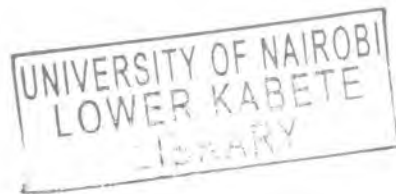


**THE EFFECT OF MANAGERIAL OVERCONFIDENCE ON CAPITAL
STRUCTURE OF FIRMS' LISTED ON THE NAIROBI SECURITIES
EXCHANGE**

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D61/P/8427/2006



**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF
REQUIREMENTS OF DEGREE OF MASTER OF BUSINESS
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

OCTOBER, 2012

DECLARATION

I, the undersigned declare that this proposal is my original work and it has never been presented to any academic institution for any form of academic credit. All information from other sources are duly cited and acknowledged.

Signed

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

Signed

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DEDICATION

This research project is dedicated to hard working children of Gabra nomads for their struggle to acquire financial knowledge only through world of imaginations, especially to Gabra women pursuing their dreams against all impossibilities.

ACKNOWLEDGMENTS

This piece of work could not have been possible without the grace of God. I will always be grateful to Him for courage and determination through this tedious, involving and often repetitive exercise.

Mr. Herick Ondigo on several occasions had to check and recheck this dissertation to develop it to its current readable form. It will be a big omission if his invaluable effort was left without appreciation. His guidance and fatherly advice was at an extra-ordinarily high level. The services of research assistant, Betty Macharia, must also be recognized for visiting doors of 48 chief officers of Kenyan firms, some of which could not respond to students' thirst to fill knowledge gaps. Her analytical tools were the main reason why the result of this research finding became clearer.

When writing this research project, I had to put in long hours. This obviously requires support, sacrifices and understanding from my family members. I am most grateful to my wife (Wato Wario) and son (Isack Barako) for their support and encouragement through life.

Though it is not easy to identify by name everyone who contributed to this exercise, efforts of my friends and well-wishers can not be ignored. Whilst all citations of previous research and academic work have been noted, I must acknowledge that all errors and imperfections herein are entirely my own.

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ABBREVIATIONS

CEO – Chief Executive Office

CFO – Chief Finance Office

CMA – Capital Market Authority

COPT – Managerial Overconfidence

EFWAMB – External Finance Weighted Average to Market to Book

EPS – Earnings Per Share

NSE – Nairobi Securities Exchange

NPV – Net Present Value

MB – Market to Book

MM – Mental Model

PMM – Probabilistic Mental Model

PRF – Firm Profitability

TNG – Tangibility of Firm

WACC – Weight average cost of capital

ABSTRACT

This research project examines the effect of managerial overconfidence on capital structure of firms' listed on Nairobi Securities Exchange for eleven year period between 2000 to 2010. Measure of managerial overconfidence was obtained through managers response to factual questions while stating their confidence level in correctness of their response. Traditional determinants of capital structure was noted and controlled to determine ultimate relationship between managerial overconfidence and leverage of Kenya firms.

Data from 48 managers of 24 companies were obtained and analyzed using multiple regression model. Hypothesis that managerial overconfidence affect capital structure of firms' listed on Nairobi Securities Exchange can not be dismissed. Further finding that supports pecking order and market timing theory was observed. It is however, not clear whether management have recognized effect of its own overconfidence to balance between benefit of this cognitive biases and agency problem posed by managers acting as proxies for shareholders.

The result show significant homogeneity in financial practices of Kenyan firms. It was observed that that managerial overconfidence does not depend on personal characteristics such as age, education or gender. Market to book is found to be significant determinant of capital structure as documented by previous studies. However, it may not explain the bulk of observed changes as other characteristics of market timing and pecking order theories also featured. Nevertheless, none may be dismissed.

This research recommends that shareholders must draw a fine line between taking advantage and disadvantages of predictable biases of their agents. Shareholders and potential investors should understand effect of cognitive biases of their agents on their investments. The study applied a simple linear regression method in which case unobserved firm-specific effects that capture the impact of intertemporally constant, but unmeasured effects on leverage were excluded. A similar study may, therefore be recommended for academicians with fixed effects that affects leverage and also applying superior analytical tools.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Modigliani and Miller (1958) proved the irrelevance of capital structure to firm value in perfect capital markets and without taxes. Capital structure decisions can have important implications for the value of the firm. Modigliani and Miller argued that it is completely irrelevant how a firm chooses to arrange its finances. According to them, a firm's capital structure can be illustrated by comparing it to a "pie" whose volume does not depend on how it is sliced. In other words, changing the capital structure of the firm does not change the firm's total value.

These ideal characterizations has since provided impetus for subsequent research which demonstrates that firms capital structure decision is a function of its corporate environment which includes corporate and personal taxes, bankruptcy and host of other related factors such as managerial cognitive biases. Since the seminal work by Modigliani and Miller (1958), a lot of research has been undertaken in an attempt to identify the determinants of capital structure especially taking into account managerial cognitive biases (Frank, Murray Z, Goyal 2003, Hachbart 2004, Barros and Silveira 2007).

Modigliani and Miller (1982) argued that the cost of equity of a firm increases as the firm increases its use of debt financing. This argument was based on the assumption that there are no taxes. Where taxes are considered, it was noted that debt financing was advantageous to the firm due to the tax shield benefit. As such, a firm would prefer to use more debt financing than equity financing. The firm's Weighted Average Cost of Capital (WACC) will decrease as the firm relies more on debt financing. However, as the firm continues to use more and more of debt financing, it will eventually experience some limiting factors such as the risk of incurring bankruptcy costs resulting from the use of debt financing.

The foregoing arguments support the view that a firm will borrow because the interest tax shield is valuable. However at very high debt levels, the possibility of financial distress will outweigh the benefit from debt financing. Thus it would appear that an optimal capital structure exists somewhere between the two extremes. Traditionally this has resolved around agency costs, asymmetric information and transaction cost issues, tax shields derived from the deductibility of interest payments

and the disciplinary effect of leverage on managerial behavior. This is normally referred to as the “trade-off theory”.

An alternative approach is the “pecking order theory” introduced by Myers (1984) and Myers and Majluf (1984). According to the “pecking order theory” companies in need of funding for new projects will tend to follow a hierarchy of preference for alternative financing sources. The theory supposes that firms will tend to prefer to fund their business with internally generated funds before seeking external sources such as debt capital and if that is not enough they will sell new stock as a last option. The pecking order theory presumes that firms tend to seek financing sources that are less subject to costs of informational asymmetrism. Thus contrary to trade of theory, in pecking order theory there is no optimal debt ratio that a firm will pursue.

While studies that are done locally (Kamere, 1997; Omondi, 1996; and Odinga, 2003) constitute important steps towards more realistic tests of determinants of capital structure, they are silent on the concept of behavioral science such as overconfidence and leverage by firms operating in Kenya. Most studies have focused more on testing pecking order hypothesis. Kiogora (2000), investigated returns of firms on leverage, established findings that are consistent with pecking order theory. Omondi (1996) earlier concluded that firms’ with higher return on investment use relatively high debt. Gachoki (2005) finds that firms listed on NSE follow pecking order theory of capital structure. A recent study by Ngugi, 2008 revealed other influence on capital structure where issues like information asymmetrism, non-debt tax shield and capital market infrastructure as other major influence of capital structure of Kenyan firms.

The foregoing approaches presuppose the implicit assumption that financial market participants as well as company managers always act rationally. However, recently, behavioral finance has begun to take a more prominent position in attempting to explain aspects of finance that traditional research has failed to be explain ((Malmendier,Ulrike,Tate, Geoffrey 2002), (Heaton 2002), and (Harbarth 2002)). Behavioral research in corporate finance has attempted to analyze the implications of agents’ irrationality. Investor irrationality has been used to explain stock price bubbles (Blanchard and Watson 1982), and market over and under-reaction (Barberis et al 1998, Daniel et al 1998). The corporate finance decisions of irrational managers, taking into account rationality of investors as also been explained in studies analyzing the implications of managerial irrationality in capital structure decision (Heaton 2002, Shefrin 1999, Hackbarth 2002). Literature on human psychology and behavior shows

that most people, including managers, tend to develop behavioral biases that can significantly influence their decisions ((De Bondt and Thaler 1995), (Mark Rubinstein 2001) and (Taylor and Brown, 1988, and Langer and Roth 1975)).

In corporate finance literature, (Barros and Silveira 2007), (Baker and Wurgler 2002) suggests two critical assumptions about behavior. First, that manager is likely to hold unbiased views of their firm's prospects. Secondly, shareholders are sufficiently diversified that they are not concerned with firm specific risk. It follows that, whereas risk-averse rational managers tend to postpone the addition of new projects until precise information is known about them, overconfident and optimistic managers hesitate less before making their decisions. In other words, overconfident managers will choose higher leverage ratios for their firms than they would if they were "rational". Then, these biases could rank among the determinants of capital structure.

Psychologists believe that emotions or moods are related to the decisions at hand and can exert influence on that decision. Nofsinger (2003) believed general level of over or under confidence in society affects financial decision-makers' mood and can lead to market wide phenomenon. Overconfidence leads corporate managers to make corporate investment, use more debt financing, and conduct more acquisitions. According to Hackbarth (2004), overconfident managers influence optimal debt ratio of their firms by using higher and new levels of debt. Overconfident societies are more willing to take on additional debt and increase spending. However, little empirical research is available to provide insight on these cognitive managerial influences on firms' capital structure especially in Kenya.

1.1.1 Managerial Overconfidence

Researchers have recognized that the behavioral biases (Overconfidence) may play a significant role in managers' financing and investment decisions. Heaton (2002) cites the psychological research (Weinstein 1980, March and Shapira 1987) that supports the view that people are generally overconfident. De Bondt and Thaler (1995, p. 389) contend that the most robust finding in the psychology of judgment is that people are overconfident. People often perceive themselves as having greater ability and greater control over events than is warranted (Taylor and Brown, 1988; Langer and Roth, 1975). This exaggerated sense of ability and control causes them to anticipate that the future is brighter and more certain than, it is on average.

Overconfidence is usually defined as systematic under estimation of the risk or variance of future events (De Long et al 1991, Goel and Thakor 2000). Kahnemann and Lovallo (1993) argue that managerial overconfidence may lead to managers making “bold forecasts” regarding prospective projects, while at times making timid choices due to risk aversion. In Goel and Thakor’s (2000) tournament model of managerial promotion to executive positions, managers become overconfident in order to increase their chances of success. This is beneficial for shareholder wealth, since it offsets some of the manager’s risk aversion. Gervais et al (2002) in examination of whether managerial overconfidence can offset sub-optimal risk taking in capital structure decisions due to managerial risk-aversion, found that overconfidence exacerbate the problem.

Dixit and Pindyck (1994) noted that, many capital budgeting decisions can be viewed as decisions involving greater risk and therefore rational managers will postpone the decision to exercise real options longer, in the best interest of shareholders. Treynor and Black (1976) adds that, if the corporation undertakes a risky new venture, the stockholders may not be very concerned, because they can balance this new risk against other risks of portfolios they are holding. The managers, however, do not have a portfolio of employers. If the corporation does badly because the new venture fails, they do not have any risks except the one taken by the same corporation to balance against it. They are hurt by a failure more than the stockholders, who also hold stock in other corporations.

Barros and Silveira (2007), states that, “it should also be highlighted that managers classified as overconfident are, on average, more exposed to the idiosyncratic risk of the business they run than other managers because they usually have more invested wealth in their firm’s shares”. They further argued that such exposition should make them more careful or conservative, leading them to choose a less levered financing structure. This evidence clearly shows that managers are willing to reduce risks overshadowed by their biased perception of the same risks, motivated by their own overconfidence. These cognitive biases may stimulate the individual to expose himself (sometimes exaggeratedly, from a rational perspective) to the idiosyncratic risks of the business in the first place.

Kahneman and Lovallo (1993) contend that managerial overconfidence stem from managers taking an “inside view” of prospective projects. This inside view focuses on project specifics and readily anticipated scenarios while ignoring relevant statistical information such as “how often do projects like this usually succeed?” Heaton (2002) examines the implications of managerial overconfidence for the benefits and costs of free cash flow. He points out that in the corporate environment; irrational

managers are not likely to be pardoned/arbitrated away. Managerial irrationality can be pardoned through corporate takeovers. Transactions costs arising from protection accorded for managerial irrationality such as the corporate takeover are extremely large, due to primarily high legal and regulatory hurdles. The specialized investors who do pursue takeovers must bear very large idiosyncratic risks. These factors severely limit the power of arbitrage (Pontiff, 1996; Shleifer and Vishny, 1997). Consequently, there is no reason to believe that corporate financial decisions cannot manifest itself in managerial irrationality within the large arbitrage bounds. Malmendier and Tate (2001) provide empirical evidence that overconfident managers invest more aggressively.

Since overconfident managers believe that the uncertainty about potential project is less than it actually is, they are less likely to postpone the decision to undertake the project. Thus moderately overconfident managers make decisions that are of best interest to shareholders than do rational managers. Overconfident managers also benefit the firm by spending more effort than rational managers, as they overestimate the value of their effort. Overconfident managers believe that the expected net present values of potential projects are greater than actually is, and undertake projects more quickly than their rational counterparts.

