AN EMPIRICAL ANALYSIS OF MACRO-ECONOMIC INFLUENCES ON CORPORATE CAPITAL STRUCTURE OF LISTED COMPANIES IN KENYA.

BY

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Quotes

"Nothing in this world can take the place of persistence. Talent will not; nothing is more common than unsuccessful people with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent. The slogan "press on" has solved and always will solve the problems of the human race".

-Calvin Coolidge

"Never give up. Never give in. Never, Never, Never, Never- in nothing, great or small, large or petty- never give in, except to convictions of honour and good sense".

-Winston Churchill

DECLARATION

I hereby declare that the work contained in this project is my original work and has not been previously, in its entirety or in part, been presented at any other university for a degree requisite. All the references cited in the text have been duly acknowledged.

Signed..... **Date**21/11/09.

MUTUKU CHARLES MUTHAMA

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This management research project has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I dedicate this work to my family for their understanding and support during the study period.

LIST OF ACRONYMS

CBK	Central Bank of Kenya
DR	Debt Ratio
EBIT	Earning Before Interest and Tax
EBT	Earning Before Tax
GDP	Gross Domestic Product
INFL	Inflation
INT	Interest
LTD	Long Term Debt
MBA	Master of Business Administration
MM	Modigliani and Miller
NSE	Nairobi Stock Exchange
PHD	Doctor of Philosophy
ROA	Return on Assets
SMES	Small and Medium Enterprises
STD	Short Term Debt
STDEV	Standard Deviation
TD	Total Debt
WACC	Weighted Average Cost of Capital

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ABSTRACT.

Capital structure is an important aspect of financial management. For maximization of the value of the firm, the management tries to arrive at a proper mixture of debt and equity, which is not an easy task to do. Different factors have been considered in different models to get an optimum capital structure. Economic factors, among them play a leading role in the determination of the capital structure of a company. The influence of micro economic factors has been highlighted by various scholars, but the influence of macro economic factors in the determination of capital structure is somewhat under-researched in the finance literature. This study, attempted to analyze the influence of the macro economic factors on the capital structure of some selected companies in Kenya. The objective of the study was to determine the magnitude and the direction of the relationship between selected macroeconomic variables on corporate capital structure of listed companies in Kenya.

The study took both analytical and descriptive research design, on a target population of all firms listed at the Nairobi Stock Exchange for the period between January 2004 and December 2008 which were 39 in number. The study used secondary data sources from the companies' books of accounts and financial report and the macro-economic data from the Central Bureau of Statistics and Central Bank of Kenya. The study used econometric models of multiple linear regressions where leverage (debt ratios) was regressed against GDP growth rate, inflation, ratio of and interest rate.

The results of the study revealed that the influence of some macro economic factors upon the capital structure of the companies is pronounced. The study found out that macro-economic

factors like GDP growth rate has a positive influence on long term debt ratio and a negative influence on total debt ratio and short term debt ratio, inflation only has a negative influence on the short debts of the Kenyan listed companies and interest rate as measured by the treasury bills has a positive influence on the long term debt ratio and total debt ratio and a negative influence on the short term debt ratio.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study.

Since the landmark seminal paper by Modigliani and Miller (1958), the issue of capital structure has continued to generate great interests in finance literature. It in fact provided a substantial leverage in the development of the theoretical framework within which various capital structure theories have been developed. Based on very restrictive assumptions of perfect capital markets, homogenous expectations, no taxes and no transaction costs, they concluded that financial leverage does not affect the firm's market value and that capital structure is irrelevant to the value of the firm. This implied that the value of a levered firm and that of unlevered firm would be equal if they are identical in every respect except their capital structure.

