

**THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND
FINANCIAL PERFORMANCE OF FIRMS LISTED AT
THE NAIROBI STOCK EXCHANGE**

BY

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DECLARATION

This research project is my original work and has not been submitted for a degree in any other university.

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This research project has been forwarded for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this research work to my family, who stood by me throughout this programme and inspired me immensely.

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My first and foremost gratitude goes to The Almighty God for enabling and guiding me through my academic life. I am grateful to The University of Nairobi for admitting me to the MBA programme in the School of Business, MBA teaching staff for upholding academic discipline. My very special vote of thanks to my supervisor, Mr. Karanja, J.M. for his support, guidance, encouragement and patience as I crafted this paper, his suggestions and prompt comments gave me impetus to refine and produce this quality work. Profound thanks to all my lecturers, fellow students, and friends who through their enriching interaction, companionship, and experiences shared helped me widen my spheres in terms of my thinking which eventually led to success of this research work. I will forever be indebted to my family for being there for me. My Special thanks to all who knowingly or otherwise had a positive contribution to the successful completion of this research project.

ABSTRACT

Capital structure of firm is the choice between debt and debt equivalent sources of finance on one hand and the issue of equity to finance the firms' activities on the other hand. Hence, capital structure decisions have great impact on the performance of firms. This study proposed that there are measurable linkages between financial leverage (capital structure) and financial performance which can easily be established through analyses of return on equity, return on asset, price/earnings ratio, capitalization ratio, liquidity and return on investment. Therefore the purpose of this study was to establish whether there is any relationship between capital structure of listed firms in the Nairobi Stock Exchange and their financial performance through analysis of financial parameters. The objectives of the study were to determine the relationships between capital structure and financial performance of listed firms at Nairobi Stock Exchange, and investigate capital structure dynamics of listed firms and their relative impact on firms' financial performance.

The causal research design was adopted in this study. The population of this study comprises 57 firms that were listed at the Nairobi Stock Exchange between year 2000 and 2009. Purposive sampling technique was used for this study. The sample comprises 32 non- financial firms that were continuously listed for a period of ten years from year 2000 to 2009. The sample excluded 13 financial firms (Banks and Insurance firms) and 12 non-financial companies which were not continuously listed during the study period; 2 firms were de-listed, 4 firms were suspended and 6 were newly listed.

Pearson correlation which establishes relationship between variables indicated that leverage is determined by return on equity, liquidity, and return on investment. This is because there is strong relationship between leverage and return on equity, liquidity, and return on investment. Co-efficient of the regression shows that there is relationship between leverage and return on equity, return on asset, liquidity and return on investment. However, regression analysis coefficient shows no relationship between leverage and price/earnings ratio and capitalization.

Therefore, it can be concluded that as firm performance improves as measured by return on assets, return on equity, liquidity and return on investment, firms tend to reduce debt financing and switch to equity financing. The firm financing strategy determines the capital structure of the firm. From the findings above, it clear that as the firm performance improves as measured by return on equity, return on asset, liquidity and return on investment, the firm tend to reduce debt financing and switch to equity financing. Therefore, there is need to have optimal debt-to-equity ratio determined by balancing the present value of expected marginal benefits of leverage against the present value of expected marginal costs of leverage.

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ABBREVIATIONS

CBK	Central Bank of Kenya
CMA	Capital Markets Authority
GDP	Gross Domestic Product
IPO	Initial Public Offering
NASI	NSE All Share Index
NSE	Nairobi Stock Exchange
ROA	Return on Asset
ROE	Return on Equity

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The financing decision is one of the most important roles played by a modern finance manager as they determine value of a firm. Managers strive to maintain a capital structure that maximizes the shareholders wealth while minimizing financial and business risk of the firm. A traditional view on corporate finance assert that firms strive to maintain an optimal capital structure that balances the costs and value associated with varying degrees of financial leverage (Leary and Roberts, 2005). When firms are perturbed from this equilibrium, this view argues that companies respond by rebalancing their leverage back to the optimal level. However, recent empirical evidence has led researchers to question whether firms actually engage in such a dynamic rebalancing of their capital structures.

Capital structure of firm may be defined as the permanent financing represented by long-term debts, preferred stocks and shareholders' equity (Weston and Copeland 1992). It can therefore be distinguished from financial structure which includes short term in addition to other components of capital. Therefore capital structure refers to the choice between debt and debt equivalent sources of finance on one hand and the issue of equity to finance the firms' activities on the other hand.

Capital structure and related studies has been a puzzle and has attracted a lot of interest from researchers since the advent of Modigliani and Miller capital structure theory in 1958. Researchers continue to analyze capital structures with an aim of trying to determine whether optimal capital structures exist. An optimal capital structure is usually defined as one that will minimize a firm's cost of capital, while maximizing firm value. Hence, capital structure decisions have great impact on the performance of firms. Exactly how firms choose the amount of debt and equity in their capital structures remains an enigma. Are firms mostly influenced by the traditional capital structures of their industries or are there other reasons behind their actions?

The answers to these questions are very important, because the actions managers take affect firms' performance. These also influences investors' decisions in any given capital market.

Financial performance is defined as a subjective measure of how well firms use assets from their primary mode of business to generate revenues. It can also be defined as a general measure of firm's overall financial health over a given period of time. Financial performance of a firm is measured through different ways which include; revenue from operations, operating income, and cash flow from operations as well as total unit sales

The common assumption, which underpins much of the financial performance research and discussion, is that increasing financial performance will lead to improved functions and activities of firms. The subject of financial performance and research into its measurement is well advanced within finance and management fields. It can be argued that there are four principal factors to improve financial performance of any given firm; the financial leverage, firm size, asset management, and the operational efficiency among others. To date, there have been little published studies to explore the impact of these factors on the financial performance or as part of financial performance measure, especially on the emerging capital market like Nairobi Stock Exchange (NSE).

This study proposes that there are measurable linkages between financial leverage (capital structure) and financial performance which can easily be established through analysis of performance variables such as firm's size, asset management, and operational efficiency parameters. The purpose of this study is to analyze financial data of listed firms at Nairobi Stock Exchange for the last ten years(2000-2009) to examine the relationships among capital structure(financial leverage) with measures such as firm's size, operational efficiency, asset management, Return on Equity(ROE),Return on Assets (ROA) Etc, and to discuss their impact on the firm's performance. Financial analysis will be used to quantitatively examine the differences in performance among listed firms at Nairobi Stock Exchange.

Capital markets in developing countries; Nairobi Stock Exchange (NSE) included, have become an important asset class. Being an emerging capital market, Nairobi Stock Exchange has been associated with high returns, high volatility, and diversification benefits for investors in

developed markets especially in the last five years. This has elicited a lot of research interests with most researchers attempting to determine the fundamentals of Nairobi Stock Exchange. Universally, limited studies have been done to investigate whether capital structures influences performance of listed firm in the emerging capital markets. Most of the studies focus on factors that influence capital structure of firms without reference to the capital market aspects. Fundamentally, Nairobi Stock Exchange (NSE) has very low number of listed stocks in relation to the market liquidity and level of investors' knowledge. Due to aforementioned limiting factors, listed firms usually find themselves with limited options while making financing decisions. In the selected study period, there is an emerging trend of Kenyan firms listing their stocks and securities at the NSE. This has elicited a lot interest amongst financial expert as to whether the recent stock market performance trend will result into higher value of the firms.

1.2 Statement of the Problem

When investors are making investment decision at the Nairobi Stock Exchange (NSE), they tend to evaluate various stocks and securities which they perceive will optimize their returns. One of the considerations in the investors' portfolio analysis is usually the strength of firms' Balance Sheets as portrayed in the mode of firm financing; either equity or debt or a combination of both. Also, rational investors are more concerned with the relevance firms' capital structure vis a vis the stock performance at the stock market before they make investment choice. More importantly, investors are usually concerned with firms' capital structure dynamics in order to create an optimal investment portfolio. On the other hand, some investors at Nairobi Stock Exchange tend to ignore firms' capital structure aspects which in turns end up affecting their desired returns.