1.1.2 Importance of Capital Structure

Financial manager of any company should be concern about its real growth. The use of optimal capital structure will influence value and maximize the market value of the firm. Njeru (2003), noted that debt capital is low cost source of finance in Kenya because interest on debt is allowable charge for tax purposes. Companies can obtain debt capital and repay according to expected cash flow, giving it greater flexibility to plan and control its capital structure.

According to Chebii et al (2011), the companies listed on NSE generally maintain similar capital structure patterns for all categories except those listed on Financial and Investment counter with relatively higher level of debt. Companies listed on financial and investment sector coincidentally happen to record better than average market performance. These points towards possible value addition pattern and managerial brevity in this sector, though the biggest problem bedeviling some of these firms can be interpreted as mismanagement of borrowed funds.

Companies engage in loan financing only if it can be supported by internally generated funds or its mission is to increase business portfolio. The most common types of financing in Kenya is long term

financing, common stock, preferred stock and retained earnings (Chebii et al. 2011). The companies that use all these sources of finance can under take many (if not all) of its business opportunities appraised with positive NPV. These firms will certainly record higher growth than its equivalents relying only on internally generated funds.

Capital structure involves trade-off between risk and return. As company begins to substitute cheap debt for expensive equity, the WACC reduces. Using more debt raises risk borne by stockholder. Higher risk tends to lower a stock's price. Brigham and Houston (1998) emphasized that every company has its own optimal level of debt/equity ratio. A company that uses very high leverage may face high risk of debt as it is obligated to pay consistent interest to its lenders. This will limit payment of dividend to shareholders and non-payment of dividend discourages investors from investing in shares thus reducing its shareholding capacity. Over the years the numbers of companies listed at NSE have stagnated at around 55 quoted companies and some have been delisted. The main reason for delisting has been attributed non-compliance with CMA, requirements. Many of the problems that were faced by delisted companies were largely to do with funding. There is need to analyze firms capital structure and managerial cognitive biases.

Brigham and Houston (1998) also indicated that changes in the use of debt will cause changes in the EPS and consequently in stock prices. Cost of debt varies with use of different percentages of debt, the higher the percentage of debt, the riskier the debt, and hence the higher the interest the lenders will charge. An appropriate capital structure can be developed only when all those factors, which are relevant to companies' capital structure, are analyzed and balanced. The capital structure should be planned generally keeping in view the interest of the equity shareholders and financial requirement of the company. Theoretically, there may be precise point within which the MPS is at its maximum. In practice however, there may be range where MPS would not be greatly different.

1.1.3 Relationship between Managerial Overconfidence and Capital Structure

Zacharakis and Shepherd (2001) argue that overconfidence may result in venture capitalists providing insufficient research effort into new proposals, hence making errors of judgments in deciding on which ventures to fund. Overconfidence leads managers to overestimating the probability of good state, and to underestimate the probability of bankruptcy. This results in use of excessive welfare reducing debt levels (Due to increase in expected financial distress). Overconfidence has both positive and negative

effects on firm value, That is, overconfidence induces higher managerial effort, but may also result in excessive value-reducing debt levels (due to an increase in expected financial distress).

Capital structure models that combine several managerial biases will provide much richer policy implication, than, examining traditional capital structure determinant in isolation. What will be the effect of managers' value adding or value-reducing activities? The researcher alludes to the factor that firms capital structure are broadly divided into equity and debt. Equity may be deemed to be equivalent of pocket money given to student by parents (Therefore shows nothing about managerial effort concerning its levels other than sanction by shareholders while debts are mainly attributed to managerial effort). Managers will use debt (Short-term or Long-term) to implement any of their projects. Managerial overconfidence is not therefore visible in equity proportion of capital structure rather in debt part of it.

1.1.4 The Nairobi Securities Exchange

The Nairobi Stock Exchange has long history that can be traced to 1920s when it was trading in shares, while Kenya was a British colony (Ngugi & Njiru 2005). The NSE played an increasingly important role in the Kenyan economy, especially in the privatization of state-owned enterprises and private firms raising funds for its project. In the last 10 years, 9 public enterprises have been successfully privatized through the NSE where the government has raised about Kshs 5-billion. The privatization process started in 1988 when the government floated 7.5-million shares (20% equity) of the Kenya Commercial Bank. The issue was over-subscribed 2.3 times. Subsequent issues have also proved highly popular, with subscription rates as high as 400%. In the privatization of Kenya Airways, for example, the stock exchange enabled more than 110,000 shareholders to acquire a stake in the airline. The NSE has enabled Kenya to receive more than US\$ 50-million in a year and a half (1995/6), in the form of foreign portfolio investments. Several private companies have also issued different form of securities at NSE. For example, Safaricom issued ksh 4 billion, 10 year security bond, KPLC issued preference share. Kenya commercial bank and Kenya airways recently did a rights issue at NSE. Several companies continue to raise different type of funds from NSE. They are mainly influenced by management own interpretation of ease of raising funds and effect of those funds on underlying company performance. Companies managed by overconfident managers may generally opt for debt finance as opposed to those managed by their less confident counterpart.

The newly expanded CMA was charged with responsibility of developing stock market and regulating trading activities. According to Ngugi and Njiru (2005) the stock market is yet to make significant contribution in the development process. However, NSE plays a big role by facilitating the mobilization of capital development. It provides savers in Kenya with alternative saving tool. Funds that would have been consumed or deposited in the bank account are redirected to promote growth in various sectors of economy as people invest in securities. Long term savings are mobilized for financing long term ventures through competitive pricing mechanism.

1.2 Research Problem

Existence of managerial overconfidence, a factor commonly referred to as cognitive biases, implies that a firms' capital structure decision can not be detached from its corporate environment. The influence of cognitive biases of overconfidence on capital structure is said to be positively correlated to specific firms leverage as covered in finance literature. The determinant of capital structure in NSE may be explained by pecking order fund raising characteristics although different managers are observed to source for funds differently. Whether managerial overconfidence affects those fund raising characteristics for publicly listed Kenyan firms is not explained. Managers may divert cash flows for investment in private benefits and so have an incentive to 'slack'. If debt holders are not paid, they can force the firm into bankruptcy. This provides incentive for managers to increase effort level, to increase firm value. Managers may voluntarily wish to issue high levels of debt in order to commit higher efforts levels and high firm value

Overconfidence leads managers to overestimate probability of good state and under estimate probability of bankruptcy. This will result in excessive use of welfare-reducing debt. Graham and Harvey (2001) surveyed 392 CFOs and found recent price performance is the third most popular reason for equity issuance decision. Several firms have raised funds through issuance of financial instrument from NSE. For example Kenya commercial bank, Kenya airways and Total Kenya Ltd recently did rights issue. Safaricom Ltd, East African Portland have issued commercial paper on market, Kenya power & light co. Ltd and Total (K) Ltd is financed through preference shares. This evidence show varied ways in which Kenya CFOs react to their fund requirement. Weakening of Kenyan credit rating and sky rocketing inflation means higher capital requirement by firms operating in this environment. High level of investors overconfidence have been noted at NSE especially during IPOs in which case shares are greatly oversubscribed for example Kengen, Eveready, Safaricom, Scan group and National Bank IPOs. Managerial cognitive biases in this market has however, not been uncovered. It's evident that there exist investor overconfidence in NSE (Kiplangat et al. 2008), as to

whether the same exist for managers of those companies, manifesting itself in capital structure of the firm they manage is what this study intends to establish.

Empirical studies (see Myers and Majluf, 1984; Kim and Sorensen, 1986; Stulz, 1990; Rajan and Zingales, 1995; Roden and Lewellen, 1995; Michealas et al 1999; Al-Sakran, 2001; Frank, Murray Z, Goyal, 2003; Hachbart, 2004;) rely on firms' fundamental characteristics in explaining capital structures, largely ignoring the possible role that individual managers may play in capital structure choice. Interestingly, managerial influence on investment decisions has been researched quite extensively and well covered in seminal work by Roll (1986). Recently studies (see Barros and Silveira 2007, Fairchild 2006), have brought forward interesting dimension in to corporate finance. The fact that firms managed by overconfident managers will choose more debt financing structures than others, all other things remaining the constant, is based on the research undertaken in developed financial market. This study seeks to contribute to debate on the effect or significance of managerial overconfidence as determinant of capital structure, by establishing whether those biases rank among traditional determinant of capital structure.

1.3 Objective of the Study

To analyze effect of managerial overconfidence on capital structure of firms listed on Nairobi Securities Exchange.

1.4 Value of the Study

This study is significant for at least five reasons. First, it will help in clarification of crucial roll played by managerial cognitive biases of overconfidence on capital structure of Kenyan NSE listed companies. Secondly, it will enable top management develop their cognitive skill of overconfidence and asses themselves accordingly to understand inherent feature of their firms' capital structure. Shareholders being interested party of any value adding capital structure will be able to understand effect of managerial cognitive biases (overconfidence) and monitor them properly for firms' stability.

Further, the study opens new insight on the determinants of capital structure and explains if any cognitive biases provide important value adding difference between firms managed by rational and irrational (unbiased) managers. Finally academicians will find the study useful as its gives highlights on areas for further research and also contribute to new knowledge. The study will lay grounds for academicians to disseminate knowledge to various stakeholders.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is an empirical review of theories of capital structure and managerial overconfidence. Key determinant of capital structure are well enumerated clearly stating effects on firms financing. Proper linkages between managerial cognitive biases and firms financing are also covered as stated by earlier scholars.

2.2 Review of Theories of Capital Structure

According to Modigliani and Miller (1958) hypothetical world, capital structure decision is irrelevant and managers should not waste time thinking about what mix debt and equity to use. It is recognized moving towards practical reality then capital structure is relevant to firm value. These hypotheses relate to firm characteristics such as firm size, growth opportunities, collateral value of assets and profitability. Shyam-Sunder and Myers (1999) report that a simple pecking order model outperforms the target adjustment model in explaining the time-series variation in capital structure.

2.2.1. The Capital Irrelevance Theorem

In their path-breaking paper in 1958, Nobel laureates Merton Miller and Franco Modigliani provided the formal proof of their now-famous M&M capital irrelevance proposition. They demonstrate that there would be arbitrage opportunities in perfect capital markets if the value of a firm depended on how it is financed. They also argue that if investors and firms can borrow at the same rate, investors can neutralize any capital structure decisions the firm's management may take (home-made leverage).

The underlying rationale for the M&M argument is that the value of the firm is determined solely by the left-hand side of the balance sheet, i.e., by what is usually referred to as the company's investment policy. The economic substance of the firm is unaffected whether or not the liability side of the firm's balance sheet is sliced into more or less debt. To increase the value of the firm, it must invest in additional projects with positive net present values.

While the M&M capital structure irrelevance theorem clearly rests on unrealistic assumptions, it can serve as a starting point to search for the factors that influence corporate leverage policies.

2.2.2 The Trade-Off Theory

The trade-off theory of the capital structure suggests that a firm's target leverage is driven by three competing forces: i) taxes, ii) costs of financial distress (bankruptcy costs), and iii) agency conflicts.

i) Taxes

Capital structure of the firm can be explained in terms of the tax benefit associated with the use of debt. Green et al (2002) observed that tax policy has an important effect on capital structure decisions of firms. Corporate taxes allow firms to deduct interest on debt in computing taxable profits. This suggests that tax advantage derived from debt would lead firms to be completely financed through debt. This benefit is created, as the interest payments associated with debt are tax deductible, while payment associated with equity, such as dividends, are not tax deductible. Therefore this tax effect encourages debt use by firm, as more debt increases the after tax proceeds to the owners (Modigliani and Miller, 1963; Miller, 1977). It is important to note that while there is corporate tax advantage resulting from the deductibility of interest payment on debt; investors receive this interest payment as income. The interest income received by investors with higher and higher tax brackets have to be enticed to hold corporate debt and to receive more of their income in form of interest income rather than capital gains. Interest rate rise as more and more debt is issued, so arising from the issue of more corporate debt may be offset by a high tax on interest income. It is the trade-off that ultimately determines the net effect of taxes on debt usage (Miller, 1977; Myers, 2001).

Adding debt to a firm's capital structure lowers its (corporate) tax liability and increases the after-tax cash flow available to the providers of capital. Thus, there is a positive relationship between the (corporate) tax shield and the value of the firm.

Ngugi (2008) finds one of the main determinants of capital financing behavior as non-tax shields on debt for firms listed on NSE.

ii) Bankruptcy

Bankruptcy costs increases in case the firm raises excessive debt to finance its operations, and may default on this debt. However, it is not bankruptcy per se that is the problem. If the bond payments are not met when they become due and the bond borrowers' default, the firm is simply transferred to the bondholders. There are deadweight (opportunity) costs that arise in the case of corporate bankruptcy. They come in two forms, direct and indirect deadweight costs.

Direct out-of-pocket expenses for the administration of the bankruptcy process (legal fees and management time) are relatively small compared to the market values of the firms. There are economies of scale with respect to direct bankruptcy costs. While they seem to be of less importance for large firms, they can be substantial for small firms.