Academic researchers and practitioners have come to recognize capital structure decision as a significant managerial decision since it influences the shareholder return and risk (Pandey 2002). The study of capital structure mainly attempts to explain the mix of securities and financing sources used by corporations to finance real investment (Myers, 2001). In more general terms a firm can choose among many alternative capital structures. Precisely, it can issue either equity or debt capital or a large amount of debt capital and little amount of equity capital and vice versa. It can also arrange lease financing, use warrants, issue convertible bonds and other hybrid securities. The firm can issue dozens of distinct securities in different combinations. However, the rational attempt is to find the particular combination, which maximizes overall market value of the firm.

Capital structure refers in essence to the relationship between debt and equity. The term capital structure has two components: debt and equity. Equity includes paid up share capital, share premium, reserves and surplus (Retained earnings) while debt is the use of loan capital (Lutomia, 2002). The capital structure was defined by Copeland and Weston (1988) as the permanent financing represented by long-term debt, preferred stock, and shareholder equity.

Mirie (2006) looked at the broadest definition of corporate capital structure as the ratio of total liabilities to total assets. He noted that whatever the study, a firm capital structure is simply a mixture of debt and equity. As a general rule, there should be an appropriate mix of debt and equity in financing firm's assets (Pandey 2000). According to Odhiambo Ocholla (Daily nation, 2008), debt-equity ratio is the measure of leverage compares total liabilities to total shareholders equity. Further, he argues that prudent use of leverage increases the amount of financial resources available to a company for growth and expansion.

The capital structure choice is merely explained as a firm's decision regarding the mix of debt and equity-capital. In respect to an optimal capital structure, the practices of firms are different. There are so many firm specific and external macroeconomic variables, which affect optimal capital structure decisions (Gajurel, 2005). However various theories of capital structure have concentrated on the relationship between capital structure and firm specific variables in an attempt to explain the presence of an optimal capital structure. For example, presence of favorable tax treatment of interest payments and bankruptcy costs associated with increasing debt lead to the notion of an 'optimal' capital structure which maximizes the value of the firm and respectively minimizes its average cost of capital. Further, the use of debt capital provided

tax shield on interest payment since interest is a tax-deductible expenses. Therefore, relaxing their earlier assumption of world without tax Modigliani and Miller (1963) proposed that firms should use as much debt capital as possible in order to maximize their value. The optimal level is attained where the debt-tax shield trades off with the bankruptcy cost and maximizes the value of the firm. Therefore, the tax has been thoroughly investigated as a factor that determines the capital structure.

The tax-based and agency-cost-based models, belong to the static tradeoff models which are the result of works of prominent researchers such as Modigliani and Miller (1958, 1963), Miller (1977), Kraus and Litzenberger (1973), Kim (1978), Bradley, Jarrel and Kim (1984), Jensen and Meckling (1976), Jensen (1986), Harris and Raviv (1990), and Stulz (1990). Besides the tax and bankruptcy cost aspects of capital structure management, there are also some other approaches that attempt to contribute to the explanation of the capital structure determination from a micro economic or firm specific point of view.

These theories examine the determinants of capital structure from different aspects and conclude in different outcomes as far as the choice of the determination of the level of financial leverage is concerned (Miller, 1977). In summary therefore, it is worth noting that there is no universal theory of capital structure yet. Several useful conditional theories exist that attempt to approach the determination of optimal capital structure. Researchers have been trying to test and develop different capital structure theories through empirical studies. This study is one such attempt in this direction.

One of the most perplexing issue currently facing financial managers is the relationship between capital structure and the major macro economic variables. Evidence indicates that a relationship does exist between macroeconomic variables and capital structure decisions of corporate entities. The fiscal policy and monetary policy that a country pursues are major macroeconomic directives in this regard (Gajurel, 2005). The monetary policy of a country determines the interest rate that eventually and more significantly influences the capital structure of firms. Booth et al, (2001), provided evidence that from macro economic point of view, the capital structure of a firm is a function of economic growth rate, inflation rate, capital market development, liquid liabilities and Miller tax advantage. Their study was based on the assumption that firms tend to employ more debt during periods of boom on the assumption that they would generate adequate returns to meet the debt repayment. They further concluded that higher inflation leads to decrease in both total and long term debt ratios in developing countries.