Substantial research studies have been undertaken on capital structure, ranging from theories on capital structure, determinants of capital structure and the tests on the existence of an optimal capital structure (Myers 1977; Jensen and Meckling 1976; Baker and Wurgler 2002; Harris and Raviv 1991). A local study done by Odinga (2003) used local data available at the Nairobi Stock Exchange to investigate the variables that affect the capital structure decision. He concluded that

profitability and non-debt tax shield are the most significant variables in determining leverage. Abai (2003) did a study to investigate the determinants of corporate debt maturity structure for companies quoted at the NSE, he identified effective income tax rate as one of the determinants. A recent study by Musili (2005) in which he sets out to determine the factors that motivate management of industrial firm's in choosing their capital structure; He concluded that industrial firms are more likely to follow a financing hierarchy than to maintain a target debt to equity ratio. Onsomu (2003), set out to determine if there is a relationship between debt and the value of Kenyan firms quoted at the NSE she concluded that there was no significant relationship between debt and the value of the firm. Omondi (1996) study on the capital structure in Kenya concluded that turnover, growth, asset structure and age are determinants of capital structure in Kenya. Many of these studies examine the determinants of capital structure of firms; however limited work has been undertaken in examining leverage as an dependent variable or a risk factor in explaining firms' performance variables due to the overwhelming influence of Modigliani and Miller (1958) work.

Most of the studies on capital structure and firm performance have been conducted in relation to firms operating in developed capital markets of American and European environment with only limited studies on related studies on how capital structure affects performance of firms as well as investors' wealth maximization through dynamics of capital structure of listed firms in the emerging capital markets like Nairobi Stock Exchange.

As long as the choice of capital structure matters for firm value, the innovation in capital structure should also be reflected in the equity market through stock performance, since equity holders get the residual claim of the firm. This issue has remained relatively untouched in Nairobi Stock Exchange (NSE) empirical studies. Therefore the purpose of this study was to establish whether there is any relationship between capital structure of listed firms in the Nairobi Stock Exchange and their financial performance through analysis of financial parameters.

1.3 Objectives of the Study

The objectives of the study were;

- i. Determine the relationships between capital structure and financial performance of listed firms at Nairobi Stock Exchange.
- ii. Investigate capital structure dynamics of listed firms and their relative impact on firms' financial performance of listed firms at Nairobi Stock Exchange.
- iii. Investigate whether there is any financial performance relationship amongst listed firms with homogenous capital structure.

1.4 Significance of the Study

Capital structure is one of the most important characteristics of a firm. Many theories suggest that a change in the capital structure indicates a change or review of the firm value, which should therefore have an impact on firm's stock prices and the return to the equity holder. According to capital structure theories, a change in leverage ratio will either move capital structure closer to or further away from the optimal level than empirical theories predicts, which will then be reflected in the equity market. Therefore, the study expects firms' performance variables to co-vary with the changes in leverage.

Examining the relationship between firms' leverage change and performance provides an alternate avenue to test different capital structure theories. For example, if the dynamic pecking order theory holds, increase in leverage may result in a decrease in the stock return since increase in leverage reduces firm's safe debt capacity and hence increases the possibility of forgoing positive NPV projects in the future. This is especially true for firms that already have high debt level. On the other hand, according to trade-off theory, a deviation from the optimal capital structure (either increase or decrease) would result in a lower stock return. The empirical methodology the study intends to use will be designed to specifically test these different hypotheses.

Changes in capital structure may change a firm's risk profile. For example, other things held equal, an increase in a firm's leverage may increase the default risk and as residual claimers, equity holders may demand higher risk premium for holding the stock, thus increasing stock returns while lowering firms' value.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews theoretical and empirical literature of the study. First the chapter reviews theoretical foundation of capital structure, and then relationship between capital structure and performance of a firm. Finally study conceptualisation framework is outlined at the end of the chapter.

2.2 The Concept of Capital Structure

The theory of capital structure has been a puzzling issue in corporate finance since the seminal work of Miller-Modigliani (hereafter MM, 1958). MM argued rigorously that the value of a firm is determined by the rate of return on real assets and not by the mix of securities it issued. The immediate implication of MM propositions on equity returns is that, returns should increase with leverage as the financial risks take precedence. However, empirical evidence between financial leverage and stock returns is contradictory and mixed. Some authors (Hamada, 1972, Bhandari, 1988) show that stock returns increase in leverage; others show that they decrease in leverage (Dimitrov and Jain 2005, Korteweg 2004, Penman 2007).

The term capital structure represents the proportionate relationship between the different forms of long term financing. Funds used for firms operations may be generated internally or externally. When raising funds externally, firms choose between equity and debt. Most of the effort of financial decision-making process is centered on the determination of the optimal capital structure of a firm Kochhar (1997) defines capital structure as a mixture of financial liabilities (Debt and Equity) that is used to finance the operations of a firm. Different theories have been proposed to explain the optimal mix of debt and equity. The theories suggest that firms select their capital structure depending on attributes that determine the various costs and benefits associated with debt and equity financing. Explanations vary from the irrelevancy

hypothesis (M&M 1958) to the optimal capital structure where the cost of capital is minimized and the value of the firm maximized.

2.3 Theories of capital structure

Various models of capital structure have been proposed in finance literature to guide between the choice of debt and equity. These models are based on the benefits and costs associated with each source of finance. The greatest assumption that underlies each theory is that the decision maker has a need to minimize costs and maximize shareholders wealth.

2.3.1 Irrelevancy Theory

Modigliani and Miller (1958)'s capital structure irrelevance theory states that the firm's overall market value and the Weight Average Cost of Capital (WACC) is independent of capital structure in a perfect market without taxation. However, the tax free perfect market does not hold in the real world. Later, Modigliani and Miller (1963) proposed the modified capital structure relevance theory, which analyzed the present value of interest tax shields at the corporate level and found that the higher the debt ratio, the higher the firm value. Miller (1977) extends the MM model to personal as well as corporate taxes, and introduced the Miller theory which considered the relative tax advantage of debt over equity.

Modigliani and Miller (1958) without Corporate Taxes

Modigliani and Miller challenged the traditional theory of capital structure by developing a new theory. They did their work with certain assumptions, which include; existence of homogenous risk class, homogenous expectations, efficient capital market, risk-less debt and zero growth. They concluded that the capital structure of a firm is irrelevant to its value in a world without corporate taxes. The market value of a firm is determined solely by the magnitude and risk of the cash flow generated by the capital assets. The debt equity ratio merely indicates how the stream of future cash flows will be divided among the debt holders and shareholders.

Modigliani and Miller (1963) with corporate taxes

This was an improvement of the Modigliani and Miller (1958) previous work. The assumption of zero tax rate was seen as a serious limiting factor, and hence the need to come up with a model that incorporate taxes. In 1963 Modigliani and Miller (1963), argued that the value of a firm will increase with leverage because interest in debt is tax-deductible expense, hence there exist an extra benefit to the levered firm.

Miller (1977) the effects of Personal taxes

Since Modigliani and Miller (1963) made oversight of the impact of personal taxes, Miller (1977) made significant contribution by correcting the (1963) contention. Replying on a number of assumptions. Miller (1977) introduced a model designed to show how leverage affects a firm's value. When both personal and corporate taxes were taken in account, his model suggest that in that market equilibrium, corporation tax advantage are cancelled out by the effects of personal taxes hence capital structure irrelevance (Kiogora 2000). Miller notes further that with introduction of personal taxes, the usable income available to investors reduces when dividends are paid, thus, reducing the value of the unlevered firm. Omondi (1996) highlights Taggart (1980) who extended Miller analysis to conditions of incomplete capital markets and special costs associated with corporate debts. He concluded that Miller findings could be upheld and all equity capital structures are seen as perfectly rational for at least some firms.

2.3.2 Pecking Order Theory

Pecking Order theory (Myers, 1984) provides a preferential order in terms of using different financing instruments. Unlike M & M's over simplified Irrelevance theory, Pecking order theory considers the consequences of debt and equity issues for a firm. It basically states that firms will consider all methods of financing available and use the least expensive source first (Myers, 1984: 581-2; Brealey and Myers, 2000: 524-8). It further suggests that firms should consider financing new projects in the following manner: first use internal equity, next use debt and last use external equity (Titman and Wessels, 1988:6). The important difference is that the equity is divided into two parts, namely, internal equity and external equity. Internal equity is that which is readily

available for investment, whereas external equity is that which must be obtained from outside sources.