Indirect bankruptcy costs can be significant for both large and small firms. Once the firm runs into financial distress, it is obvious that the firm's investment policy changes, which results in a reduction of firm value. Most obvious, the firm may decide on shortsighted cutbacks in research and development, maintenance, advertising, and educational expenditures that ultimately result in lower firm values. Besides, bankruptcy hampers conduct with customers. They are usually lost because of both fear of impaired service and loss of trust.

Chebbi et al (2011) established that companies that optimally engaged financial leverage in their operations stand a chance of favorable competitive situations because of the absence of financial inhibitions. Availability of funds enables companies to meet their financial obligations. Debt financing also is cheaper to service since it is offered within specified time frames, therefore companies stand a chance of experiencing high earnings from use of cheaper source of funds.

iii) Agency Costs.

Jensen and Meckling (1976) define agency costs as the sum of the monitoring expenditures by the principal, bonding costs by the agent, and a residual loss. According to Harris and Raviv (1991), corporate finance literature assumes that agency costs are an important determinant of firms' capital structure. Three forms of agency problems have received particular attraction: (i) risk shifting (or asset substitution), (ii) the underinvestment problem and (iii) the free cash flow hypothesis.

Risk shifting or bondholder expropriation hypothesis asserts that stockholders have the incentive to exploit bondholders once the debt is issued. Managers, whose ultimate responsibility is to the stockholders, are likely to make investments that maximize stockholder wealth rather than total firm value. In particular, managers tend to accept risky negative net present value (NPV) projects in which the decrease in value consists of a decrease in the value of debt and a smaller increase in the value of equity (Mefteh and Oliver, 2007). This implies that the stockholder-bondholder expropriation conflict is most pronounced for financially distressed firms. Therefore, the asset substitution conflict is often classified as indirect bankruptcy costs.

The expropriation potential makes it difficult for firms to raise debt at fair prices. Bond investors get their fair compensation because they correctly anticipate stockholders' future behavior. They therefore demand a premium payment. While bondholders are equally well off, due to the protection offered by bond covenants, stockholders face the opportunity costs of not being able to issue debt with its other advantages, such as tax savings. This effect, also known as the asset substitution effect, is an agency cost of debt financing. Given that the expected cost of opportunistic behavior is incorporated into the price of debt, Jensen and Meckling (1976) posed that the firm trades off these agency costs of debt against the benefits of debt. Thus the optimal capital structure is tilted towards equity as opposed to debt.

Underinvestment problem refers to the tendency of managers to avoid safe positive net present value projects in which the value increase consists of an increase in the value of debt and a smaller decrease in the value of equity. Myers (1977) demonstrates that there is a rational basis for this shortsightedness when stockholders have no chance to receive any proceeds of a valuable project if the debt comes due. Hence, the firm will refuse to accept good investment opportunities thus reducing the firm value.

Brealey and Myers (2000) argue that the underinvestment problem theoretically affects all firms with leverage, but it is again most pronounced for highly leveraged firms in financial distress. The greater the probabilities of default, the more bondholders gain from value increasing projects. In addition, companies whose value consists primarily of investment opportunities, or growth options, are most likely to suffer from the underinvestment problem.

As with the asset substitution problem, the underinvestment problem tilts the capital structure towards equity. Mature firms with lots of reputation but few profitable investment opportunities, whose value comes mainly from assets in-place, find it optimal to choose safer projects. In contrast, young firms with many growth opportunities and little reputation may choose riskier projects. If they survive without default, they will eventually switch to the safe project. Due to their lower costs of debt, mature firms thus run higher leverage ratios than firms whose value is derived primarily from growth opportunities.

The free cash flow hypothesis by Easterbrook (1984) and Jensen (1986) argue that for companies that largely consist of assets-in-place and produce stable operating cash flow, high leverage can add value by improving managers' financial discipline. Free cash flow is cash flow in excess of that required to

fund all projects that have positive net present values. Firms with substantial free cash flow face conflicts of interest between stockholders and managers. The problem is how to motivate managers to distribute excess funds rather than investing below the cost of capital or wasting on organizational inefficiencies. Even worse, managers can invest less effort in managing firm resources, but transfer firm resources to their personal benefits, e.g., by consuming perquisites such as corporate planes and building “empires”. Instead of investing into low-return projects, managers of firms with stable free cash flows can pay out cash by increasing dividends or repurchasing stock.

Leverage is a more effective means for addressing the free cash flow problem. This is because contractually obliged payments of interest and principal are a more credible signal than discretionary dividend payments or share repurchases in giving back excess capital to investors. Bondholders can take the firm into bankruptcy court if managers do not maintain their promise to make the interest and principal payments. Accordingly, debt reduces the agency cost of free cash flows for mature companies by reducing the cash flow available for spending at the discretion of managers.

To sum up, the trade-off theory of the capital structure points out that there is an optimal debt - equity ratio. Firms attempt to balance the tax benefits of higher leverage and the greater probability (higher associated costs) of financial distress. Mwangi et al (2012) established that targeting behavior which is consistent with the trade off theory is applied by firms in making their financial decision. However, without ignoring trade off theorem, characteristics of market timing and pecking order theory are observed in Kenya and therefore trade off may not explain bulk of the capital structure changes.

2.2.3 Information Costs and Signaling Effects Theorem

Capital structure theory has become yet another dimension with the explicit modeling of private information in financial theory. Two main stands have emerged in the literature on asymmetric information. In the first approach debt is regarded as a means to signal confidence to the firm’s investors. In the second approach it is argued that the capital structure is designed to mitigate distortions in the investment decisions caused by information asymmetries.

The choice of capital structure signals to outside investors the information of insiders. Ross (1977) assumes that managers (the insiders) know the true distribution of firm returns, but investors do not. He argues that investors interpret larger levels of leverage as a signal of higher quality. The intuition behind his argument is that debt and equity differ in an important way that is crucial for signaling insider information. Debt is a contractual obligation to repay interests and the principal. Failure to

make these payments can lead to bankruptcy and managers may lose their jobs. In contrast, equity is more forgiving. Although shareholders expect dividends at least to be maintained, managers have more discretion and can cut them in times of financial distress.

Therefore, adding debt to the capital structure can be interpreted as a credible signal of high future cash flows and managers' confidence about their own firm. Lower quality firms will not imitate higher quality firm by issuing more debt because they have higher bankruptcy costs at any level of debt (Kamere, 1997; Odinga 2003). Accordingly, Ross (1977) concludes that investors take larger levels of debt as a signal of higher quality and that profitability and leverage are thus positively related.

Ngugi (2008) noted that information asymmetries and capital market infrastructure rank high among main determinants of capital financing behavior for firms listed on NSE.

2.2.4 Pecking Order Theory

Myers and Majluf (1984) suggest that the capital structure can help to mitigate inefficiencies in a firm's investment program that are caused by information asymmetries. They show that managers use private information to issue risky securities when they are overpriced. This leads to an interaction between investment and financing decisions. Because market participants cannot separate information about new projects from information about whether the firm is under or overvalued, equity will be mispriced by market participants. If firms are required to finance new projects by issuing equity, under pricing may be so severe that new investors capture more than the net present value of the new project, which would result in a net loss to existing shareholders. Even a positive net present value project will be rejected, leading to yet another underinvestment problem.

The information costs associated with debt and equity issues has led Myers (1984) to argue that a firm's capital structure reflects the accumulation of past financial requirements. There is a pecking order of corporate financing, that is; (i) firms prefer internal finance; (ii) if internal finance is not sufficient and firms require external finance, they issue the cheapest security first. In this case, they start with debt, then possibly hybrid securities such as convertible bonds, and issue equity only as a last resort. In contrast to the trade-off theory, there is no well-defined target leverage ratio in the pecking order theory. There are two kinds of equity, internal and external; one is at the top of the pecking order and one at the bottom. A firm's leverage ratio thus reflects its past cumulative requirement for external finance.

The pecking order theory can explain why the most profitable firms tend to borrow less; they simply do not need external funds. Less profitable firms issue debt because they do not have sufficient internal funds and because debt has lower flotation and information cost compared to equity. Debt is the first source of external finance on the pecking order. Equity is issued only as a last resort, when the debt capacity is fully exhausted. Tax benefits of debt are a second-order effect. The debt ratio changes when there is an imbalance between internal funds and real investment opportunities.

Ngugi (2008) while investigating capital financing behavior of firms listed on NSE found that pecking order model with adjustment process may define firms' financing behavior. Specifically, Ngugi (2008) noted that information asymmetries, non-debt tax shields and local capital market infrastructure as main determinants of financing behavior. Gachoki (2005) finds that firms listed on NSE follows pecking order theory of capital structure.

2.2.5 Review of Theories of Managerial Confidence

The cause of the overconfidence bias is either that people truly believe that their accuracy is going to be higher than it really turns out to be (they fail to take into account all the factors which then reduce accuracy), or that they artificially inflate their perceived level of accuracy for a variety of reasons, such as to delude themselves or other people (thus protecting self-esteem or giving favorable impressions to other people). The phenomenon of under-confidence also exists where confidence is too low. This is due to accuracy being higher than expected, although some situations may demand low confidence for a person to appear modest. Alternatively if under confidence appears to be a pervasive trait in a person it could be because they are using inaccurate methods for assessing future outcomes, or that too much information is overwhelming and confusing them, thus reducing certainty and confidence.

2.2.6 Resoluteness and Communication Skill Theorem

Bolton et al (2009) develop a theory of leadership that contrasts managerial resoluteness against communication skills. Resoluteness is a form of overconfidence that arises when CEOs are unresponsive to outside information and precludes communication skills. Their theory presents a trade-off between adapting to new information and coordinating employees, implying that more resolute and overconfident CEOs perform better than CEOs who are better listeners and communicators in situations requiring greater coordination. They predict that measures of

characteristics that reflect resoluteness and overconfidence should be positively correlated with performance.

Heaton (2002) argues that overconfidence in the form of managerial optimism is unambiguously bad, causing either over or underinvestment. In contrast, Gervais, Heaton, and Odean (2009) present a model where overconfidence can increase value by mitigating moral hazard and aligning incentives.

Rotemberg and Saloner (1993) make a similar distinction, although their economic mechanism is different. They explore the difference between empathetic and selfish CEOs. Selfish CEOs are narrowly focused on profit maximization, similar to the notion of resoluteness in Bolton et al. (2009). In contrast, empathetic CEOs internalize employees' utility, which is in the spirit of Bolton et al's (2009) notion of communication skills.

Empirically, Malmendier and Tate (2005, 2009) find that overconfident CEOs have higher investment-cash flow sensitivities and are more likely to engage in value destroying mergers. Graham et al (2008) provide additional empirical evidence that CEO behavior is related to measures of overconfidence, optimism, and risk-aversion. However, it remains an open question how overconfidence relates to subsequent performance.

2.2.7 Mental model (MM) and Probabilistic Mental Model (PMM)

Wagenaar (1988) contend that overconfidence arises due to problem with inferential process, and that people do not realize the reconstructive nature of memory. Gigerenzer et al (1991) proposed a model of process involved in confidence. Initially, they said, local mental models (MM) are constructed with solutions using information from memory and elementary logical operations. If this fails to produce an answer the probabilistic Mental model (PMM) are used to come up with solutions, using probabilistic information from environment. Gigerenzer et al (1991) stated that choice of answer and confidence in it are both expressions of the same conditional probability, and that "PMM theory predicts that distinction between confidence and relative frequency is psychologically real, in the sense that subject do not believe that a confidence judgment of X% implies a relative frequency of X% and vice versa" (P. 152). The model explains the choice of answer quite well. They also assume that choice and confidence are one process rather than a choice followed by information search then confidence judgments, as proposed by koriat, Lichtenstein and Fischhoff (1980).

Koriat et al (1980) proposed that overconfidence results from biases in information processing, such that recall from memory, either during or after the decision making process, is biased towards evidence supporting a tentative answer and not against it. To test this hypothesis, attempts were made to de-bias subjects (reduce their overconfidence) by asking them to write down all the reasons they could think of why each of the multiple choice answers was right or wrong before they chose an answer and stated a probability that their answer was correct. This method resulted in subjects becoming very well calibrated for all levels of confidence, except the very highest and significantly reduced overconfidence. The generation of pro or con reasons had no influence on subjects' accuracy levels, but did influence confidence, resulting in reduced overconfidence. Further research by these investigators, reported in the same paper, revealed that the important factor was the production of reasons that contradicted the chosen answer. In their experiment subjects were required to generate either one piece of supporting evidence, or one supporting and one contradicting, and neither of these procedures had any effect on calibration. This finding suggests that it is only generating reasons why the answer may be wrong which reduces overconfidence.

2.3 Determinant of Capital Structure

A number of empirical studies have identified firm-level characteristics that affect capital structure of firms. Age of firm, size of firm, asset structure, profitability, growth, firm risk, tax and ownership structure are among factors intended to influence firms capital structure.

a) Firm size

According to Castanians, (1983); Titman and Wessels, (1988); Wald, (1999), large firms are more diversified and hence have lower variance for earnings, making them able to tolerate high debt ratio, on other hand smaller firms may find it more costly to resolve information asymmetries with lenders, thus may present lower debt ratios. Large firms are more likely to get rapidly reducing agency costs associated with debt. Therefore large firms have higher debts. Relative bankruptcy costs have inverse function to firm size providing explanation for small firms' lower debt laden culture. Castanians (1983) also states that if fixed portion of default costs tends to be large, then marginal default cost per dollar of debt may be lower and increase more slowly. Facts about large firms may be taken as evidence that these firms are less risky (Kim and Sorensen, 1986). Cosh and Hughes (1994) add that if operational risk is inversely related to size, this should rather predispose small firms to use relatively less debt.