Gajurel (2005) established that macroeconomic variables are significant for firm's financing and that GDP growth rate was negatively related to leverage ratio for Nepalese firms. He further noted that economic growth tends to cause firms to use more debt consistent with the findings of Booth et al (2001). Dammon (1988) posits that inflation affects capital structure and firm value thus higher inflation forces investors to sell bonds in exchange for stocks and hence firms capital structure measured as debt-equity ratio, tends to drop. In a related literature, Dokko (1989) found empirical support for a change in inflation to create wealth redistribution between creditors (bondholders) and debtors (share holders).

Korajaczyk and Levy (2002), studied capital structure choice macro economic conditions and financial macroeconomic conditions and financial constraints. They concluded that the leverage of financially unconstrained firms vary counter cycle with macroeconomic conditions. The findings are supported by Levy (2001). Moreover, macro economic conditions account for 12% to 51% of the time series variation of firms leverage financing decisions and reflect the state of the economy. It can be concluded from the studies conducted so far, a relationship does exist between corporate capital structure and external macroeconomic variables.

More relevantly, in Kenya. Nyamute (1998) found a positive relationship between stock prices and major macro economic variables in Kenya. This clearly implied that macroeconomic policies that a country pursues have significant influence on how firms make their decision and even including financing decisions. The development of capital markets was been found to significantly influence capital structure (Booth et al 2001) consistent with (Rajan and Zingales, 1995).

This study is motivated by the works of Gajurel (2005) and Booth et al (2001). Further it was based on the recommendations of Mirie (2006) in a PHD independent study paper on the determinants of capital structure in Kenya. It was therefore on the basis of this recommendation alongside the underlying theoretical framework that a study needed to be done to establish the influence of macroeconomic variables on corporate financing decisions in Kenya.

1.2 Statement of the problem.

Corporate capital structure decisions have succeeded in attracting enormous interest in finance literature mainly from researchers and prominent scholars ever since the seminal works of

Modigliani and Miller (1958; 1963). This is mainly because of the apparent importance in determining the financial health of corporations. Most of the initial studies like (Taggart, 1977; Marsh, 1982; Bradley et al., 1984; Jalilvand and Harris, 1984; Titman and Wessels, 1988) examined the case of U.S companies and found that debt ratio is determined by non-debt tax shield, assets structure, profitability, growth, industry classification and product uniqueness, consistent with Harris and Raviv (1991) in their extensive survey of existing empirical studies.

Evidence indicates that capital structure of a firm is determined by both firm specific variables as well as external macroeconomic variables (Gajurel, 2005). However, most of the works in this area have concentrated on firm specific variables as determinants of capital structure. Based on the capital structure theories, tax shield, assets structure, profitability, firm size, growth, risk, liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure (Titman and Wessels, 1988; Ozkan, 2001; Gaud et al., 2005; Mirie, 2006). From a macroeconomic perspective, perhaps the study by Booth et al, (2001) was the first of its type and focused on capital structure in developing countries in which they provided evidence on the influence of macroeconomic factors over capital structure. In their empirical findings they concluded that real economic growth tends to increase total debt ratio and long-term book-debt ratio and higher inflation leads to a decrease in such ratio.

In another study, Gajurel (2005) examined the determinants of capital structure for Nepalese firms and concluded that, higher economic growth rate tends to cause firms to use more debt and as capital markets become more developed they become a viable option for corporate financing. Further, Korajczyk and Levy (2002), studied capital structure choice, macro economic conditions

and financial constraints. They provided evidence that the leverage of firms in financially unconstrained firms varied counter cycle with macroeconomic conditions. The results were supported by the findings of Levy (2001). Moreover, macro economic conditions were found to account for 12% to 51% of the time series variation of firms financing decisions and reflect the state of the economy. The results were consistent with the findings of Booth et al (2001).