Pecking Order theory suggests that firms issuing debt send a positive signal about their future prospects. This also shows that the company has more investment opportunities and growth prospects than it can handle with the internally generated funds. The reasoning behind this is that managers who are unsure of future profitability will not subject the firm to bankruptcy risks. Therefore, only those firms that are confident of their ability to repay obligations will issue debt. In summary, according to signaling theory in finance, equity is issued to spread risk amongst equity holders, while debt is issued to avoid sharing wealth. This aspect of signaling theory is consistent with shareholder wealth maximization, and therefore has wide support.

In a recent study, Frank and Goyal (2003) tested the Pecking order theory over the 1971 through 1998 period. They found that, in contrast to Pecking order theory, internal financing is not sufficient to cover investment spending on average, external financing is heavily used, and debt financing does not dominate equity financing.

2.3.3 Trade off Theory of Capital Structure

Myers (1984) noted that the theories of capital structure don't seem to explain the actual financing behavior. He therefore ushered two ways of thinking which he identified as static trade off framework and pecking order framework. In the Trade off theory of capital structure, Myers (1984) draws extensively from the work related to MM papers in which the firms' tradeoff the benefits of debt financing (favorable corporate tax treatment) against higher interest rates and bankruptcy costs. "A firms' optimal debt ratio is determined by a trade off of the costs and benefits of borrowing, holding the firm's assets and investment plan constant" (Ibid 2000). This implies that an optimal capital structures is a result of balancing the value of interest tax shields against various costs of bankruptcy or financial distress.

On the other hand, the Trade-off theory suggests that firms with substantial amount of intangible assets should rely on equity financing, whereas those firms having tangible assets should rely

more heavily on debt financing (Harris and Raviv (6), 1990:323). However, it is evident that the advantages and disadvantages of offering excessive debt are significant. Trade-off theory acknowledges the tax advantages of debt, while considering the threat of bankruptcy associated with it. According to Myers, Trade-off theory is easily accepted because it explains why firms do not use excessive debt (Myers, 1984).

2.3.4 Modern Theories of Capital structure

Modern theories have been advanced to try and explain the factors that affect capital structure. Not satisfied with the reason given as to why firms debt, researchers embarked on research to justify the wide use of debt in the real world. A number of theories have been advanced as useful in explaining corporate usage of debt. These theories identify other factors apart from the tax advantage of debt that explain a firm's capital structure. Some of these theories and factors are discussed below.

Business risk (Probability of financial distress) and Capital structure

Business risk is the first of two determinants of the costs of financial distress, according to Myers (1984 a and b). If one multiplies the costs of bankruptcy (which differ from industry to industry) by the probability of financial distress (not just bankruptcy, because indirect costs can be incurred even if a firm recovers), one obtains the expected cost of financial distress. Financial distress has been defined as the disruption of normal operating and financial conditions caused by impending insolvency (Emery, 1998). Companies should then balance this cost against the tax benefits of debt in this static approach to obtaining the optimum leverage ratio.

The variability of cash flows is at the heart of business risk. The greater the fluctuations in a company's cash flows, the greater the chance it will be unable to meet its obligation in any given period. Firms with steadier cash flow will be able to support higher debt levels than riskier firms, all other factors being equal. An important point to note is that shareholders bear the costs of adjusting the firm's level of risk every time risky debt is issued. This is so because the market

demands a premium to buy the bonds of risky firms; on average, that premium covers expected bankruptcy costs.

Agency costs and Capital structure

Agency problems result when members of one group of stakeholders (such as managers) place their own interests before the interests of the group they represent (such as the stakeholders). How well the company controls the losses associated with the agency problems (either through incentive plans, monitoring, or covenants) can have a dramatic impact on its capital structure and value. As Mehran(1992) explains: “Although [the findings presented] do not necessarily suggest that agency theory provides a complete explanation for corporate capital structure, they do indicate that any theory that ignores agency issues is seriously incomplete.

Signaling Theory and Capital structure

Ross (1978) introduced signaling theory to finance in which he suggested that managers can use capital structure as well as dividends to give some signals about the firm’s future prospects. More specifically, increasing the amount of debt in the firm’s capital structure may be interpreted by outsiders as a sign of confidence in a firm’s future.

Kamere (1987) notes that signaling is closely related to agency problem in that the use of a firm’s capital structure to convey information to the market about a firms profitability is made possible by failure on the part of principals to control actions of management fully.

2.4 Empirical Evidence in Light of Capital Structure Adjustments

2.4.1 Market Timing

The fact that firms time markets in their security issuance decisions is well documented (See Baker and Wurgler, 2002). However, the contention of Baker and Wurgler (2002) is that equity market timing has an important and lasting impact on corporate capital structure. Specifically,

they argue that firms fail to rebalance their leverage after issuing equity in an attempt to time the market. Consequently, capital structure is the cumulative result of attempts to time equity markets and firms are no more or less likely to adjust their leverage in response to these timed equity issuances.

2.4.2 Inertia

The inertia theory put forth by Welch (2004) argues that despite fairly active net issuing activity, firms fail to rebalance their capital structures in response to shocks to the market value of their equity, similar to the implication of market timing. Thus, Welch (2004) concludes that variation in equity prices is the primary determinant of capital structure and “corporate issuing motives themselves remain largely a mystery.”

Leary & Roberts, (2005) study the response to equity shocks and two observations are worth noting. First, leverage noticeably decreases (increases) as a result of the positive (negative) equity shock, suggesting that firms do not respond immediately to the shock. Second, the response to equity shocks is gradual, in the sense that more and more firms respond over the subsequent five years. As time goes by since the equity shock, the leverage of those experiencing the shock approaches the leverage of those that did not (i.e., the control group). These results highlight the gradual response of leverage to equity shocks and the corresponding persistence of leverage, on which the inertia theory is predicated.

2.4.3 Importance of Capital Structure in Financing Decisions

Financing decision can have significant influence over the future of any firm; such decisions are crucial and should therefore involve various pertinent considerations. Various studies, both local and foreign, have been done to ascertain the best possible combination that would maximize the value of the firm. But the conclusions have always proved contentious. For instance, Williamson (1963) noted that firms that had growth opportunities had lower leverage policies while traditional schools were categorical that there was an optimal capital structure. Proponents of the trade off theory of capital structure argues that there is such an optional policy that will be

ascertained by trading off the tax shield benefits emanating from financing and financial distress costs. However, empirical evidence testing the applicability of the trade off theory proved inconclusive; Myers (1984) therefore popularized the pecking order theory of capital structure as a result of the inadequacies of the trade off theory of capital structure.

A number of factors influence financing decisions of firms. Most of those decisions are industrial specific. Due to such a leeway in the choice of capital structure, it has become increasingly difficult to recommend a comprehensive and conventional capital structure policy that maximizes performance of such firms. Such contention surrounding capital structure have been termed by Myers (1984) as the “capital structure puzzle” which he believes is tougher than the “dividend puzzle”. Academicians have come up with different perspectives to try and address various facets of capital structure but still, subsequent scholars have always documented limitations of earlier studies.

Proponents of the pecking order theory of capital structure were concerned with the limitations of the trade –off theory of capital structure. They took issue with the fact that the trade-off theory could not give an explanation as to why most profitable firms use less debts and the fact that firms issue debt frequently but rarely issue equity (Kiogora, 2000). The pecking order theory recommends a financing hierarch that is based on the fact that asymmetric information between firm managers and less informed outside investors would make the firms to prefer internal financing first before going for external debt then equity which is regarded to be more costly than debt (Myers & Majluf, 1984).

2.5 Capital Structure and Financial Performance

2.5.1 Firm's Financial Performance

Financial performance is a measurement of relative investment relative to one of the following factors; assets, capital adequacy, capital mix, liquidity, liabilities, number of employees and other size measures. The literature employs a number of different measures of firm performance to test various hypotheses. These includes;-Financial ratios from balance sheet and income statements, Demsetz and Lehn (1985). Stock market returns and their volatility, Gorton and Rosen, (1995), Tobin q, which mixes market values with accounting values, Zhou, (2001).

A large body of previous theoretical and empirical research has tried to investigate various factors affecting firms' financial performance. Theoretical research is based on microeconomic theory and more specifically on the firm's theory of production. Empirical research has been developed around two areas of interest. A number of researchers investigate how to measure firms' financial performance. There have been various measures of financial performance. For example, return on sales reveals how much a company earns in relation to its sales, return on assets determines an organization's ability to make use of its assets and return on equity reveals what return investors take for their investments.