Empirical evidence on the relationship between sizes of capital structure supports positive relationship. Barclay and Smith, (1996); Friend & Lang, (1988); Barton et al (1989); Mackie-Mason, (1990) and Kim et al (1998); Al-sankran, (2001), Hovakimian et al; (2004) research results suggest that large firms are likely to use debt as opposed to equity stock while smaller firms use more of equity stock. Bigsten et al. (2000), in study of six African countries, noted that 64% of micro firms, 42% of small firms and 21% of medium firms appear constrained, while this is only 10% of large firms. Holmes (2003), Esperanca et al (2003) and Hall et al. (2004) found positive association between firm size and long-term, but negative relationship between firms' size and short-term debt ratio (Chittenden et al. 1996; Michaelas et al. 1999). According to Titman and Wessels (1988), small firms seem to use more short-term finance than large counterpart because small firms have higher transaction costs when they issue long-term debt or equity. They further add that such behavior may cause a "small firm risk effect", by borrowing more short term loan. These types of firms will be more sensitive to temporary economic downturns than large, long-gearred firms.

Mwangi et al (2012), found positive relationship between size and leverage. This study is consistent with trade off theory but against pecking order theory which predicts negative relationship between leverage and size. Nagarajan (1990), Baker and Wurgler (2002) and Hovakimian (2005) found firm size has one of the positive determinant of capital structure. Firm size may be proxy for lower transaction costs in issuing debt, greater success to debt markets and lower information asymmetries. Firms' size is expected to be positively correlated to leverage. The natural logarithm of total sales is commonly considered a proxy for the size of each firm:

b) Tangibility of assets

Titman and Wessels (1988); Harris and Raviv, (1991); Bradley et al. (1984); asserts that firms that invest heavily in tangible assets also have higher financial leverage since they borrow at lower interest rates if their debt is secured with such assets. Wedig et al. (1988) believed that firms are more readily secured if there are durable assets to serve as collateral. By pledging firms' assets as collateral, the costs associated with adverse selection and moral hazards are reduced. Therefore firms with assets with greater liquidation value should have easier access to finance at lower cost, leading to higher debt in their capital structure. In case of small firms, the concession of collateral reduces the under investment problem by increasing the probability of obtaining credit functioning also as a management instrument in conflict between entrepreneur and financiers, since degree of the entrepreneurs' involvement in sharing business risk, by granting personal collateral, is clearly evident. Storey, (1994);

berger and udell, (1998), further note that bank financing will depend upon whether the lending can be secured by tangible assets.

Empirical evidence suggests a positive relationship between asset structure and leverage for the firm (Bradley et al. 1984; Wedig et al; 1988 Friend and Lang, 1988; Mackie-Mason, 1990; Rajan and Zingales, 1995; Shyam-Sunder and Myers, 1999; Havakimian et al, 2004. Kim and Sorensen (1986). There is significant and negative coefficient between depreciation expenses as a percentage of total assets and financial leverage. Positive relationship has been noted between assets structure and long-term debt and negative relationship with short-term debt (Refer Van der Wijst and Thurik, 1993; Chittenden et al. 1996; Jordan t al 1998; Michaelas et al. 1999; Cassar and Holmes, 2003; Hall et al. 2004). Esparanca et al. (2003) found positive relationship between asset structure and short term debt. It's therefore likely to find negative relationship between tangible fixed assets and debt ratio.

Mwangi et al (2012), in their international journals on humanities and social science vol.2 no.9 predicted that firms which have a relatively large proportion of intangible assets can not support a high leverage ratio. The collateral value of assets or tangibility of assets, held by firm was found to be determinant of leverage (Rajan and Zingales, 1995). Firms with higher tangible assets are expected to have higher leverage. Tangible assets are likely to have an impact on the borrowing decisions of a firm because they are less subject to information asymmetries and usually they have a great value of intangible assets in case of bankruptcy. Additionally, the moral hazard risks are reduced when the firm offers tangible assets as collateral, because this constitutes a positive signal to the debt holders.

c) Firm profitability

Murinde et al (2004) observe that retentions are the principal source of finance. Tim and Wessels (1988) and Barton et al. (1989) argued that firms with high profit rates, all things being equal, would maintain relatively lower debt ratios since they are able to generate such fund from internal sources.

Small firms have less access to external funds, debt as well as equity than do large enterprises. Profitable firms are more capable of tolerating more debt since they may be in a position to service their debt easily and on time. Profitable firms are more attractive to financial institutions as lending prospects; therefore they can always take on more debt capital. Ooi (1999), Sherr et al (1993); found that start-up firms with higher anticipated profitability have higher debt to equity ratios.

Empirical evidence shows that there exist negative relationship between profitability and leverage (See Friend and Lang, 1988; Barton et al 1989; Van der wijst and Thurik, 1993; Chittenden et al. 1996; Jordan et al. 1998; Shyam-Sunder and Myers, 1999; Mishra And McConaughy, 1999; Mishaelas et al. 1999). Cassar and Holmes (2003), Esperanca et al. (2003) and Hall et al. (2004) also suggest negative relationships between profitability and both long-term and short-term debt ratios. Petersen and Rajan (1994), however, found significant positive association between profitability and debt ratio.

Mwangi et al (2012), Kiogora (2000), noted use of debt to be negatively related to firms' profitability consistent with pecking order theorem and targeting behavior by firms in project funding. Omondi (1996) however, noted that firms with high return on investment use relatively high debt. Myers (1984) in their pecking order theory argued that if a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. More profitable firms are expected to hold less debt, since it is easier and more cost effective to finance internally.

d) Firm growth

According to Mash (1982), firms with high growth will capture relatively higher debt ratios. Growth also places a greater demand on internally generated funds and pushes the firm into borrowing (Hall et al. 2004). Heshmati (2001) notes that small firms with more concentrated ownership, with high growth will require more external financing and should display higher leverage. Aryeetey et al. (1999) argue that small firms appear more likely to use external finance – although it is difficult to determine whether financing induce growth or opposite or both. Michaelas et al. (1999) argue that future opportunity will be positively related to leverage, particularly short term leverage. They further contend that agency problem and consequently the cost of financing are reduced if the firm issues short-term debt rather than long-term debt. Myers (1977), however, holds the view that firms with growth opportunity will have a small proportion of debt in their capital structure. Growth opportunity can produce moral hazard situations where small scale enterprises have an incentive to take risks for growth. The benefit of this growth, if realized, will not be enjoyed by lenders who will only recover the amount of loan, resulting in clear agency problem. There will therefore be increased costs of long-term debt that can be mitigated by use of short-term debt.

Empirical evidence appears inconclusive. While some studies found positive relationships between sales growths and leverage (Reffer Kester, 1986; Titman and Wessels, 1988; Barton et al. 1989), others show higher growth firm use less debt (See Kim and Sorensen, 1986; Stulz, 1990; Rajan and

Zingales, 1995; Roden and Lewellen, 1995; Al-Sakran, 2001). Michealas et al. (1999) found future growth to be positively related to leverage and long-term debt. Cassar and Holmes (2003) and Hall et al. (2004) showed positive associations between growth and long-term debt ratios. While Chittenden et al. (1996), Jordan et al. (1998) and Esperanca et al. (2003) found mixed behavior.

Dividend payout also affects growth. Whereas, firms with low dividend payout are able to retain more profits for investments, higher dividend payout firms are expected to rely more on debt in order to finance their growth opportunities. However, market-to-book is also a common measure for growth opportunity (Rajan and Zingales, 1995). Therefore, market-to-book can be regarded as a proxy for growth opportunities. Firms that is less likely to have growth opportunities have significant coefficient of *MB*. Firms with high market-to-book ratio have higher costs of financial distress and consequently are expected to have lower debt. Baker and Wurgler (2002) documented market-to-book effects on leverage. Firms are likely to issue equity when their market value are high, relative to book values and repurchase equity when their market values are low

Mwangi et al. (2012), noted tendency of firms to issue stock when their stock price is high relative to their earnings or book value consistent with market timing theory. This would imply negative correlation between leverage and market-to-book ratio, driven by firms with significant amount of equity. They further noted negative impact of growth opportunities on leverage which could further reveal firms with greater growth opportunities might have low leverage ratios due to fear by debt holders that firms might pass up valuable investment opportunities. Hovakimian (2005) argues that *external financing weighted average market book (EFWAMB)* is proxy for growth opportunities, as has been suggested for market-to-book. If *EFWAMB* is proxy for growth opportunities then it will be expected that *EFWAMB* for old and more established firms to be significantly related to leverage. If *EFWAMB* is significantly related to leverage for older more established firms (i.e. non growth firms) then high *EFWAMB* will mean high leverage.

e) Firm risk

The tax shelter-bankruptcy cost theory of capital structure determines firms' optimal leverage as a function of business risk (Castanians, 1983). Kale et al. (1991) contend that risk is one of the primary determinants of firms' capital structure. There is incentive of firm not to fully utilize the tax benefits of 100% debt within static framework model, given bankruptcy and agency costs. The more likely firm is exposed to such costs, the greater their incentive to reduce their level of debt within its capital

structure. According to Johnson (1997), firms with more volatile earnings growth, may experience more situations in which cash flows are too low for debt service. Kim and Sorensen (1986) also observe firms with a high degree of business risk have less capacity to sustain financial risks and thus use less debt.

Empirical evidence shows inconclusive result, although there is broad consensus that firms risk is important determinant of corporate debt policy. Bradely et al. (1984); Titman and Wessels, (1988); Friends and Lang, (1988); Mackie-Mason, (1990); Kale et al. (1991); Kim et al. (1999); shows inverse relationship between risk and debt ratio, while (Jordan et al. 1998; Michaelas et al. 1999) found positive associations between firm risk and both long-term and short-term debt. Baker and Wurgler (2002), contend that a negative relation on this variable occurs because firms do not subsequently adjust their leverage towards the target, then changes in leverage is induced by equity. As a result long-past market-to-book ratios have negative effect on current debt ratios

f) Taxation

Mackie-Mason (1990), Shun (1996) and Graham (1999), explore impact of taxation on corporate financing decision in major industrial countries. Mackie-Mason (1990) studied the tax effect on corporate financing decision and provided evidence of substantial tax effect on choice between debt and equity. He concluded that changes in the marginal tax rate for any firm should affect financing decisions. When already exhausted (with loss carry forwards) or with a higher probability of facing a zero tax rate, a firm with high tax shield is less likely to finance with debt. The reason is that tax shields lower the effective marginal tax rate on interest deduction. Graham (1999) concluded that in general, taxes do affect corporate financial decisions, but the magnitude of the effect is mostly “not large”.

DeAngelo and Masulis (1980) show that there are other alternative tax shield such as depreciation, research and development expenses and investment deductions that could substitute the fiscal role of debt. Empirically, this substitution effect is difficult to measure, as finding an accurate proxy for tax deduction that excludes the effect of economic depreciation expense is tedious (Titman and Wessels, 1998). There is income effect when investment decisions are made simultaneously with financing decision (Dammon and Senbet, 1988). They argue that increase in investment-related tax shield due to changes in the corporate tax code are not necessarily associated with reduction in leverage at the individual firm level when investment is made to adjust optimally. They explain that the effect of such

an increase depends critically on the trade off between the “substitution effect” advance by Deangelo and Masulis (1980) and income effect associated with an increase in optimal investment.

Njeru (2003) in his study about effects of capital structure on company valuation, points out that debt capital is a low-cost source of finance in Kenya because interest on debt is an allowable charge for tax purpose.

2.4 Managerial Overconfidence and Capital Structure

According to Sherfrin (1999), overconfidence may motivate a manager to adopt an overly heavy sub-optimal debt-laden capital structure. Heaton (2002) argues that overconfidence leads to managers overestimating the net present value of new investment projects. Therefore, they will invest in negative NPV projects that they mistakenly believe to be positive NPV, hence overconfidence is value-reducing. Similarly, Malmendier and Tate (2004) argue that overconfidence may result in corporate investment distortions. According to Heaton (2002), overconfident managers view external funds as unduly costly. Therefore, they over invest when they have abundant internal funds, and they under invest when they require external financing. Consequently, they think that the securities issued by the firm, whether bonds or stocks, are systematically undervalued by outside investors. By nature, stocks are the securities most subject to the perceived undervaluation.

Fama; French, (2002); Shyam-Sunder; Myers, (1999), contend that the choice of capital fund is a function of rational decision guided by costs and benefits consideration associated with leverage. However, Myers (1984) and Myers and Majluf (1984) sustain that companies will tend to follow a hierarchy of preference for alternative financing sources motivated by the informational asymmetries between their managers and outside investors. Heaton (2002) predicts that this pecking order type of behavior will be more pronounced to optimistic managers, *ceteris paribus*. Malmendier and Tate (2002; 2003) and Fairchild (2005), also confirmed this assertion by providing a similar model.