In Kenya, most of the empirical studies done have been concentrated on firm specific variables as determinants of capital structure. This includes (Musili, 2005; Onsumu, 2003; Lutomia, 2002; Mburu, 2005; Omondi, 1996; Ondiga 2003; Kinyua 2005; Kilonzo, 2003; Gachoki, 2003; Matiba, 2005; Chonde, 2003; Mirie, 2006; Sigala, 2003). However, few studies have been conducted in Kenya from macro economics front but none of them focus on macroeconomic determinants of capital structure. This included (Nyamute, 1998; Sifunjo, 1999; Waciira 1999; Gitobu, 2000). The findings of these studies clearly indicated that macro economic variables have significant influence on certain corporate variables such as stock prices and by extension corporate capital structure. With regard to the influence of macro economic influence on firm's capital structure in Kenya, it was evident that so far no study had been undertaken. This study was perhaps the first of its kind in Kenya and would provide new evidence as well as seeking to fill the already existing knowledge gap. The main concern was to determine the link between macroeconomic variables and capital structure of firms listed at the Nairobi stock exchange as well as attempting to look into managerial implications of this relationship which indeed was the main academic concern of the study.

1.3 Objectives of the study.

Based on the theoretical framework and the empirical studies conducted previously it has been established that a relationship exist between macro economic variables (inflation, GDP growth rates. interest rates,) and corporate capital structure (Booth et al, 2001; Gajurel ,2005; Korajczyk and Levy, 2002), Therefore this study sought to achieve the following objective.

To determine the magnitude and direction of the relationships between the capital structure of quoted firms and the macroeconomic factors. (Inflation, GDP growth rate, interest rate,).

1.4 Significance of the study.

The findings of the study would be useful to all the players in the capital market and especially the following.

Managers. The management of firms is charged with the responsibility of deploying capital with an objective of maximizing shareholders wealth. This study would significantly benefit them by providing information on how changes in macro economic variables can affect their capital structure decisions.

Academic and researchers. The study would also provide a platform for quality discussion and debates amongst academicians, policy makers, professionals and corporate leaders and also provide a basis for further research regarding corporate financing. In addition it would give more input to the widely studied area of capital structure.

Owners of firms. Firm's owners are interested in maximization of wealth and would benefit immensely by gaining an understanding of how changes in macroeconomics vaiables can influence their noble objective.

Prospective investors. Investment decisions are affected by changes in the macro economy and therefore this study would significantly shed some leading lights on the part of prospective

investors on the investment opportunities and the influence of macroeconomic variables on their investment decisions.

Banking industry. Banks are the key providers of debt funds. This study would benefit them by knowing when to make viable lending decisions. They would benefit by knowing the role of macro economy in determining capital structure so that they can better assess the viability of any funding request based on a wider macro economy.

Government. The government plays a significant role in creating an enabling environment for operation of corporate organizations. This study would be an eye opener to the government on how certain monetary and fiscal policies influence corporate financing decisions to better improve its macroeconomic policy making.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The concept of corporate capital structure has attracted inestimable interest among economist and finance researchers since the landmark Modigliani and Miller (1958) Seminal paper. Following their empirical findings, so many theories of capital structure have been developed. Empirical studies in this regard have contributed significantly to enrich the finance literature and this study is one such attempt. This chapter comprehensively reviews this literature, which provides basic foundation to this study and more specifically a review of evidence on the influence of macroeconomic conditions in determining capital structure choice.