Pandey(2005), Brealey and Myers(2000), identify some of critical measures of financial performance among other qualitative measures. Firstly, return on sales (ROS) or profit margin: ROS reveals how much a company earns in relation to its sales. These measures determine the company's ability to withstand competition and adverse rising costs, falling prices or declining sales in the future.

$$RoS = \text{Net income} / \text{Total Sales}$$

Secondly, Return on assets (ROA): ROA is one of the most widely used financial models for performance measurements and it was developed by Dupont in 1919. ROA determines a firm's ability to make use of its assets.

$$RoA = \text{Net income} / \text{Total Assets}$$

Thirdly, Return on equity (ROE): ROE measures what return investors (i.e. stockholders) are getting for their investments in the firm. In other words it tells how well the company is doing for the investor (Tangen, 2003). We use three empirical models, one for each depended variable of the firm's performance.

$$RoE = \text{Net income} / \text{Total Equity Capital (\%)}$$

2.5.2 Capital Structure and Firm Performance

Agency costs represent important problems in corporate governance in both financial and nonfinancial industries. The separation of ownership and control in a professionally managed firm may result in managers exerting insufficient work effort, indulging in perquisites, choosing inputs or outputs that suit their own preferences, or otherwise failing to maximize firm value. In effect, the agency costs of outside ownership equal the lost value from professional managers maximizing their own utility, rather than the value of the firm.

Theory suggests that the choice of capital structure may help mitigate these agency costs. Under the *agency costs hypothesis*, high leverage or a low equity/asset ratio reduces the agency costs of outside equity and increases firm value by constraining or encouraging managers to act more in the interests of shareholders. Since the seminal paper by Jensen and Meckling (1976), a vast literature on such agency-theoretic explanations of capital structure has developed (see Harris and Raviv 1991 and Myers 2001 for reviews). Greater financial leverage may affect managers and reduce agency costs through the threat of liquidation, which causes personal losses to managers of salaries, reputation, perquisites, etc. (e.g., Grossman and Hart 1982, Williams 1987), and through pressure to generate cash flow to pay interest expenses (e.g., Jensen 1986). Higher leverage can mitigate conflicts between shareholders and managers concerning the choice of investment (e.g., Myers 1977), the amount of risk to undertake (e.g., Jensen and Meckling 1976, Williams 1987), the conditions under which the firm is liquidated (e.g., Harris and Raviv 1990), and dividend policy (e.g., Stulz 1990).

Despite the importance of these issues, there is relatively little research on the *agency costs hypothesis* in the literature and at best mixed empirical evidence in the finance literature as a whole (see Harris and Raviv 1991, Titman 2000, and Myers 2001 for reviews). Tests of the *agency costs hypothesis* typically regress measures of firm performance on the equity capital ratio or other indicator of leverage plus some control variables. A testable prediction of the hypothesis is that increasing the leverage ratio should result in lower agency costs of outside equity and improved firm performance, all else held equal. However, when leverage becomes relatively high, further increases generate significant agency costs of outside debt – including higher expected costs of bankruptcy or financial distress – arising from conflicts between bondholders and shareholders. Because it is difficult to distinguish empirically between the two sources of agency costs, the extant research and our application below view firm performance as reflecting total agency costs, and allow the relationship between performance and leverage to be nonmonotonic.

At least three problems appear in the prior studies that will be addressed in this study. First, the measures of firm performance are usually ratios fashioned from financial statements or stock market data, such as industry-adjusted operating margins or stock market returns. These measures do not net out the effects of differences in exogenous market factors that affect firm value, but are beyond management's control and therefore cannot reflect agency costs. Thus, the tests may be confounded by factors that are unrelated to agency costs. As well, these studies generally do not set a separate benchmark for each firm's performance that would be realized if agency costs were minimized.

Second, the prior research generally does not take into account the possibility of reverse causation from performance to capital structure. If firm performance affects the choice of capital structure, then failure to take this reverse causality into account may result in simultaneous-equations bias. That is, regressions of firm performance on a measure of leverage may confound the effects of capital structure on performance with the effects of performance on capital structure.

Third, some, but not all of the prior studies did not take ownership structure into account. Under virtually any theory of agency costs, ownership structure is important, since it is the separation of ownership and control that creates agency costs (e.g., Barnea, Haugen, and Senbet 1985). Greater insider shares may reduce agency costs, although the effect may be reversed at very high levels of insider holdings (e.g., Morck, Shleifer, and Vishny 1988). As well, outside block ownership or institutional holdings tend to mitigate agency costs by creating a relatively efficient monitor of the managers (e.g., Shleifer and Vishny 1986). Exclusion of the ownership variables may bias the test results because the ownership variables may be correlated with the dependent variable in the agency cost equation (performance) and with the key exogenous variable (leverage) through the reverse causality hypotheses noted above. To address this third problem, this study includes ownership structure variables in the agency cost equation explaining profit efficiency. It also includes insider ownership, outside block holdings, and institutional holdings. Welch (2004) concluded that stock returns are the primary determinant of capital structure changes and that corporate motives for net issuing activities remain largely a mystery.

2.5.3 Firm performance and financial Leverage

Debt leverage is measured by the ratio of total debt to equity (debt/equity ratio). It shows the degree to which a business is utilizing borrowed money. Companies that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt; they may also be unable to find new lenders in the future. Leverage is not always bad, however; it can increase the shareholders' return on their investment and make good use of the tax advantages associated with borrowing (Panagiotis and Konstantinos, 2008).

The trade-off theory (TO) (Bradley, Jarrell and Kim, 1984; Harris and Raviv, 1991) suggests that every firm has a specific optimal debt-to-equity ratio determined by balancing the present value of expected marginal benefits of leverage (ex. tax savings due to paid interests) against the present value of expected marginal costs of leverage. According to this theory, each company borrows in order to gradually move towards its optimal debt-equity ratio, which in turn

maximizes its market value (given by the present value of the sum of the expected costs and benefits of debt).

Furthermore Jensen (1986) and Zwiebel (1996) support that increased debt can reduce the probability of a firm's takeover by committing managers to a more efficient business strategy. Thus, there is either a negative or positive influence of leverage on firms' performance.

Since the work of Jensen and Meckling (1976), a vast literature has analyzed the role of ownership structure for the selection of projects. Various sources of agency costs have been characterized, where these costs are defined as the reduction of the value of the firm due to incentives to deviate from the optimal rule of selecting all projects with positive net-present-value.

Calcagno (2000) in their paper address the relevance of capital structure for efficiency, and more specifically, study the conditions under which the use of high leverage is effective to improve ex-post efficiency. They focused their attention on the principal-agent relation between the owner of the firm (or a reference shareholder) and the management, who will be responsible for the operational activity of the firm.

The financial structure of the firm does not affect directly the payoffs of the investment in the Modigliani-Miller (1958) paradigm of irrelevance of capital structure; but it obviously changes the distribution of property rights over the firm. Shareholders and debt holders will share the future cash flows generated by the project in a way proportional to their claims. What happens if a big shareholder, or some of them, can negotiate contracts with the management in the presence of moral hazard? In their study Calcagno (2000) show that changing the financial structure changes the "incentive to give incentive" by the shareholders-principals. This real effect influences the payoffs of the project, as well as their probability distribution. Therefore, these payoffs are not exogenous to the distribution of property rights, and the value of the firm changes with its capital structure.

The study shows that financing the investment opportunities with risky debt reduces the ex-ante value of the firm, by inducing a future choice of contract that is suboptimal. If the cost of outside equity is considered negligible, and without corporate taxation, then the optimal capital structure involves not to issue risky debt at all. We also get some implications on the managerial incentives as a function of the capital structure: in highly leveraged firms, managerial compensation should be rather “fat”, insuring the management against bankruptcy. The negative relation between leverage and compensation has been observed by Smith and Watts (1992) especially in firms with low ratio between growth opportunities and assets-in-place value, where managers are broadly remunerated with traditional monetary wages.

This inefficiency does not arise if the management is compensated with shares of the firm. We can then conclude that high leverage is effective in improving performance only if it is linked to a reorganization of managerial compensation scheme, centered on share-plans. Empirical evidence on LBOs (Denis (1994)) and Baker and Wruck (1989)) shows that performance increased after leveraged recapitalizations only when the executive compensation was restructured and based on shares or stock-options plans.