Hackbarth (2002, 2004a, 2004b) developed a model that considered effects of managerial overconfidence on firms' capital structure decisions. Hackbarth (2002) demonstrates that managerial overconfidence results in higher debt levels, which may be beneficial for shareholders. Hackbarth presents two versions of the model. In the first version, the manager attempts to act in the interest of shareholders, their objective is to maximize the perceived value of the firm (trading-off tax benefits versus bankruptcy costs of debt). Since an overconfident manager perceives debt as more undervalued

than equity, they issues higher level of debt than a rational manager. In the second version of Hackbarth's model, the agency problem of free cash flow exists. An overconfident manager chooses a higher debt level than a rational manager. This serves to mitigate the free cash flow problem, hence aligning managers' and shareholders' objectives.

Barros and Silveira (2007) observed that, keeping other factors constant, leverage ratios tend to be substantially lower in firms where the same person accumulates both functions, possibly reflecting the influence of corporate governance standards on their access to external financing instruments. They further found a negative relationship between profitability and leverage, especially if market leverage measures are used. This evidence is compatible with the pecking order theory.

In line with Fama and French (2002) and Frank and Goyal (2004), Barros and Silveira, (2007) found some evidence that dividend-paying firms are less levered, while, in accordance with Rajan and Zingales (1995), Gaud et al. (2005), and Frank and Goyal (2004), firms with a higher degree of asset tangibility tend to be more levered. Barros and Silveira (2007) suggested that differences in opinion, style and perception of reality related to managers' personal traits can significantly impact observed corporate decisions.

In Kenya Omondi (1996), noted that firms with high return on investment use relatively high debt. Higher returns on investment are interpreted to mean better future out look for firms with positive effect on loan repayment. Omondi (1996) therefore found positive association between return on investment and debt ratio. However, in subsequent researcher Kiogora (2000) using regression model finds negative relationship between returns of firms quoted on NSE and their leverage; consistent with pecking order prediction.

Kiplagat et al (2008), noted fairness of Kenyan political/Economic stability, stock market development and investor overconfidence in the capital market. They further contend that in general economic growth given by stock market capitalization and stock market liquidity manifested through total shares traded and turnover are important determinants of stock market growth and fund sourcing points for firms in Kenya.

2.5 Empirical Review

In spite of significances of firms' specific determinants of capital structure, as well documented in (see Marsh, 1982; Lary and Roberts, 2005; Flannery and Rangan, 2006), firms still deviate from their predictable leverage ratios and they do not rapidly move back to their ideal ratios. The rate of movement of firms' capital structure is determined by relative costs of sources of their fund. One such cost is the degree to which the firms' equity is over or undervalued in the market place. Myers (1984) contrasted the trade off theory of capital structure by coming up with pecking order theory under which information asymmetries leads managers to perceive that the market generally under prices their shares. In view of that investments are financed first with internally generated funds, after which firms will issue safe debt if internal funds proves insufficient. Equity is only used as last resort. Accordingly, as pecking order is concern, observed leverage reflects primarily a firms' historical profitability and investment opportunities. Meaning firms have no strong preference about their leverage ratios and therefore do not reverse changes caused by financing needs or earnings growth.

Baker and Wungler (2002) argue that a firms' capital structure reflects cumulative ability to sell overpriced equity shares. They further argue that shares normally fluctuate around 'true' values and managers tend to issue shares when firms' market to book is high (the market timing theory). Unlike pecking order theory, the market timing theory asserts that managers routinely exploit information asymmetries to benefit their current shareholders.

A study by Flannery and Rangan (2006) shows that more than half of the observed changes on capital structure can be attributed to targeting behavior whereas market timing and pecking order consideration explain less than 10%. Ngugi (2008) investigation of financing behavior of firms listed on NSE, revealed that pecking order model with an adjustment process can not be rejected. Specifically the main determinants of capital structure were found to be information asymmetries, non-debt tax shield and local capital market infrastructure.

2.6 Conclusion

The issue of determining capital structure using a model on the managerial overconfidence has only recently been given prominence in the world behavioral finance. A study carried out by Ngugi (2008) investigated capital financing behavior 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 found that the main determinants of capital financing behaviors 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.

Mwangi et al (2012) in their international journals of humanities and social science vol. 2 no.9 noted that firm specific variable used in estimation of target debt ratio reveal coefficients which were consistent with the earlier studies in determining target capital structure. The study further revealed that the current profitability of firms exerts a negative influence of firms borrowing decisions. The estimate coefficients of hypothesis were significant in this study at level of 5%. The negative sign of profitability is however consistent with pecking order hypothesis that predicts preference for internal funds rather than external sources.

This study will bring new insight into understanding Kenyan firms' capital structure by analyzing its determinants and effect of managerial cognitive biases. The analysis in particular will include significant variable of managerial overconfidence in addition to traditional determinant of capital structure and its value creation tendency.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the population of study, the basis of sampling, data collection instruments as well as the data analysis techniques to be used to achieve the objectives of the study. The study is a case study, which sought to assess the effect of managerial overconfidence on capital structure for firms listed on NSE.

3.2 Research Design

Descriptive research design was used to test whether managerial cognitive influence exists among other determinants of capital structure for companies quoted at NSE (Mugenda and Mugenda 2003). Descriptive research is concerned with finding out “what is” and can either be quantitative or qualitative because it’s involves gathering data that describes events and then organizes, tabulates, depicts and describes the data collection. The study involved gathering financial statement and analyzing managerial overconfidence for firms quoted on the NSE for eleven year period between 2000 and 2010. The use of descriptive statistics allowed the application of dynamic capital structure model as applied by Baker and Wungler (2002) and Hovakimian (2005), Barry oliver (2007). Dynamic capital structure model captures at least two important features of Kenyan corporate financing. First, firms have a long run optimal capital structure which is assumed to be function of several firms’ specific characteristics that vary over time, over firms, or both over time and over firm. Second, that determinant of those capital structure manifest itself in managerial cognitive biases which involves a lag in adjusting to changes in the optimal debt ratio.

3.3 Population of Study

The population of the study consists of the 59 companies listed on the NSE for period 2000 to 2010 (see Appendix I). The period is appropriate in order to capture most recent data since earlier related studies (Ngugi, 2008) capture data 1990 to 1999 and financial behavior may have changed over years and subsequent study by (Mwangi et al 2012) concentrated only on optimal leverage levels and its speed of adjustment with out covering effect of any managerial cognitive biases.

3.4 Sample

The researcher targeted all 59 companies listed on NSE, except companies listed under financial and investment sector because this sector are subject to specific rules and regulations according to Kenyan law. Thus, their leverage is affected by exogenous factors more than traditional or managerial factors. Following Rajan and Zingales (1995), the study excluded these firms categorized as “Financial” and focused exclusively on non-financial sector. The researcher also excluded Uchumi Supermarkets and Hutchings Biemer Ltd due to lack of continuous data occasioned by previous suspension. However, Only 48 Managers of 24 companies responded, which was considered to constitute adequate sample purposes of conclusion making.

Questionnaires were sent to managers of sampled companies for stated period. Only chief executive officers (CEOs) and chief finance officers (CFOs) participated in this study. Researcher interviewed 2 top managers for 24 firms listed on NSE. Study questionnaires were delivered by mail and follow up done every week through phone calls. The researcher found out that some managers could not respond to administered questionnaires, therefore those who responded were deemed to be sufficient.

3.5 Data collection

This study was based on combination of two sets of data. First, data set was eliciting measures of overconfidence and other personal characteristics (Age, gender and education). Direct proxies of managerial confidence level were obtained from this data. Personal characteristic information (Age, gender and educational) was regarded as control variables for overconfidence. Managers were classified into three groups, based on their field of study; those with financial education, those with technical educations and those with other degrees. Managers were also classified into five groups based on their age; Younger than 30 years, 30 to 39 years old, 40 to 49 years old, 50 to 59 years old and old than 60 years. Finally, managers were distinguished based on their gender as male or female.

The other set of data is concerning companies whose managers participated in the study. Financial information was obtained from securities exchange. These are publicly available information. It comprised of measures of leverage and the ratio of total debt to market value of assets as measure of leverage. For robustness checks alternative measure of leverage were used; the ratio of total debt to book value of assets and the ratio of long term debt to market value of assets. In order to control for the traditional factors that influence capital structure decisions, information about seven most reliable factors that influence capital structure decision were collected as described by Baker and Wungler

(2002) and Hovakimian (2005). These factors are: Market-to-Book Ratio, Tangibility of assets, Firm Size, Profitability, External Finance Weighted Average to Market to book value of Debt. The cognitive biases called overconfidence was then regressed along above listed determinants of leverage.

Secondary data obtained from annual reports for quoted companies from records maintain at NSE or CMA Library. The secondary extract data includes firm profitability, tangibility of assets, firm size, market-to-book value and external finance weighted average to market to book value. The data was collected from the following sources.

- i). Firm profitability – Income statement.
- ii). Tangibility of assets – Balance/ statement of financial position.
- iii) Firm size - Balance/ statement of financial position.
- iv) Market to book value market capitalization/ net asset value.
- v) External financing weighted average – Non-current liabilities in balance/financial statement.

3.5.1 Data Validity and Reliability

According to Joppe (2000) Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? Researchers determined validity by asking a series of questions and ensuring that result by respondent were generally consistent with results of previous findings.

Joppe (2000) defines reliability as the extent to which results are consistent over time and accurate representation of the total population under study. If the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. The researcher enforced repeatability of results or observations by ensuring consistency with which questionnaire [test] items are answered or individual's scores remain relatively the same by doing test and retest method for two managers of the same firm. This attribute of the instrument resulted in stability and duplication of response. A high degree of stability indicates a high degree of reliability, which means the results are repeatable.

3.6. Data Analysis

In order to meet the objectives, data was analyzed and tested using multiple regression analysis by (Baker and Wungler (2002) and Hovakimian (2005). For purposes of inferential judgments and to

conclude on whether managerial overconfidence affects firms capital structure in Kenya. Both statistical packages for the social science (SPSS) for windows version 17 and Ms excel were used to help in data analysis. In order to define crucial determinant of capital structure and correct specification of optimal capital structure then regression and correlation analysis was used to provide preliminary evidence. Identification and measurement of managerial confidence and determinant of capital structure is stated in separate headings below.

3.6.1 The Model of the Study

Based on Baker and Wurgler (2002) and Hovakimian (2005) finding, leverage can be viewed as a function of Managerial bias (*COPT*) also called overconfidence, Market-to-book value (*MB*), External finance weighted average market-to-book (*EFWAMB*), Firm size (*SIZE*), Tangibility of assets (*TNG*) and Firm profitability (*PRF*).

The model is captured in least square equation as follows.

$$\text{Leverage}_{i,t} = \alpha_0 + \alpha_1 \text{COPT}_{i,t-1} + \alpha_2 \text{MB}_{i,t-1} + \alpha_3 \text{EFWAMB}_{i,t-1} + \alpha_4 \text{SIZE}_{i,t-1} + \alpha_5 \text{TNG}_{i,t-1} + \alpha_6 \text{PRF}_{i,t-1} + \varepsilon_{i,t-1}$$

All the independent variables are lagged one year behind and defined as below. This allows the information regarding the determinants of capital structure to be availed to managers in the year prior for observed level of leverage. The term α_0 captures possible unobserved firm characteristics that do not vary over time but influence leverage, α_1 ($\alpha_2, \alpha_3, \dots, \alpha_6$) are coefficients of independent variables specified, the firm by i ($i=1,2,3,\dots,40$) and $t-1 = (2000,2002,2003,\dots,2010)$. In the model, leverage is defined as the total amount of debt to market value of assets of firm i at time t expressed as:

$$\text{Leverage}_{i,t} = \frac{\text{Long term debt}_{i,t} + \text{Short term debt}_{i,t}}{\text{Total assets}_{i,t}}$$

(i) Manager Confidence (*COPT*)

Managerial confidence proxy was obtained thro' results of sentiment surveys of managers of the companies listed using guideline given. Leverage and confidence were expected to be positively related. The more confident the manager is, the less likely they expected the firm to go into bankruptcy and the greater they use debt finance.

$$(ii) \text{ Market-to-book or } MB_{i,t} = \frac{\text{Total asset}_{i,t} - \text{book equity}_{i,t} + \text{Market equity}_{i,t}}{\text{Total assets}_{i,t}}$$

$$(iii) \text{ External finance weighted average Market-to-book or } EFWAMB_{i,t} = \frac{\sum_{(s=1 \text{ to } t-1)} (e_s + d_s) \times MB_{i,s}}{\sum_{(r=1 \text{ to } t-1)} (e_r + d_r)}$$

Where;

e and d denote net equity and net debt issued, respectively.

$$\text{Net equity or } e_{i,t} = \frac{(\text{Book equity}_{i,t} - \text{book equity}_{i,t-1}) - (\text{retained earnings}_{i,t} - \text{retained earnings}_{i,t-1})}{\text{Total assets}_{i,t}}$$

Net debt issued is defined as:

$$d_{i,t} = \frac{\text{Total asset}_{i,t} - [(\text{Book equity}_{i,t} - \text{book equity}_{i,t-1}) - (\text{retained earnings}_{i,t} - \text{retained earnings}_{i,t-1})]}{\text{Total assets}_{i,t}}$$

$$(iv) \text{ Firm Size or } SIZE_{i,t} = \text{Ln} (\text{Total sales}_{i,t})$$

$$(v) \text{ Tangibility of Asset or } TNG_{i,t} = \frac{\text{Property plant and equipment}_{i,t}}{\text{Total assets}_{i,t}}$$

$$(vi) \text{ Firm profitability or } PRF_{i,t} = \frac{\text{Earnings before interest, tax and depreciation}_{i,t}}{\text{Total assets}_{i,t}}$$

3.6.2 Measurement of Managerial Overconfidence

Overconfidence is a decision-making bias that stems from the tendency of people to overestimate the correctness of their initial estimates in answering moderate to difficult questions (Bazerman, 1994). According to Lichtstein and Fischhoff (1977), overconfidence score provides a measure of the degree to which people “do not know what they do not know”

The procedure that involved recording subjects' response to series of general knowledge questions representing moderate to high level of difficult situations was carried out. The researcher presented

such questions to participants. Managers were asked to set their answers and for each question indicate, on a scale ranging from 50% to 100%, confidence in their answer. For instance, one such question was “Which is nearer to new year for leap year; Labor day or Sept 2nd?”