2.2 Capital structure theories

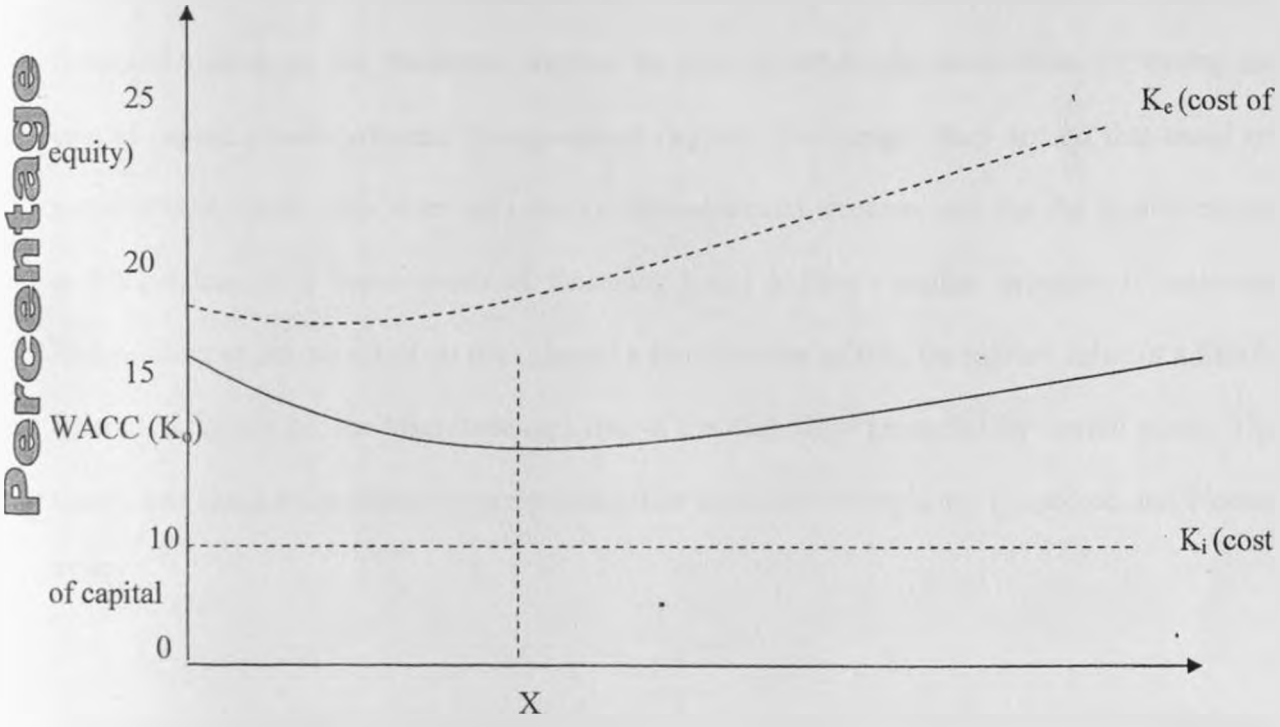
Capital structure theories have extensively been well documented in the finance literature. Modigliani and Miller (1958) work has given the theoretical foundation for empirical enquiry into the capital structure theory. The enormous contribution of most finance researchers and economist has provided varied dimension and reasoning to capital structure theories. Although there are corporate capital structure theories explaining firms financing decisions, little is know about how macroeconomic conditions affect firms leverage (Cook and Tang, 2006). The primary existing theories of corporate capital structure explaining firms financing decisions can be categorized as trade off, and pecking order theories. However several other theories have been advanced to further unravel the puzzle of what actually determines the choice of firms financing decision. This section is devoted to get brief insights into these theories.

2.2.1 Traditional theory of capital structure

The traditional theory of capital structure holds the view that there exist an optimal /target leverage ratio and therefore all firms will strive to attain this target level as they attempt to

improve the firm's value. According to Brealey and Myers (1988) firms minimizes the cost of capital when the optimal level of debt capital is employed, thereby maximizing the value of the firm. The basis of this theory is the argument that, at low levels of debt, increased leverage does not increase the cost of debt; hence the situation of an inexpensive source of capital (equity) with a cheaper source (debt) will translate into increase of the value of the firm. This benefit creates an incentive by the firms to borrow. Further, Brealey and Myers (1988) observe that this argument holds because investors who hold debt are uninformed of the increased risk at moderate debt levels and will therefore continue demanding the same return on debt. They maintain that it is only at excessive debt level that they demand a higher return.