Up to now, the effects of human capital effort on the payoffs structure of projects have been largely neglected in the literature studying the determinants of capital structure. Research has focused on asymmetric information between insiders and outsiders (Myers and Majluf, 1988, among many other signalling models), managerial discretion (Stulz, 1990, Grossman and Hart, (1983b)), or other forms of managerial inefficiency (Jensen, 1986). Only Innes (1990) has shown the optimality of debt contract for financing an entrepreneur who is wealth constrained and subject to limited liability. His result relies on the debt as a commitment device that the entrepreneur imposes on himself as an agent to implement a higher effort.

2.6 Summary of Literature

There is a lot of literature on capital structure, and that the topic of capital structure remains elusive in prior studies due to the number of factors influencing capital structure decisions. The literature review that firms' management must only decide between the amount of debt and equity used in the firm's capital structure. In determining the method in which to raise capital, the firms must consider seven conditions namely leverage liquidity, profitability, dividends, market price, firm size, sales growth and variability. Most of the research studies on capital structure have focused on firms in developed countries. The very few studies that analyze the capital structure and its impact on the firm performance in emerging markets are somehow limited by data or have a narrow focus in terms of variables used. This study attempts to fill the gap in the literature by looking at the relationship between capital structure and financial performance in the emerging capital; Kenyan capital market. Generally, the capital structure will be measured by the financial leverage while financial performance of listed firms has been measured using a combination of financial ratios namely return on assets, return on equity, liquidity, price /earnings ratio measured as market price per share divided by earning per share, capitalization ratio and investment ratio.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the general methodology used to conduct the study. It specifies the research design, target population, data collection method and instruments, and data analysis and interpretation.

3.2 Research Design

The Causal research design was adopted in this study. Causal research explores the effect of one thing on another and more specifically, the effect of one variable on another. The independent variable is the presumed cause, and the dependent variable is the potential effect. In the context of this study, leverage will be the dependent variable while financial performance variables will form independent variables. Casual study is therefore justified for this study as the objective is to establish whether a relationship exists between firms' capital structure and firms' financial performance variables.

3.3 Population

The population of this study was all the 57 companies quoted at the Nairobi Stock Exchange for the years 2000 to 2009. The use of the listed firms is due to data availability and reliability because these are required by law to provide end of year financials. However, firms that were not listed for the entire period under study were left out of the sample.

3.4 Sampling Design and Sample Size

3.4.1 Sampling Frame

The study focused on all quoted firms for the last ten years from 2000 to 2009 which forms the study period. The sampling frame was list of quoted firms that was obtained from NSE records and the latest NSE Handbook. This ensured that the sampling frame was current, complete and consistent with predetermined objectives.

3.4.2 Sampling Technique

Non probability sampling technique was used to ensure the study meets its purpose. Purposive sampling technique was used for this study. The sample included all non financial firms listed during the study period; 32 listed firms. The sample excluded 25 firms from the population; 13 financial firms; listed Banks and Insurance and 12 non financial companies which were not continuously listed during the study period; 2 firms were de-listed 4 firms were suspended and 6 were newly listed.

3.4.3 Sample Size

The sample was 32 non financial companies that were continuously listed for a period of ten years from year 2000 to 2009.

3.5 Data Collection Method

This study was facilitated by the use of secondary data. The financial variables and share prices were obtained from the NSE database. Other data were obtained from the financial statements of the individual companies under study. The data was collected using data collection guide designed to collect all necessary data and information required. The collected data was captured in form of tables. The study covered the period 2000 to 2009. The period of ten years is preferred because it constitutes a period long enough to give a good indication of firms' financial profile.

3.6 Data Analysis

First, data collected was cleaned, sorted and collated. Then, data was entered into the computer, after which analysis was done. Analysis was done with the help of Statistical package for social scientists (SPSS version 14). Descriptive statistics was used to describe the data. The mean score, frequencies and percentages for each variable was calculated and tabulated using frequency distribution tables and graphs. In order to test the research hypotheses, the inferential tests used include the Pearson Product-Moment Correlation Coefficient and regression analysis.

First, Pearson Product-Moment Correlation Coefficient as measures of association was used to examine the relationship between the independent and dependent variables. The relations was explored with the use of Pearson's correlation coefficient. Pearson's correlation coefficient calculates a relationship between two variables. Correlation co-efficient is definition as a measure of the strength of linear association between two variables. Correlation is always between -1.0 and +1.0. If the correlation is positive, we have a positive relationship. If it is negative, the relationship is negative.

Second, regression analysis was used to test the relationship between leverage and financial performance parameters. The study used Friend and Lang (1988) regression specification. Given the ten-year panel structure of the sample data gathered, regression analysis was conducted to investigate the relationship between the leverage as proxy dependent variable. The regression model that was evaluated is represented as follows:

Regression equation was specified as follows;

$$L_t = \bar{\alpha} + \beta_1 R_t + \beta_2 E_t + \beta_3 P_t + \beta_4 C_t + \beta_5 L_t + \beta_6 I_t + \varepsilon_{it}$$

Where the following notation is used to define the variables in the empirical model;

L is leverage measured as the ratio of total debt (long-term and short-term) to total capital,

R is return on assets measured as net income divided by total assets,

E is return on equity measured as net income divided by equity capital,

P is the stock price/earnings ratio measured as market price per share divided by earning per share,

C is the Capitalization ratio measured as a ratio of fixed assets to total assets,

L is the Liquidity ratio measured as a ratio of current assets to current liabilities,

I is the Investment ratio measured as a ratio of net investment to total assets,

\bar{a} is the intercept of the equation,

$\beta_1 \dots \beta_6$ refers to the slope coefficient of each of the independent variables, and

ε_{it} is a random variable (error term).

3.6.1 Assumptions of the model

The following assumptions about the model were made;

- i. The relationship between dependent variable and the independent variables is linear.
- ii. The independent variables are random. Also, also no exact linear relationship exists between independent variables.
- iii. The expected value of error term is 0.
- iv. The variance of error term is the same for all observation.
- v. The error term is normally distributed.
- vi. The error term is uncorrelated across observations.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF THE RESULTS

4.1 Introduction

This section presents the data analysis and findings of the study. The chapter commences with the descriptive statistics, which gives the exploration of the variables used in the analysis. Then, Pearson correlation coefficients of dependent variable and independent variables are reported. Regression analysis results highlighting the model summary, analysis of variance and regression coefficients are reported at the end of the chapter.

4.2 Descriptive Statistics of Variables

Before embarking on the details of empirical issues, it's important to examine the data which was collected and used in analysis. Table 4.1 gives the summary of the descriptive statistics of the data used in this study. All the variables used in the study were in ratios.

Leverage was measured as the ratio of total debt (long-term and short-term) to total capital, return on assets was measured as ratio of net income divided by total assets, return on equity was measured as ratio of net income divided by equity capital, stock price/earnings was measured as ratio of market price per share divided by earning per share, capitalization was measured as a ratio of fixed assets to total assets, liquidity was measured as a ratio of current assets to current liabilities and return on investment was measured as a ratio of net investment to total assets.

Table 4.1: Summary of descriptive statistics of variables

	Minimum	Maximum	Mean	Std. Deviation
Leverage	0.20	0.88	0.499	0.285
Return on Asset	0.01	0.32	0.161	0.121
Return on Equity	0.00	0.22	0.081	0.085
Price/Earnings ratio	4.43	16.75	9.718	4.347
Capitalization	0.10	0.24	0.145	0.042
Liquidity	1.46	2.66	1.894	0.421
Investment ratio	0.05	0.46	0.220	0.171

Most economic data is skewed (non-normal), possibly due to the fact that economic data has a clear floor but no definite ceiling. Also it could be the presence of outliers. The Jarque-bera statistics test is used to test normality of the series. It utilizes the mean based coefficients of skewness and kurtosis to check normality of variables used. Skewness is the tilt in the distribution and should be within the -2 and +2 range for normally distributed series. Kurtosis put simply is the peakedness of a distribution and should be within -3 and +3 range when data is normally distributed. Normality test uses the null hypothesis of normality against the alternative hypothesis of non-normality. If the probability value is less than Jarque-Bera chi-square at the 5% level of significance, the null hypothesis is not rejected. Table 4.2 gives the normality test of the data used in this study. The normality test shows that return on asset, return on equity, price/earnings ratio, capitalization ratio and investment ratio are not normally distributed while leverage and liquidity ratio are normally distributed. This is likely to impair the normality of the residuals forming the long run relationship. This is likely to lead to non normality of residual series.