The procedure is meant to test subjects’ awareness of limits of their own knowledge but not knowledge itself or test of degree to which they “do not know what they do not know”. Therefore difficult general knowledge questions about which few subjects are likely to be highly knowledgeable, or about which the possession of deep knowledge is likely to be randomly distributed, are, for this purpose, preferable to subject. Specific questions, such as those about management, about which certain respondent are likely to have accumulated in-depth expertise, are therefore not administered.

The mean confidence levels indicated for each question and percentage of items answered correctly will be calculated for each respondent. Measure of confidence will then be obtained by subtracting the percentage of correct answer from average confidence level. The resulting numerical score will mean overconfidence for positive score and under confidence for negative score. For example, an individual who indicated confidence level average 70% and who answered 45% of questions correctly will be assigned overconfidence score of 25. A zero score will be interpreted to indicate that individuals’ confidence is perfectly calibrated with their knowledge.

In order to meet the objectives and to test for determinants of capital structure based on significance of statistics bearing in mind the possibility that managerial overconfidence have significant effect on capital structure, the R, R squared and F Statistics is defined to be tested at confidence level of 1%. Beyond this level all statistics variables will be said to be significant, thus, failing to ignore the earlier assertion that managerial overconfidence rank among other determinants of capital structure and overconfident managers will choose a higher leverage ratios than their rational counterpart.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

In this chapter the research checked composition of determinant of capital structure for firms' listed on Nairobi Securities Exchange. It made use of descriptive statistics which focused on the measure of central tendency, dispersion, skewness and trend. The results of instrument as answered by managers are summarized for key ratios under the study. Finally inferential statistics was conducted by application of both parametric and non-parametric tests.

4.2 Demographic Characteristics of the Respondent

The research study employed two groups of respondents from the companies that were sampled; these were the Executive Officers of the companies and the financial managers. Of the sampled 40 companies listed in the Nairobi Securities Exchange, only 24 companies responded to the questionnaire, giving a rate of return of 60% which was above half and therefore the researcher considered the data from these companies sufficient to derive the required findings. These are comparable to Hovakimian (2005), however, some firms in this sample did not exist across the whole sample period.

The demographic characteristics of the respondents were described in terms of age, gender and the education background. These characteristics are as summarized in the tables below.

Table 4.2.1 Age representation of the respondents

Respondent	Age	Frequency	Percent
CEO	40 – 49 years	6	25
	50 -59 years	18	75
	Total	24	100.0
Financial Managers			
	40 – 49 years	15	62.5
	50 -59 years	9	37.5
	Total	24	100.0

Source: Research Data Findings 2012

From table 4.2.1 it can be noted that 25% of CEO are between the age of 40 and 49 years while 75% are between 50 to 59 years. There no observed CEO whose age is below 40 years. It must be noted that

people grow into CFOs position at much young age than CEOs with 62.5% of respondent being between 40 to 49years. We must state however, people below the age of 40years have not made to senior management position.

Table 4.2.2 Gender representation of the respondents

Respondent	Gender	Frequency	Percent
CEO	Male	24	100
	Total	24	100
Financial managers			
	Male	21	87.5
	Female	3	12.5
	Total	24	100.0

Source: Research Data Findings 2012.

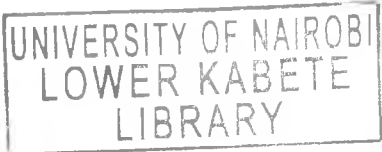
From table 4.2.2 all respondent for CEOs position were noted to be male, while women are observed to be trailing by 12.5% in CFOs position. This clearly indicates that most senior managers of Kenyan firms are men.

4.2.3 Education background of the respondents

Respondent	Education Background	Frequency	Percent
CEO	Financial education	16	66.7
	Technical education	2	8.3
	Other degrees	6	25.0
	Total	24	100.0
Financial Managers	Financial education	23	95.8
	Other degrees	1	4.2
	Total	24	100.0

Source: Research Data Findings 2012.

Table 4.2.3 indicates that 66.7% of sample Kenyan CEOs have financial education background and 8.3% have technical training, the balance of 25% have other degrees. Almost 96% of CFOs have financial training, with only 4% having other form of trainings.



4.2.4 Confidence level of the CEOs

Confidence Level	Frequency	Percent
0 -5	3	12.5
6 -10	6	25.0
11 -15	9	37.5
16 -20	4	16.7
21 – 25	2	8.3
Total	24	100.0

Source: Research Data Findings 2012.

From Table 4.2.4 above the confidence level of CEOs were observed to be evenly distributed between 0 to 25 levels of confidence. However, it's clear that all CEOs recorded positive confidence level indicating exaggeration in biases of their judgment. The mean confidence score of CEOs are noted to be at 11 to 15 score.

4.2.5 Confidence level of the financial managers

Confidence level	Frequency	Percent
0 -5	3	12.5
6 – 10	5	20.8
11 – 15	5	20.8
16 – 20	5	20.8
21 – 25	6	25.0
Total	24	100.0

Source: Research Data Findings 2012.

Table 4.2.5 shows CFOs confidence level to be evenly distributed at 0 to 25 score. CFOs have however, flatter peaked ness between 6 to 20 levels. This even distribution in CFOs overconfidence score could be due to traditional and conservative approach by Kenya accounting and financial practice.

Table 4.2.6 Average Managerial Confidence Level for all the Firms.

Company	CEOs Level of confidence	F/managers level of confidence	average managerial Confidence level
Kakuzi	4	6	5
Sasini	12	20	16
limuru tea	15	23	19
cmc holding	20	4	12

kenya airways	8	23	15.5
Marshals	6	12	9
nation media	4	5	4.5
Safaricom	6	12	9
Standard	8	23	15.5
tps Serena	5	22	13.5
access Kenya	6	20	13
Car and General	9	15	12
athi river	13	6	9.5
Bamburi	14	7	10.5
Bat	17	4	10.5
crown berger	12	11	11.5
EA cables	14	14	14
EA Portland	13	17	15
EABL	15	16	15.5
Mumias	12	17	14.5
Kplc	16	7	11.5
Kengen	23	9	16
Unga	22	25	23.5

Source: Research Data Findings 2012.

The above table demonstrates that managerial confidence score, for firms listed on NSE ranged from average 4.5 to 23.5 from lowest and highest respectively when considering individual firm average. However, overall mean over confidence score was found to be 13.2088 with standard deviation 4.44. This outcome is comparable to results in Hovakimian (2005).

4.2.7 Individual Firm's Leverage from 2000 to 2010

Company	lvrg2000	lvrg2001	lvrg2002	lvrg2003	lvrg2004	lvrg2005	lvrg2006	lvrg2007	lvrg2008	lvrg2009	lvrg2010	avrgl
kakuzi	0.372	0.442	0.077	0.126	0.112	0.146	0.224	0.312	0.296	0.288	0.272	0.242
sasini	0.012	0.016	0.136	0.355	0.055	0.162	0.331	0.132	0.226	0.334	0.347	0.191
limuru tea	0.123	0.224	0.267	0.446	0.211	0.226	0.067	0.044	0.244	0.133	0.336	
cmc holding	0.334	0.47	0.22	0.46	0.123	0.336	0.45	0.024	0.016	0.087	0.34	

kenya airways	0.024	0.44	0.677	0.224	0.45	0.123	0.26	0.667	0.49	0.07	0.34	0.342
marshals	0.046	0.2	0.067	0.66	0.268	0.366	0.066	0.072	0.22	0.12	0.044	0.193
nation media	0.621	0.55	0.226	0.45	0.667	0.462	0.266	0.771	0.264	0.223	0.129	0.420
safaricom	0.034	0.36	0.282	0.446	0.003	0.377	0.331	0.235	0.284	0.338	0.034	0.247
standard	0.66	0.326	0.057	0.442	0.167	0.002	0.226	0.339	0.441	0.26	0.004	0.265
tps Serena	0.034	0.34	0.445	0.367	0.22	0.067	0.134	0.334	0.117	0.167	0.267	0.226
access Kenya	0.477	0.336	0.25	0.278	0.466	0.267	0.472	0.123	0.263	0.169	0.345	0.313
Car and General	0.077	0.118	0.116	0.267	0.289	0.267	0.443	0.129	0.288	0.112	0.056	0.196
athi river	0.23	0.278	0.332	0.345	0.662	0.227	0.229	0.385	0.325	0.338	0.128	0.316
bamburi	0.34	0.25	0.268	0.346	0.448	0.271	0.338	0.381	0.272	0.266	0.441	0.329
bat	0.632	0.442	0.366	0.67	0.552	0.343	0.367	0.225	0.278	0.145	0.077	0.372
crown berger	0.002	0.067	0.045	0.076	0.225	0.532	0.214	0.423	0.221	0.067	0.145	0.183
EA cables	0.236	0.45	0.672	0.342	0.452	0.632	0.378	0.446	0.452	0.267	0.348	
EA portland	0.34	0.441	0.341	0.352	0.381	0.282	0.432	0.274	0.226	0.339	0.428	0.348
EABL	0.238	0.226	0.441	0.487	0.336	0.45	0.278	0.345	0.432	0.337	0.267	0.348
Mumias	0.125	0.22	0.24	0.34	0.521	0.361	0.276	0.11	0.067	0.334	0.667	0.296
Kplc	0.122	0.225	0.453	0.44	0.342	0.522	0.221	0.556	0.671	0.442	0.379	0.397
Kengen	0.333	0.227	0.367	0.345	0.267	0.467	0.256	0.245	0.338	0.381	0.478	0.336
Unga	0.226	0.118	0.145	0.161	0.267	0.367	0.289	0.189	0.461	0.367	0.178	0.251
Centum	0.246	0.335	0.378	0.389	0.289	0.377	0.189	0.239	0.433	0.366	0.129	0.306

Source: Computed from NSE Data 2012.

The table demonstrates that the market debt ratio for firms listed on NSE range between 2% and 43% from the lowest to highest respectively when considering individual firm average for 11 year period. However the overall mean market debt ratio for entire period was found to be 29% with standard deviation of 0.0767 as shown in table below. This is quite an improvement from the findings of Ngugi (2008) which found the debt ratio to be very low by international standards. According to Ngugi (2008), the debt ratio decline from 9% to 2%, between first and second halves of 1990s.

Table 4.2.8 Summary of the overall Descriptive Statistics of firm Specific Variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Leverage of company	24	.18	.43	.2927	.07367	.159	.472	.985	.918
Average PRF	24	.07	.18	.1055	.03137	1.266	.472	.367	.918
Average TNG	24	.26	.62	.4387	.09132	.092	.472	.496	.918
Average firm size	24	53728545.45	41119454545.00	6116399383.3975	7942967785.09408	3.999	.472	17.928	.918
Average external financing	24	.23	.44	.3137	.05711	.517	.472	.202	.918
Average market to book	24	.94	1.57	1.3378	.16573	.479	.472	.090	.918
Average managerial confidence	24	4.50	23.50	13.2083	4.43777	.206	.472	.566	.918
Valid N (list wise)	24								

Source: Computed from NSE Data (2012)

Comparing table 4.2.8 to Baker and Wungler (2002) and Hovakimian (2005) firms in this sample have larger leverage, have less tangible assets and less profitable. As expected of well established, relatively lower growth firms, they have lower market to book (1.34 v 1.54) and lower external finance weighted average market to book (0.314 v 1.63) than the firms in Hovakimian (2005).

On average the sample of our firms have approximately 29.27% leverage and maximum value of leverage is 43%. Tangible asset average 43.87% of total asset and total asset provided 10.55% per annum return. Test for normality can not confirm null assumption on sample distribution for each variable except for *SIZE*.

The coefficient of market to book to equity as proxy of growth opportunity is negative (-0.0172). It was established that 19 out of 24 firms translating to 79% of the firms sampled had growth coefficient below zero. Only 5 firms representing 21% had coefficient slightly above zero. The negative impact of growth opportunities may reveal other features of borrowing behavior of firms listed on the NSE. It may seek to validate argument that firms with relatively large proportion of intangible assets can not sustain high leverage ratio.

