financial performance (ROCE) changes by 0.630, 0.105, -0.067 and -0.701 respectively. The slopes are found at the intersection of the line labeled with the independent variables. The intercept is found at the intersection of the line labeled (Constant) and the column labeled B.

Regression equation will take the form,
\[ Y = \beta_0 + \beta_1 \text{ICR} + \beta_2 \text{DAR} + \beta_3 \text{DER} + \beta_4 \text{LTDC} + e \]

Where;
- \( Y \) = Financial Performance expressed by ROCE.
- \( \beta_0 \) = Intercept/ Constant
- \( \beta_1 \text{ICR} \) = coefficient of interest coverage ratio
- \( \beta_2 \text{DAR} \) = coefficient of the debt to asset ratio
- \( \beta_3 \text{DER} \) = coefficient of debt to equity ratio
- \( \beta_4 \text{LTDC} \) = coefficient of long term debt to total capital
- \( e \) = error term due to intervening variables

The established simple linear regression equation becomes:
\[ Y = 27.919 + 0.630(\text{ICR}) + 0.105(\text{DAR}) - 0.067(\text{DER}) - 0.701(\text{LTDC}) + e \]
CHAPTER FIVE

5.0: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1: Introduction
This chapter comprises of four subdivisions namely; summary, conclusions, recommendations and suggestions for further research. The initial section provides a summary of the important elements of the study that includes the study objectives, methodology, and the findings. The following subsequent section discusses the major findings of the study with regards to the specific objectives. Section three discusses the conclusions based on the specific objectives, while the last sub-division provides the recommendations based on the specific objectives and also provides the suggestions for further research.

5.2: Summary
The general objective of the study was to determine the relationship between financial performance and capital structure of manufacturing firms listed in the Nairobi Securities Exchange (NSE). The research was steered by the following four detailed objectives; to determine the extent to which interest coverage ratio affects the return on capital employed by firms’, to assess whether the ratio of total debt to total assets impacts the financial performance of firms, to examine the relationship between the return on capital employed and the proportions of debt and equity by firms, and to evaluate the impact of long term debt and total capital on a firm’s financial performance.
Descriptive research design was used to carry out the study where the population of the study was all the 58 companies listed on the Nairobi Securities Exchange. In order to determine the sample size, a probability sampling procedure was used to select the sample by first stratifying the population into respective categories/sectors and then followed by purposive sampling technique which is non-probabilistic to select the manufacturing sector. Secondary sources were used in this study to collect data through the adoption of a data collection guide to collect the required data. The data collection guide was used by the researcher to pick out the needed information from financial statements of companies quoted on the manufacturing sector of the NSE over five years (2007-2011). The study utilized both descriptive and inferential statistics (correlations and regressions) to deduce relationships and analyze data using Microsoft Excel in amalgamation with SPSS. The results were then presented in form of tables, as well as, figures.

The major findings regarding findings were that there was a statistically significant strong positive relationship between the financial performance (ROCE) of listed manufacturing companies and the interest coverage ratio while there is also a statistically significant negative relationship between financial performance (ROCE) and debt to asset ratio, debt to equity ratio and long term debt to capital ratio. Lastly, the findings from model summary $R^2$ value indicated that 53.8% of the financial performance of listed manufacturing companies in the NSE could be explained by their interest coverage ratio, debt to asset ratio, debt to equity ratio and long term debt to capital ratios.
5.3: Conclusion

5.3.1: Financial Performance and Interest Coverage Ratio

The objective was to determine the extent to which interest coverage ratio affects the return on capital employed by firms. In general terms, interest coverage ratio has positive strong impact on firm's financial performance and that a lower ICR means fewer earnings are available to meet interest payments and that the business is more vulnerable to increases in interest rates, making its ability to meet interest expenses questionable. A firm that finances its operations using little amounts of loans unlike firms that incur higher finance costs will have a higher interest coverage ratio, indicating a better financial health meaning that the company is more capable to meeting its interest obligations from operating earnings because finances which could otherwise have been used to repay interest will be retained.

5.3.2: Financial Performance and Debt to Asset Ratio

The objective was to assess whether the ratio of total debt to total assets impacts the financial performance of firms. It can be seen that most of the companies that had higher DAR tend to have lower ROCE because increased liabilities that enlarge repayment obligations, not only curtail free cash flow but also raise the possibility of corporate bankruptcies, thus prompting corporate managers to reduce investments that could in turn improve financial performance. Firms whose capital structure that is largely composed of liabilities can help avoid over-investment by reducing the cash flow left up to corporate managers' own discretion thus constraining investments in investment projects that might be desirable for the firms future profitability.
5.3.3: Financial Performance and Debt to Equity Ratio

The objective was to examine the relationship between the return on capital employed and the proportions of debt and equity by firms. A firm’s debt level and its value will be positively related especially when shareholders have absolute control over the business of the firm and it will be negatively related when debt holders have the power to influence the course of the business. The impact of debt on value of firms therefore, depends on the balance of power within a firm. If shareholders have more power, a positive leverage will prevail and if debt holders have more power, a negative leverage would take place.