Table 4.2: Normality Test of the Data Used

Statistics	Leverage	Return on asset	Return on equity	Price/Earnings ratio	Capitalization ratio	Liquidity ratio	Investment ratio
Skewness	0.756	-1.019	2.354	0.924	-1.030	1.188	0.991
Kurtosis	2.797	2.511	10.464	2.103	3.654	3.783	2.585
Jarque-Bera	3.293	6.410	113.577	6.150	6.810	9.129	5.979
Probability	0.193	0.041**	0.000*	0.046**	0.033**	0.010	0.050**

Note: **Reject hypothesis of normality at 5% level

*Reject hypothesis of normality at 1% level

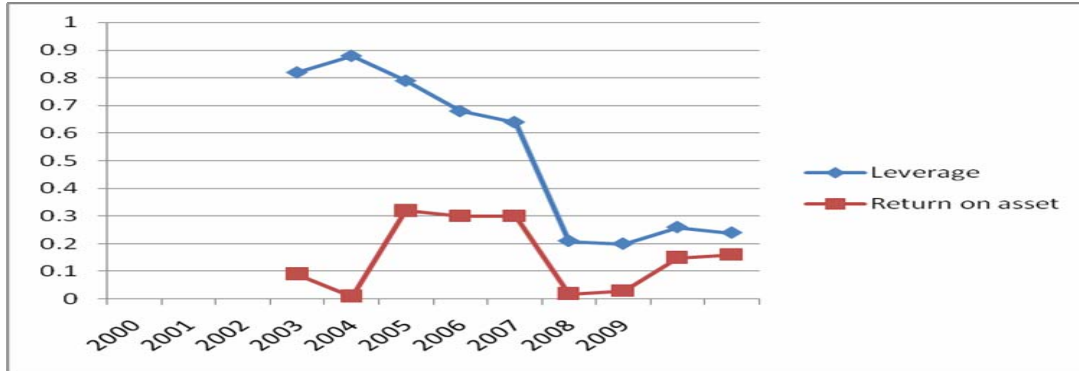
The descriptive statistics among others do give guide on which of the equations is more able to yield better results and highlight on possible problems to encounter. However there is need to supplement the statistics by more incisive quantitative analysis such as the correlation analysis and regression analysis which are in section 4.4. For the purpose of showing the trend exhibited by the variables over the study, the variables were plotted. The following section reports the trends of variables in graphical representation.

4.3: Graphical Presentation of Dependent and Independent Variables

4.3.1 Leverage as a Proxy of Capital Structure and Return on Assets as a Measure of Performance

Dependent variable: Leverage was measured as the ratio of total debt (long-term and short-term) to total capital while the return on assets was measured as ratio of net income divided by total assets. As the return on asset increases there is decrease in leverage indicating the reduction debt financing perhaps due to increase equity financing.

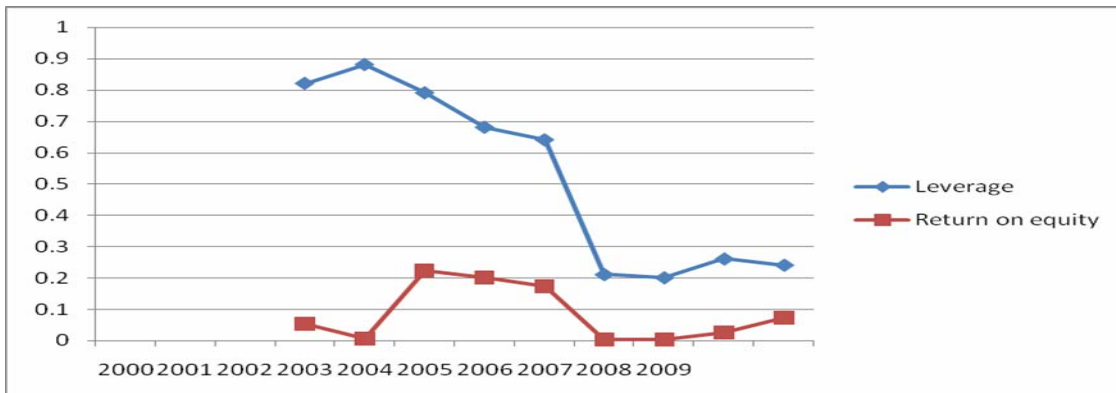
Figure 4.1: Graphical representation of Leverage and Return on Assets



4.3.2 Leverage as a Proxy of Capital Structure and Return on Equity as a Measure of Performance

Return on equity was measured as ratio of net income divided by equity capital. As the return on equity increase the leverage decreases as the firm reduce debt financing to equity financing.

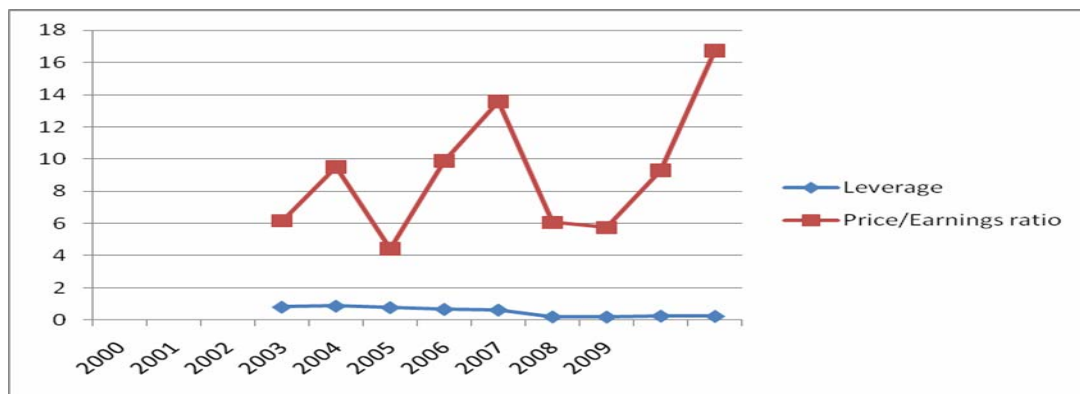
Figure 4.2: Graphical representation of Leverage and Return on Equity



4.3.3 Leverage as a Proxy of Capital Structure and Price/Earnings Ratio as a Measure of Performance

This study uses the ration of market price per share divided by earning per share as measure of stock price/earnings ratio. Decrease in price earnings ratio increases the leverage. Figure 4.3 below shows that as increase in share earnings increases the leverage.

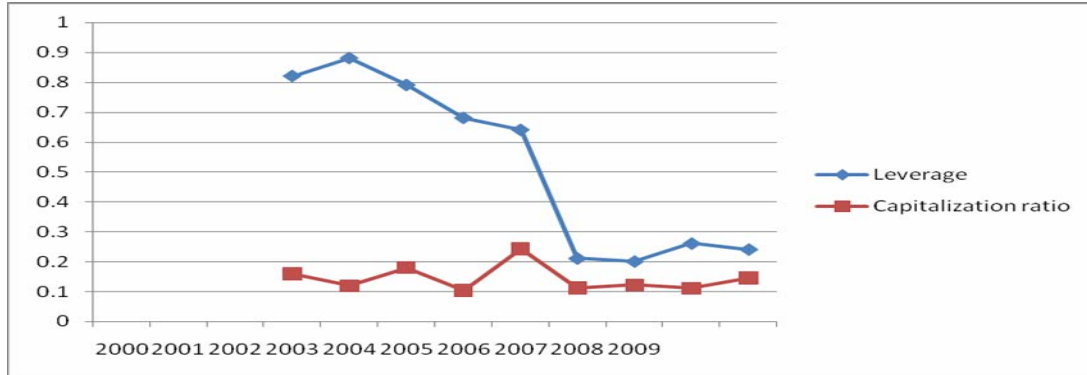
Figure 4.3: Graphical representation of Leverage and Price/Earnings Ratio



4.3.4 Leverage as a Proxy of Capital Structure and Capitalization Ratio as a Measure of Performance

Capitalization was measured as a ratio of fixed assets to total assets. Figure 4.4 shows that as capitalization increases leverage in decreasing.