This evidence is in line with view that firms with greater growth opportunities might have lower leverage ratios due to underinvestment and asset substitution problems that may arise from risky debt. Negative growth opportunity may also stem from firms tendency to issue stocks when their stock price are high relative to their earnings or book value.

4.3 Relationship between Firm Specific Variables to Firm Leverage

The study also wanted to find out the relationships between the various firm specific variables to the leverage of the companies under study. These firm specific variables were: market-to-book value, the firm size, tangibility of assets, firm profitability and external financing.

Table 4.3.1 Matrix Display for Firm Variable and Leverage

Firm Specific Variable	Leverage of Company	
	Pearson Correlation	Sig. (2-tailed) n=24
Market to Book	0.730	0.545
Average Firm Size	0.653	0.533
Tangibility	0.612	0.604
Firm Profitability	0.732	0.540

Source: Research Data 2012

The results from the findings indicate that there is a strong positive correlation of 0.730 between the firm market-to-book value and the leverage of the company. This relationship is highly significant as it affects the performance of the company with up to 54% as indicated by the significance level of 0.545. The results are as indicated in the table 4.3.1 above.

When the firm size was correlated with leverage of the company, similar results were arrived at positive correlation of 0.653 and significance level of 0.533. The results show a highly positive correlation between the firm size and the leverage of the company. This means an increase in the firm size will result in an increase in the leverage of the company and vice versa.

As far as the relationship between tangibility of assets and leverage is concerned, the results from the data correlated indicate a strong positive correlation of 0.612. This relationship is considered very significant as the leverage of the company can be explained through the tangibility of assets by up to

60% as indicated by the level of significance of 0.604. This is as shown in the table below on the correlation between the tangibility of assets and the leverage of the companies.

The leverage of a company is also highly correlated with firm profitability. This is indicated by a correlation coefficient of 0.732, which means that these two are positively highly correlated variable. This relationship is also considered significant as the level of significance is 0.540.

4.4.0 Results.

The result of regression equation is highly significant with adjusted R Squared of 29.29% to compare with an R Squared of 17.6% in Hovakimian (2005). The R value on the model summary table below is the multiple correlation coefficients. It indicates the simple correlation coefficient between the observed values of the various variables under study. In this case, a correlation coefficient of 0.594 shows a positive relationship between these variables. The R square value indicates the proportion of the variance of the dependent variable that can be explained by the independent variables. In this case the R square value of 0.653 means that 65% of the performance of the company is affected by the variables under study.

4.4.1 Correlation of the managerial confidence Level and Leverage of the Companies

		Leverage of companies	Financial Manager's Confidence
Leverage of companies	Pearson Correlation	1	.510
	Sig. (2-tailed)		.240
	N	24	24
Financial Manager's Confidence	Pearson Correlation	.510	1
	Sig. (2-tailed)	.240	
	N	24	24

Source: Research Data Findings 2012

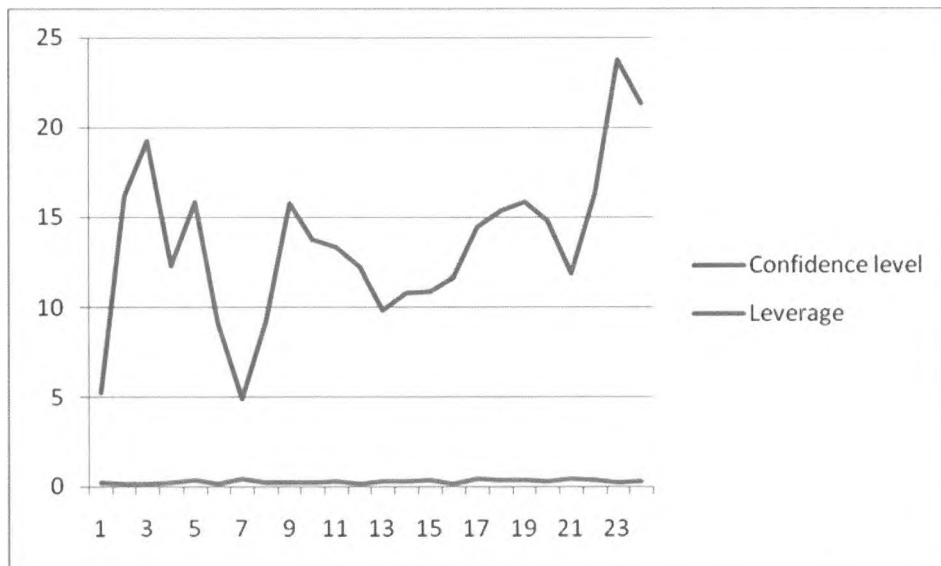
A correlation between average managerial confidences to the leverage of the companies, yields results that shows strong positive correlation of 0.622. This correlation is also significant having a significance level of 0.570. This means that managerial confidence can positively affect the leverage of the company with a magnitude of up to 57%. The rest 43% can be attributed to other factors that surround the firm as was explained earlier.

4.4.1 Relationship of Manager Confidence (COPT) and the Leverage of the Company

The managers who took part in the study as explained in the methodology of the study were the Chief Executive Officers (CEOs) and the financial managers of the 24 companies that responded to the questionnaires presented. The manager confidence level was derived through survey questionnaires that contained some factual questions.

The confidence levels of the managers were correlated with leverage of the company being moderately positively correlated with a correlation coefficient of 0.593. This correlation is moderate, meaning that the confidence level of the CEO will affect the performance of the company positively. This relationship is considered not very significant in determining how the company performs financially as the level of significance is 0.366, meaning that level of confidence of the CEO can affect the performance of the company by up to approximate 36.6%. The other larger percentage can be attributed to other factors.

4.4.1 Graphical Relationship between Managerial Confidence Level (COPT) and Leverage



Source: Research Data Findings 2012.

Above graph shows relationship between managerial overconfidence and observed average leverage of the firms under study. The graph shows that leverage is relatively stable unlike overconfidence with sharper movement. The overall movement shows positive linear mobility between overconfidence and leverage although overconfidence score is more volatile. The smooth observation in case of leverage

shows that the speed of adjustment would be close to one, if the costs of capital disequilibrium were much higher than cost of adjustment. Alternatively leverage would be close to zero if cost of adjustment were lower than cost of being off optimal.

4.4.2 Description of the Firm Specific Variables

Descriptive statistics from table below was derived to show how each of the firm specific variables deviates from the mean. The number of companies that took part in the study is 24. In each of the companies, the researcher computed the leverage, the tangibility, the profitability index, firm size, external financing weighted average to market to book value and managerial confidence. The table below indicates the means of each of the variables and how far they deviate from the mean. It is important to note that each of these variables is positively skewed towards their means. The table also indicates that value with which each of the variables is compared deviates from the mean. These results as indicate in table below on description of firm specific variables. Firm characteristics of growth was proxied by ratio of market value to book value of equity, tangibility of assets as a proportion of total assets used, Profitability proxied by earnings before tax as a proportion of total assets and size of the firm which was proxied by natural log of total assets.

Table 4.4.3 Summary of overall Descriptive Statistics for the Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	27.617	10.569		2.613	.518
1 average market to book	.192	5.606	.607	.034	.973
leverage of company	36.980	22.530	.614	1.641	.619
average PRF	36.012	30.121	.555	1.196	.548
AverageTNG	21.669	10.111	.546	2.143	.547
Average firm size	1.254E-010	.000	.624	1.041	.613
average external financing	65.502	29.425	.843	2.226	.540

Dependent Variable: average managerial confidence

Source: Computed from NSE Data 2012.

The debt ratio has been defined by Hovakimian et al (2001) as the ratio that firms would choose in absences of information asymmetries, transaction costs and other adjustment costs. From above the moslelt significant variable is average market to book value followed by firm size, profitability, tangibility of assets and external financing in reducing order. All variable have positive but not exhaustive effect on leverage.

4.5.1 Regression Analysis for Firm Specific Variables.

Regression analysis is a statistical procedure that is used to estimate a linear relationship between a dependent variable and one or more independent variables. In this study the dependent variable is the leverage of the company, while the independent variables are external financing, profitability, tangibility of assets, market to book, firm size and managerial confidence level. A regression analysis of correlated data yielded the results indicated below.

The R value on the model summary table is the multiple correlation coefficients. It indicates the simple correlation coefficient between the observed values of the various variables under study. In this case, a correlation coefficient of 0.594 shows a positive relationship between these variables. The R square value indicates the proportion of the variance of the dependent variable that can be explained by the independent variables. In this case the R square value of 0.653 means that 65% of the performance of the company is affected by the variables under study.

4.5.2 Regression Model for Managerial overconfidence on Firm's Leverage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.594 ^a	.653	.125	4.15189

a. Predictors: (Constant), average external financing, average PRF, Average TNG, average market to book, Average firm size, leverage of company

Source: Research Data Finding 2012.

In static as well as dynamic formulations, the estimated coefficient for CONF (proxy) for managerial overconfidence is positive and generally significant at conventional levels. Moreover, if the dynamic levels of leverage are adequately captured by partial adjustment term, impact if of CONF on debt ratios are similar to the one estimated in purely static formulations. It must be highlighted that managers classified as overconfident are, on average, more exposed to the idiosyncratic risk of business than other managers because they usually have more invested wealth in the firm either in terms of time or personal wealth.

4.6 Average Leverage for each Company.

Simply put, a financial leverage ratio is the comparison between debt and assets. This means that the values being compared here are the size of debt and whatever measurement of assets value is available. Technically speaking, these ratios speak volumes about a company's reliance on loans and

other sources of borrowed money. Depending on the type of measurement used to identify investment value, the interpretation is if the company is in good shape or not.

Financial leverage indicates the reliability of a business on debt in order to operate. Knowing about the method and technique of calculating financial leverage can help one determine a business' financial solvency and its dependency upon its borrowings. The key steps involved in the calculation of Financial Leverage are: Compute the total debt owed by the company. This counts both short term as well as long term debt, also including commodities like mortgages and money due for services provided secondly, Estimate the total equity held by the shareholders in the company. This requires multiplying the number of outstanding shares by the stock price. The total amount thus obtained represents the shareholder equity and finally, dividing the total debt by total equity. The quotient thus obtained represents the financial leverage rate

If the financial leverage ratio of a company is higher than 2 to -1, it indicates financial weakness. If the company is leveraged highly, it is considered to be near bankruptcy. Also, it might not be able to secure new capital if it is incapable of meeting its current obligations. Thus the companies that took part in the study are within the accepted leverage ratio.

Leverage is a more effective means for addressing the free cash flow problem. This is because contractually obliged payments of interest and principal are a more credible signal than discretionary dividend payments or share repurchases in giving back excess capital to investors. Bondholders can take the firm into bankruptcy court if managers do not maintain their promise to make the interest and principal payments. Accordingly, debt reduces the agency cost of free cash flows for mature companies by reducing the cash flow available for spending at the discretion of managers.

To sum up, the trade-off theory of the capital structure points out that there is an optimal debt - equity ratio. Firms attempt to balance the tax benefits of higher leverage and the greater probability (higher associated costs) of financial distress. Mwangi et al (2012) established that targeting behavior which is consistent with the trade off theory is applied by firms in making their financial decision. However, without ignoring trade off theorem, characteristics of market timing and pecking order theory are observed in Kenya and therefore trade off may not explain bulk of the capital structure changes.

4.7 Interpretation of Research Findings

Economist typically assume that agents behave rationally, yet large and growing body of research in experimental psychology reports that people frequently depart from perfect rationality: people tend to be excessively overconfident or predict positive outcome of their action for their control area. They are significant homogeneity in finance, investment and organizational practices of the Kenyan firms Listed on Nairobi Securities Exchange as explained by presences of managers fixed effects. The overconfidence story builds upon prominent stylized facts ranging from 'Narrow confidence intervals' up to 'better than average' effect observed in those occupying managerial positions.

Hypothesis that managerial overconfidence increase corporate leverage was tested by regressing measures of leverage against overconfidence score of respective managers. 48 managers from 24 companies of NSE listed companies were interviewed. The questionnaires design closely followed concepts and experimental set-up in the psychological literature on factual environment. The researcher found that managerial degree of overconfidence is positively correlated to company's leverage. Moreover it was established that managerial overconfidence is independent from other personal traits such as age, gender or education. The findings thereby supports the view that overconfidence can enhance firm value by leading to financing decisions which are more in the interest of shareholders than rational managers decision.

The baseline regression was done to demonstrate the effect of control variables identified by Baker and Wungler (2002) and Hovakimian (2005) as the most reliable factors influencing the capital structure of firms. The result was presented in matrix play off in table 4.3.1. The regression mostly confirms findings of previous research such that parameters like market to book, firm size and tangibility of the assets reflects significant positive results relative to leverage. Profitability and external financing weight average to market to book shows not significant result. Moreover this factors account for over 64% of the variation in leverage of companies.

Given baseline comparison, the regression was done including measure of managerial overconfidence. The result was presented in column two to five of table 4.5.2. The coefficient of overconfidence with leverage is positive and significant at 2.6 against level of significant specification at 1%, while result of control variables appear strong through out the regression model, as earlier suggested we note that managers who demonstrate a higher level of overconfidence than their peers choose higher leverage.

Additionally, by taking overconfidence into the regression it was found that part of variation in leverage that is explained by identified variables rises 65%. The adjusted R Square =12.5% which compares to result in Hovakimian (2005) with adjusted R square-of = 17.6%.