5.3.4: Financial Performance and Long Term Debt to Capital Ratio

The objective was to evaluate the impact of long term debt and total capital on a firm’s financial performance. Firms with relatively higher growth also have a higher leverage due to increased debt financing, particularly short-term debt financing and not long term debt financing. Short-term debt financing should be preferred to long-term debt financing, as the former is seen to be associated with less agency costs and thus provides the firm with a lower cost of capital unlike long term debt financing.

5.4: Recommendations

The study recommends that even though firms cannot possibly avoid any loans in its capital structure, the firm should try to operate using little amounts of loans to avoid higher finance costs which could otherwise be used to invest in other profitable ventures for the firm. Regarding debt (liabilities) it’s recommended that even if increased liabilities enlarge repayment obligations curtail free cash flow, a right balance between debt and assets should be used to avoid corporate bankruptcies that can be caused by over-investment which reduces the cash flow.
The study also recommends that in the balance of power i.e. debt and shareholder equity, shareholders should have more power than creditors so that a positive leverage prevails which can in turn help improve financial performance. The final recommendation is that short-term debt financing should be preferred to long-term debt financing when comparing debt and total capital, this is because short term debt financing is seen to be associated with less agency costs and thus provides the firm with a lower cost of capital unlike long term debt financing.

5.4.1: Suggestions for Further Research

This study was done using one sector out of the ten sectors of publicly listed companies in the NSE; thus further research should also include these sectors to help find out the relationship between capital structure and financial performance. It is suggested also that further studies be done on private institutions even though it might be challenging to obtain financial information from private companies. Further research should also be done using interest rates, competition, and firm size which were the intervening variables as independent variables to determine the relationship between financial performance and capital structure.
REFERENCES


APPENDIX I: NSE LISTED COMPANIES

AGRICULTURAL
Eaagads Ltd Ord 1.25
Kapchorua Tea Co. Ltd Ord Ord 5.00
Kakuzi Ord 5.00
Limuru Tea Co. Ltd Ord 20.00
Rea Vipingo Plantations Ltd Ord 5.00
Sasini Ltd Ord 1.00
Williamson Tea Kenya Ltd Ord 5.00

COMMERCIAL AND SERVICES
Express Ltd Ord 5.00
Kenya Airways Ltd Ord 5.00
Nation Media Group Ord 2.50
Standard Group Ltd Ord 5.00
TPS Eastern Africa (Serena) Ltd Ord 1.00
Scangroup Ltd Ord 1.00
Uchumi Supermarket Ltd Ord 5.00
Hutchings Biemer Ltd Ord 5.00

TELECOMMUNICATION AND TECHNOLOGY
AccessKenya Group Ltd Ord 1.00
Safaricom Ltd Ord 0.05

AUTOMOBILES AND ACCESSORIES
Car and General (K) Ltd Ord 5.00
CMC Holdings Ltd Ord 0.50
Sameer Africa Ltd Ord 5.00
Marshalls (E.A.) Ltd Ord 5.00

BANKING
Barclays Bank Ltd Ord 2.00
CFC Stanbic Holdings Ltd Ord 5.00
Diamond Trust Bank Kenya Ltd Ord 4.00
Housing Finance Co Ltd Ord 5.00
Kenya Commercial Bank Ltd Ord 1.00
National Bank of Kenya Ltd Ord 5.00
NIC Bank Ltd Ord 5.00
Standard Chartered Bank Ltd Ord 5.00
Equity Bank Ltd Ord 0.50
The Co-operative Bank of Kenya Ltd Ord 1.00

INSURANCE
Jubilee Holdings Ltd Ord 5.00
Pan Africa Insurance Holdings Ltd Ord 5.00
Kenya Re-Insurance Corporation Ltd Ord 2.50
CFC Insurance Holdings
British-American Investments Company Ltd Ord 0.10

INVESTMENT
City Trust Ltd Ord 5.00
Olympia Capital Holdings Ltd Ord 5.00
Centum Investment Co Ltd Ord 0.50
Trans-Century Ltd

MANUFACTURING AND ALLIED
B.O.C Kenya Ltd Ord 5.00
British American Tobacco Kenya Ltd Ord 10.00
Carbacid Investments Ltd Ord 5.00
East African Breweries Ltd Ord 2.00
Mumias Sugar Co. Ltd Ord 2.00
Unga Group Ltd Ord 5.00
Eveready East Africa Ltd Ord 1.00
Kenya Orchards Ltd Ord 5.00
A.Baumann CO Ltd Ord 5.00

CONSTRUCTION AND ALLIED
Athi River Mining Ord 5.00
Bamburi Cement Ltd Ord 5.00
Crown Berger Ltd Ord 5.00
E.A.Cables Ltd Ord 0.50
E.A.Portland Cement Ltd Ord 5.00

ENERGY AND PETROLEUM
KenolKobil Ltd Ord 0.05
Total Kenya Ltd Ord 5.00
KenGen Ltd Ord 2.50
Kenya Power & Lighting Co Ltd
### APPENDIX II: DATA COLLECTION GUIDE

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<tr>
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<th>FINANCIAL YEAR</th>
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<td>PBT</td>
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<td>Net Assets</td>
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<td>Current Liabilities</td>
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<tr>
<td>Fixed Liabilities</td>
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<tr>
<td>Fixed Assets</td>
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<tr>
<td>Current Assets</td>
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<td>Long-term debt</td>
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<td>Shareholders’ Equity</td>
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<td>Total Capital</td>
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