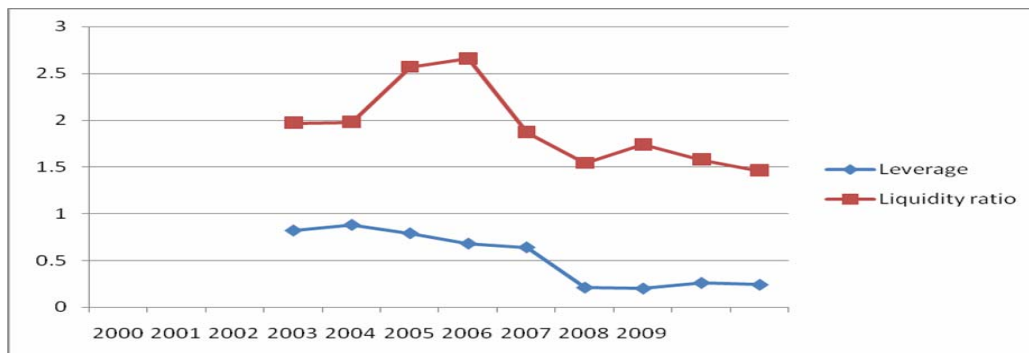
Figure 4.4: Graphical representation of Leverage and Capitalization Ratio



4.3.5 Leverage as a Proxy of Capital Structure and Liquidity Ratio as a Measure of Performance

The study measures liquidity as a ratio of current assets to current liabilities. Figure 4.5 shows that liquidity ratio decrease with leverage. This reflects the fact that current asset reduction as there is used to reduce the firms' debts.

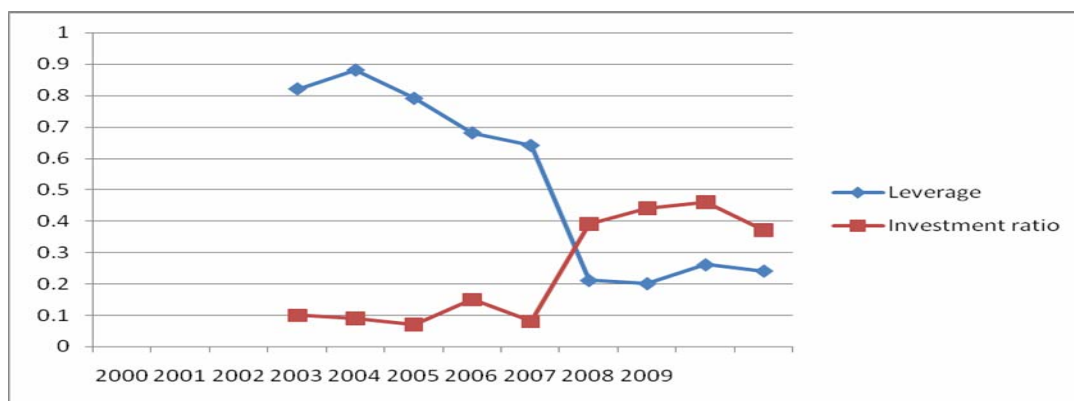
Figure 4.5: Graphical representation of Leverage and Liquidity Ratio



4.3.6 Leverage as a Proxy of Capital Structure and Investment Ratio as a Measure of Performance

Return on investment was measured as a ratio of net investment to total assets. Broadly, Figure 4.6 below shows that as return on investment increases leverage decreases as the firm reduces debt financing and increase equity financing.

Figure 4.6: Graphical representation of Leverage and Investment Ratio



4.4 Relationship between Dependent Variable and Independent Variables

4.4.1 Correlation Analysis

Pearson correlation is used to evaluate the relationship between the variables. The correlation matrix is an important indicator that tests the linear relationship, between the variables. The matrix also helps to determine the strength of the variables in the model, that is, which variable best explains the relationship between stock market development and its determinants. This is important and helps in deciding which variable(s) to drop from the equation. Table 4.3 presents the correlation matrix of the variables in levels. The table shows that there is positive correlation between leverage and return on assets, price/earnings ratio and capitalization, while return on equity, liquidity and return on investment are negatively correlated. The Pearson correlation coefficients between leverage and return on equity, liquidity, and return on investment are 0.692,

0.787 and 0.763 indicating that there are strongly correlated. However, leverage and return on assets, price/earnings ratio and capitalization are weakly correlated at 0.348, 0.472 and 0.394 (correlation coefficients) respectively.

Table 4.3: Pearson correlation co-efficient between variables

	Leverage	Return on asset	Return on equity	Price/Earnings ratio	Capitalization ratio	Liquidity ratio	Investment ratio
Leverage	1						
Return on Asset	.348	1					
Return on Equity	-.692(*)	.900(**)	1				
Price/Earnings ratio	.472	.303	.018	1			
Capitalization	.394	.539	.492	.271	1		
Liquidity	-.787(**)	.528	.770(**)	-.412	.057	1	
Investment ratio	-.763(*)	-.490	-.516	-.128	-.538	-.540	1

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

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

The findings in table 4.3 indicate that there strong relationship between leverage and return on equity, liquidity, and return on investment. Therefore, leverage is highly explained by return on equity, liquidity, and return on investment. However, there is weak relationship between leverage and return on assets, price/earnings ratio and capitalization, and leverage is not explained by return on assets, price/earnings ratio and capitalization.

4.4.2 Regression Analysis

In order to establish the relationships and effects of capital market and performance the study regressed leverage against return on assets, return on equity, price/earnings ratio, capitalization, liquidity, and return on investment. Where leverage was proxy for capital structure and

performance was proxied by return on assets, return on equity, price/earnings ratio, capitalization, liquidity, and return on investment.

Table 4.4 below summarizes regression results. As indicated in the regression statistics R-squared was 0.613. This means that 61% variations from the expected and actual output (dependent variable: capital structure measured by leverage) are explained by the independent variables performance (return on assets, return on equity, price/earnings ratio, capitalization, liquidity, and return on investment). These indicate good fit of the regression model. Thus, this is a good reflection of the true position that capital structure proxy is determined by firm performance proxies. Analysis of Variance shows that f-calculated is greater than f – critical ($3.374 > 0.173$). This implies that the regression model was well specified.

Co-efficient of the regression shows that there is relationship between leverage and return on asset, return on equity, liquidity and return on investment. However, regression analysis coefficient shows no relationship between leverage and price/earnings ratio and capitalization.

Table 4.4 below represents the regression results for the existence of short run relationships between dependent variable and independent variables. The results shows that the coefficients of leverage and return on asset, return on equity, liquidity and return on investment have the correct sign and are statically significance. This implies that there is a negative relationship between leverage and return on equity, return on equity, liquidity and return on investment, and therefore capital structure is explained by return on asset, return on equity, liquidity and return on investment as measure of the performance. However, the coefficients of leverage and price/earnings ratio and capitalization have the correct sign but are statically insignificance. This indicates that there is no relationship between leverage and price/earnings ratio and capitalization. Therefore price/earnings ratio and capitalization don't explain the capital structure.

Table 4.4: Summary of Regression Analysis Results

<i>Regression Model Summary: Dependent variable Leverage</i>			
R Squared			0.871
Adjusted R Squared			0.613
Observations			10
<i>ANOVA (Analysis of Variance)</i>			
	<i>Degree of freedom</i>	<i>Sum of Squares</i>	<i>Mean Square</i>
Regression	6	.640	.107
Residual	3	.095	.032
Total	9	.735	
<i>Calculated F</i>			3.374
<i>Significance F</i>			0.173
<i>Output of Regression – Co-efficient</i>			
<i>Predictor-Independent Variable</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t -Statistics</i>
(Constant)	7.762	2.081	3.730*
Return on Asset	-2.901	-1.451	1.999**
Return on Equity	-0.801	-0.316	2.535*
Price/Earnings ratio	1.012	0.827	1.224
Capitalization	2.338	2.044	1.144
Liquidity	-1.131	-0.342	3.307*
Investment ratio	-0.619	-0.219	2.826*

Note: * significance at 1%, ** significance at 5%

*Estimated Equation: leverage = 7.762 - 2.901*return on asset - 0.801*return on equity + 1.012* price/earnings ratio + 2.338*capitalization -1.131liquidity -0.619 investment ratio*

In particular, there is a negative effect of return on asset on leverage. 1% rise in asset returns leads to 2.901% reduction of leverage. This is explained by the fact when returns on assets increase will increase equity financing while reducing the debts.