Mean, standard deviation, range, kurtosis and skew ness are show in table 4.2.8. It's observed that for example mean profitability level is relatively low. From graph 4.4.1 it found that no clear growth or reduction tendency of mean leverage ratios is observed over time. Conventional tests for equality of means show statistically significant differences in usual levels of leverage, profitability, size and asset tangibility indicators.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION.

5.1 Introduction.

This chapter summarizes results of the research by providing inferences of all key points and making necessary comparison with previous academic findings. Conclusion of those findings are made by clearly highlighting expected areas of further studies, recommendation for policy and academic purpose and citations of any limitation or shortfall of the research.

5.2 Summary

This paper represents one of the first studies to document an empirical relation between capital structure and managerial confidence or sentiment. The analysis consists of three main steps. The first step is to apply Hovakimian (2005) and Baker and Wungler (2002) model in order to derive empirical hypothesis that managerial overconfidence lead to higher leverage. Second, based on the concepts and experimental set-up in the psychological literature, construct measures of overconfidence, delivering questionnaires instruments to CEOs and CFOs of Kenyan firms listed on Nairobi Securities exchange. Third, regress the capital structure on managerial overconfidence while controlling for traditional factors influencing capital structure decisions.

This study, like Hovakimian (2005) and Baker and Wungler (2002), considered both non-IPO and IPO firms. A possible reason for the significance in the results is that this sample is comprised of all trading firms between 2000 and 2010 whether listed between this period or not. Confidence score is also today's measure while leverage is annual observation for period 2000 to 2010. Therefore, in the significance coefficient on *EFWAMB* are evidence that market timing persist and more likely due to growth opportunities as observed in Baker and Wungler (2002) and Hovakimian (2005). The firms that are larger have significant positive correlation with higher leverage. This supports hypotheses that these firms have lower transaction costs in issuing debt, greater access to debt markets and lower information asymmetries.

Firms with higher tangible assets have positive correlation with leverage. This does not ignore hypothesis that these firms are likely to have relatively lower information asymmetries, lower bankruptcy risk and moral hazard risks. More profitable firms are correlated with less leverage, which provide ground for support for pecking order theory. The coefficient of the variable *CONF* is positive and significant. This indicates that when proxy for managerial confidence is higher, firms have higher leverage. It may give support to prediction that overconfidence causes managers to over estimate

probability of success and underestimate the risk of their decision outcome. This leads managers to take additional debt and increase spending.

External finance weighted average to market – to – book variable (*EFWAMB*) is significant. Baker and Wurgler (2002) contend that significant positive relationship between *EFWAMB* and leverage they found is because firms subsequently adjust towards target after market timing. The change in leverage induced by equity market timing does not persist. Negative relationship between leverage and *EFWAMB* can be observed as a result of opportunity for growth, not persistence in market timing.

Comparing table 4.2.8 to Baker and Bungler (2002) and Hovakimian (2005) firms in this sample have larger leverage, have less tangible assets and less profitable. As expected of well established, relatively lower growth firms, they have lower market-to-book (1.34 v 1.54) and lower external finance weighted average market- to – book (0.314 v 1.63) than the firms in Hovakimian (2005). On average the sample of our firms have approximately 29.27% leverage and maximum value is leverage is 43%. Tangible asset average 43.87% of total asset and total asset provided 10.55% per annum return. Overall trend is that the capital structure has a tendency to increase overtime. This shows that most companies tend to borrow more relative to equity over the years. Test for normality can not confirm null assumption on sample distribution for each variable except for Firm Size.

5.3 Conclusion

In a sample of 24 Kenyan firms listed on Nairobi stock exchange, it was found that managerial confidence as established by instrument of questionnaires about factual real life situations are pervasive and moderately significant in explaining firm financing decisions. When confidences are higher, firms have higher levels of debt. This will support theoretical arguments in behavioral finance that overconfident mangers tend to use more debt financing. The result show significant part of homogeneity in financial practices of Kenyan firms' listed on NSE. We note that managerial overconfidence does not depend on personal characteristics such as age, education or gender.

The coefficient of growth opportunities as proxied by market to book ratio of equity was negative. The negative impact of growth opportunities on leverage might give support to prediction that firms with relatively large proportion of intangible assets cannot support a higher leverage ratio. This evidence is also consistent view that firms with greater growth opportunity might have lower leverage ratios due to debt- holders to whom firms might pass up valuable investment opportunities.

It can be noted that firms issue stock when their stock price are high relative to earnings or book value; consistent with market timing theory. This implies that the negative correlation between leverage and the market to book ratio is driven by firms that issue significant amount of equity (Rajan and Zingales, 1995). This study also provides additional evidence that timing of equity issues is not persistent as documented by Baker and Wungler (2002). This could be attributable to the fact that companies do not often reissue shares after initial public offers. Furthermore, it is relatively cheaper to manage debt than equity due to non-permanence nature. The lack of significance in persistence of timing of equity issue (A measure proxied by growth opportunity) in the sampled firms indirectly supports the result in Hovakimian (2005). Market to book is found to be significant determinant of capital structure as documented by previous studies. However, it may not explain the bulk of observed changes as other characteristics of marketing timing and pecking order theories also featured. Nevertheless, none can be ignored.

5.4 Limitation of the Study.

The fact that cognitive biases of managerial overconfidence are not directly observable instead proxy variable must be identified to correlate with, makes it difficult to empirically eliminate all exogenous factors that may affect this relationship. We are therefore making decision based on the level of these proxies rather than direct effect of overconfidence on capital structure. Further, it must be noted that while all other variables that are tradition determinant of capital structure are observed over period of time (eleven years), the cognitive biases of managerial overconfidence are spot factor collected through instrument of questionnaires as at 2012.

Secondary data used were obtained from published financial statements, therefore all limitation associated with such data source will affect result of this research. Management of the firms may manipulate this secondary data to portray positive view of the firms they control. The questionnaires provided in gauging of overconfidence may not have captured all the dimensions to make conclusion on overconfidence.

The tools of analysis used to obtain this data have limitation to give less view of multiple regressions. It should have been better with multi-period observation of overconfidence rather than single period parameter used against multi-period traditional factors. The definition of leverage in this research

mainly used book values. Different definition of leverage yields different result which will be better for robustness check.

5.5 Recommendations.

This paper's recommendation for corporate practice is that shareholders must draw a fine line between taking advantage and disadvantages of predictable biases of their agents. It's important to examine implications of managerial overconfidence for the benefits and costs of free cash flow. In corporate environment, irrational managers should not be pardoned/arbitraged for their biased and exaggerated view of the organization. Their irrationality can instead be pardoned through corporate takeovers.

The study applied a simple linear regression method in which case unobserved firm-specific effects that capture the impact of intertemporally constant, but unmeasured effects on leverage were excluded. A similar study may therefore needs to be done on firms with fixed effects that affect leverage and also applying superior analytical tools.

Although arguments based on conflicts of interest between managers and shareholders justify lower leverage of companies with more expected profitable opportunities. One benefit of leverage is imposition of commitment on the part of manager to regular cash flow distribution, thus mitigating the overinvestment problem motivated by managers desire to 'build empire' or underinvestment cause by smaller proportion of debt capital. Any such factor like managerial cognitive biases of overconfidence that induce relevant proportion of leverage must be monitored and appreciated.

5.6 Areas for Further Study.

Determination of effect managerial overconfidence on capital structure of firms' has been researched extensively in developed market for example Baker and Wungler (2002), Hovakimian (2005) and Baros and Silviera (2007). This study is first attempt to establish whether managerial overconfidence affects firms' capital structure in Kenya. In so doing, the researcher adopted Baker and Wungler (2002) and Hovakimian (2005) model using traditional data for multi-period but managerial overconfidence factor for single period. It will have been ideally if other proxies of managerial overconfidence were identified and used for multi-period to be compared against highlighted multi-period traditional factors.

to develop all personal traits of managers to predict observed managerial biases of overconfidence for shareholders to hire relevant individual who possesses right type of fit for organizational compatibility.

The study used population of managers who are hired and working as agents of shareholders. It will be advisable to find out whether the same result can be replicated if managers double up in both roles as entrepreneur or if the person accumulates both functions, possibly reflecting the influence of corporate governance standards on their access to external financing instruments.

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APPENDIX I: COMPANIES LISTED ON NSE.

Name of Firm	Targeted Years
Agricultural Sector	
1. Kakuzi	2000 - 2010
2. Sasini	2000 – 2010
3. Williamson Tea	2000 - 2010
4. Limuru Tea	2000 - 2010
5. Rea Vipingo	2000 - 2010
6. Eagads Ld	2000 – 2010
7. Kapchorua Tea	2000 - 2010
Commercials & Services	
8. Cmc Holdings	2000 - 2010
9. Kenya Airways	2000 - 2010
10. Marshals	2000 - 2010
11. Nation Media Group	2000 - 2010
12. Safaricom	2000 - 2010
13. Standard Group Ltd	2000 - 2010
14. Tps Serena	2000 - 2010
15. Scan Group	2000 - 2010
16. Access Kenya	2000 - 2010
17. Car & General	2000 - 2010
18. Uchumi Supermarkets	2000 – 2010
19. Sameer Africa	2000 – 2010
20. Hutching Biemer	2000 – 2010
21 . Longhorn Kenya	2000 – 2010
22. Express Kenya	2000 – 2010
Industrial and Allied	
23. Athi River Mining	2000 - 2010
24. Bamburi	2000 - 2010
25. Boc	2000 - 2010
26. Cabacid	2000 - 2010
27. Bat	2000 - 2010
28. Crown Berger	2000 - 2010
29. East African Cables	2000 - 2010
30. E.A.Portland	2000 - 2010
31. E.A.B.L	2000 - 2010
32. Eveready	2000 - 2010
33.Sameer Africa	2000 - 2010
34.Kennol	2000 - 2010
35.Mumias	2000 - 2010
36.Kplc	2000 - 2010
37. Kengen	2000 - 2010
38. Total	2000 - 2010
39. Unga	2000 – 2010
40. Kenya Orchards	2000 – 2010
41. A. Baumann & Co.	2000 – 2010

42. City Trust	2000 – 2010
43. Olympia Capital Holdings	2000 – 2010
44 .Centum investment	2000 – 2010
45. Tran Century	2000 - 2010

Banking and Insurance

46. Barclay Bank	2000 - 2010
47. CFC standbic	2000 - 2010
48. Diamond Bank	2010 - 2010
49. Equity Bank	2010 - 2010
50. Housing Finance	2010 - 2010
51. Kenya commercial Bank	2010 - 2010
52. National Bank	2010 - 2010
53. NIC bank	2000 - 2010
54. Standard Bank	2000 - 2010
55. Jubilee Holding	2000 - 2010
56. Kenya Reinsurance	2000 - 2010
57. The co-op Bank.	2000 – 2010
58. British American Investmen	2000 – 2010
59. Panafric Insurance	2000 – 2010

Source: NSE Data 2012.

APPENDIX II : INSTRUMENT USED TO OBTAIN MANAGERIAL CONFIDENCE

Personal characteristic information

1. How old are now? (Please choose your age from alternatives provided).
2. What would say is your educational background?
3. Kindly state your gender category?

Measure of degree to which people “do not know what they do not know”

1) Janet has a cake that she splits into six pieces to share with all her friends. If each person with a piece of cake then splits their piece in half to give to another friend, how many pieces of cake are there in the end?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

2) A bridge consists of 10 sections; each section is 2.5 meters long. How far is it from the edge of the bridge to the center?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

3) There are four equally spaced beads on a circle. How many straight lines are needed to connect each bead with every other bead?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

4) Fall is to summer as Monday is to _____?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

5) What is the minimum number of toothpicks necessary to spell the word “HAT”. (You are not allowed to break or bend any toothpicks, or use one toothpick as a part of more than one letter.)

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

6) Which is nearer to new year for leap year; “Labor day or Sept 2nd”

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

7) If the day before yesterday is two days after Monday then what day is it today? Friday

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

8) A rancher is building an open-ended (straight) fence by stringing wire between posts 25 meters apart. If the fence is 100 meters long how many posts should the rancher use?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

9) “Meow” is to a cat as “Moo” is to _____?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

10) Which word does not belong in the group with the other words? Brown, Black, Broom, Orange, Bread Orange

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

11) If a woman is 21 and is half the age of her mom, how old will the mom be when the woman is 42?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

12) Tiger is to stripes as leopard is to _____?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

14) Desert is to oasis as ocean is to _____?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

15) If 10 missionaries have 3 children each, but only two thirds of the children survive, how many children survive?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

16) Kimani makes \$20 per hour and works for 20 hours each week. How much does she make in a week?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

17) How many straight lines are needed to divide a regular hexagon into 6 identical triangles?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

18) What is the average of 12, 6 and 9?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

18) DIDIIDID is to 49499494 as DIIDIIDD is to _____?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

19) There are three 600 ml water bottles. Two are full, the third is $\frac{2}{3}$ full. How much water is there total?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).

20) If a wood pile contains 30 kilos of wood and 15.5 kilos are burned, how many kilos are left?

(On a scale ranging from 50% to 100%, please indicate your confidence level of correctness of your answer).