The result of return on equity coefficient has the correct sign and significant. This indicate that return on equity affects negatively the leverage at 1% level, which is in line with theory as reflecting firm financing through equity. An increase in return on equity by one Kenya shillings leads firm financing through equity by Kenya shillings 0.801. This is expected, as equity return are realized there is more firm financing through equity while reducing the debts.

The liquidity ratio has the correct sign and is statistically significant at the 1% level. An increase of 1% in liquidity ratio implies that leverage ratio will reduce by 1.131%. Increase current assets will lead to decrease in debt financing while increase equity financing.

The coefficient of return on investment has the correct sign. An increase of 1% in return on investment leads to decrease in leverage by 0.619%. These results indicate increase in investment returns will reduce firm debts and leads to increase in equity financing.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS ND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings of the study, conclusion and suggests some recommendations. At the end of the chapter, areas for further research are provided.

5.2 Summary of the Findings

The Pearson correlation which establishes relationship between variables indicated that leverage is determined by return on equity, liquidity, and return on investment. This is because there is strong relationship between leverage and return on equity, liquidity, and return on investment. Therefore, leverage is highly explained by return on equity, liquidity, and return on investment. However, there is weak relationship between leverage and return on assets, price/earnings ratio and capitalization, and leverage is not explained by return on assets, price/earnings ratio and capitalization.

The regression results for the existence of a short run relationship among the variables.

Co-efficient of the regression shows that there is relationship between leverage and return on equity, return on equity, liquidity and return on investment. However, regression analysis coefficient shows no relationship between leverage and price/earnings ratio and capitalization.

The results shows that the coefficients of leverage and return on equity, return on equity, liquidity and return on investment have the negative sign and are statically significance. This implies that there is a negative relationship between leverage and return on equity, return on equity, liquidity and return on investment, and therefore capital structure is explained by return on equity, return on equity, liquidity and return on investment as measure of the performance. However, the coefficients of leverage and price/earnings ratio and capitalization have the positive sign but are statically insignificance. This indicates that there is no relationship between

leverage and leverage and price/earnings ratio and capitalization. Therefore price/earnings ratio and capitalization don't explain the capital structure.

5.3 Conclusions

From the findings above there is relationship between leverage and return on equity, return on asset, liquidity and return on investment. The relationships are negative indicating that as firms performance ratios increase the firm reduces leverage. Therefore, it can be concluded that as firm performance improves as measured by return on equity, return on asset, liquidity and return on investment, the firm tend to reduce debt financing and switch to equity financing.

5.4 Recommendations

The firm financing strategy determines the capital structure of the firm. From the findings above, it clear that as the firm performance improves as measured by return on asset, return on equity, liquidity and return on investment, the firm tend to reduce debt financing and switch to equity financing. Therefore, there is need to have optimal debt-to-equity ratio determined by balancing the present value of expected marginal benefits of leverage against the present value of expected marginal costs of leverage. Companies that are highly leveraged may be at risk of bankruptcy if they are unable to make payments on their debt; they may also be unable to find new lenders in the future. Therefore, there is need to switch to equity financing if the firm performance is high and reduce debt financing, thereby, having a balance capital structure.

5.5 Limitations of the Study

The study is confined to firm quoted at NSE. The number of listed firms at the NSE is relatively small compared non listed firms in the country. The study used macroeconomics time series data for the period 2000-2009. This means that only 10 observations were included in the analysis. A longer period with 30 and more observations is more appropriate when working with macroeconomics data; however collection of such data was not possible. All the limitations of

the analysis tool of time series data using SPSS are applicable to this study. Example is that it was not possible to carry out diagnostics test of the model estimated.

5.6 Areas for Further Research

This study used leverage as measure of capital structure. There is need to extend this research and include equity as measure of capital structure. Therefore there is need for further research geared to establishing the existing relationship between firm equity and performance. This study was confirmed to listed firms, there is need to extend to unlisted firms and especially family owned companies and find out the firm performance and their capital structures.

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APPENDICES

Appendix I: Summarized of the Data Collected and Used in the Analysis

Year	Leverage	Return on asset	Return on equity	Price/Earnings ratio	Capitalization ratio	Liquidity ratio	Investment ratio
2000	0.82	0.09	0.055	6.17	0.159	1.97	0.1
2001	0.88	0.01	0.0069	9.51	0.119	1.98	0.09
2002	0.79	0.32	0.2235	4.43	0.180	2.57	0.07
2003	0.68	0.3	0.201	9.88	0.103	2.66	0.15
2004	0.64	0.3	0.1726	13.59	0.244	1.87	0.08
2005	0.21	0.02	0.0043	6.08	0.112	1.54	0.39
2006	0.2	0.03	0.0049	5.75	0.122	1.74	0.44
2007	0.26	0.15	0.0267	9.31	0.111	1.58	0.46
2008	0.24	0.16	0.073	16.75	0.145	1.46	0.37
2009	0.27	0.23	0.0453	15.71	0.159	1.57	0.05

Appendix II: Quoted Companies in Nairobi Stock Exchange

Main Investments Market Segment (MIMS)

Agriculture

1. Rea Vipingo Ltd.
2. Sasini Tea & Coffee Ltd.
3. Kakuzi Ltd.

Commercial and Services

1. Access Kenya Group -**Newly Listed**
2. African Lake-**De-listed**
3. Marshalls E.A. Ltd.
4. Car & General Ltd.
5. Hutchings Biemer Ltd. **Suspended**
6. Kenya Airways Ltd.
7. CMC Holdings Ltd.
8. Uchumi Supermarkets Ltd. **Suspended**
9. Nation Media Group Ltd.
10. TPS (Serena) Ltd.
11. ScanGroup Ltd- **Newly Listed.**
12. Standard Group Ltd.
13. Safaricom Ltd- **Newly Listed.**

Finance and Investment

1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Bank Ltd.
3. Housing Finance Ltd.
4. Centum Investment Ltd.
5. Kenya Commercial Bank Ltd.
6. National Bank of Kenya Ltd.

7. Pan Africa Insurance Holdings Co. Ltd
8. Diamond Trust Bank of Kenya Ltd.
9. Jubilee Insurance Co. Ltd
10. Standard Chartered Bank Ltd.
11. NIC Bank Ltd.
12. Equity Bank Ltd- **Newly Listed.**
13. Olympia Capital Holdings Ltd
14. The Co-operative Bank of Kenya Ltd- **Newly Listed.**
15. Kenya Re-Insurance Ltd- **Newly Listed.**

Industrial and Allied

1. Athi River Mining Ltd.
2. BOC Kenya Ltd-**Suspended.**
3. British American Tobacco Kenya Ltd.
4. Carbacid Investments Ltd.-**Suspended.**
5. E.A. Cables Ltd.
6. E.A. Breweries Ltd.
7. Sameer Africa Ltd.
8. Kenya Oil Ltd.
9. Mumias Sugar Company Ltd-**Newly Listed.**
10. Unga Group Ltd.
11. Bamburi Cement Ltd.
12. Crown berger (K) Ltd.
13. E.A Portland Cement Co. Ltd.
14. Kenya Power & Lighting Co. Ltd.
15. Total Kenya Ltd.
16. Eveready East Africa Ltd -**Newly Listed.**
17. Kengen Ltd-**Newly Listed.**

Alternative Investments Market Segment (AIMS)

1. A.Baumann & Co.Ltd Ord 5.00
2. Eaagads Ltd Ord 1.25
3. Williamson Tea Kenya Ltd Ord 5.00
4. Kenya Orchards Ltd Ord 5.00
5. City Trust Ltd Ord 5.00
6. Express Ltd Ord 5.00
7. Kapchorua Tea Co. Ltd Ord Ord 5.00
8. Limuru Tea Co. Ltd Ord 20.00
9. Unilever Tea-**De-listed**

Fixed Income Security Market Segment (FISMS)

Preference shares

Government of Kenya Treasury Bonds

Government Infrastructure BondEADB Bond

Faulu Kenya Ltd. Floating rate Notes

PTA Bank Ltd Floating Rate Bond

Athi River Mining Medium Term Floating Rate Notes

Barclays Bank Medium Term Floating Rate Notes

Sasini Ltd.

Mabati Rolling Mills

CFC Stanbic Bank Senior and Subordinated Bonds

Shelter Afrique Medium Term Unsecured Notes

Kengen Public Infrastructure Bond

Source: NSE Website- www.nse.ke