Figure 2.1: Traditional capital structure theory



Source: Van Horne (1997): Financial management and policy 10th Edition, prentice – Hall, Inc, USA pg 262

In view of the above figure 2.1. Cost of equity (K_e) is assumed to rise at an increasing rate with leverage, whereas cost of capital (k_i) is assumed to rise only after significant leverage has occurred. At first, the weighted average cost of capital declines with leverages because rise in K_e does not entirely offset the use of cheaper debt funds. As a result the WACC declines with moderate use of leverage. After some point, however the increase in cost of equity more than offsets the use of cheaper debt funds in the capital structure and K_o begins to rise. The rise in K_o is supported further once K_i bottoms out. In the fig (2.1) this optimal capital structure is point x. Thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure.

2.2.2 Modigliani and Miller (1958) theory:

Modigliani and miller (1958) challenged the traditional view of capital structure, by making a formidable attack on the traditional position by offering behavioral justification for having the cost of capital remain constant throughout all degrees of leverage. They argued that based on certain assumptions, there does not exist an optimal capital structure and that the cost of capital is independent of a firm's mode of financing hence a firm's capital structure is irrelevant /independent or has no effect on the value of a firm. In view of this, the market value of a firm is determined solely by the magnitude and risk of the cash flow generated by capital assets. The theory was based on restrictive assumptions either explicitly or implicitly (Copeland and Weston 1992).

Modigliani and Miller (1958) position is based on the idea that no matter how you divided up the capital structure of a firm among debt, equity and other claims, there is a conservation of investment value (Williams 1938). The implication is that the total investment value of a

corporation depends on its underlying profitability and risk and it is invariant with respect to relative changes in the firm's financial capitalization (Van Horne, 2002). According to Modigliani and Miller, equity ratio merely indicates how the stream of future cash flows will be divided among debt holders and shareholders. This argument was based on the arbitrage process which refers to the simultaneous buying and selling of identical assets at different prices such that, when one is over valued, the demand will continue to rise for the under valued asset in order to sell the overvalued firm. They further maintained that arbitrage would ensure that an individual's exposure to risk would not change because home–made leverage was as good as corporate leverage. They postulated two propositions.

The first proposition holds that the value of levered firms equals the value of unleveled firm. This implied that a firm's capital structure is irrelevant and that weighted average cost of capital is the same no matter what mix of debt and equity is used. Hence a firm should use any source of financing whichever is convenient. In their second proposition, they argued that the cost of equity is an increasing function of leverage. It is based on the argument that when debt is introduced, it increases the risk of the firm; this will compel the equity holders to demand a risk premium to compensate them for the additional risk. Hence cost of equity of a levered firm is the sum of the cost of equity of unleveled firm and its risk premium. This implies that the cost of equity raises as the firm increases its use of debt financing. Mirie (2007) quoting Myers (2001) argues that despite Modigliani and Miller (1958) Conclusions, firms financing can matter due to factor such as agency cost, information asymmetry and existence of taxes.

2.2.3. Modigliani – Miller (1963) theory with corporate taxes

Modigliani and Miller hypothesis that the value of the firm is independent of its debt policy is based on the critical assumption that corporate income taxes do not exist. However in reality, corporate income taxes exist and interest paid on debt holders is treated as deductible expense (Pandey 2002). This return to debt holders is not subject to the taxation at corporate level that makes debt financing advantageous. In their 1963 article M-M showed that the value of the firm will increase with debt due to the deductibility of interest charges for tax computation, and the value of the unlevered firm will be higher than the value of the unlevered firm. Thus the value of a levered firm will be the sum of the value of unlevered firm and the gain from the leverage. On this line of thinking they concluded that leverage will increase a firm's value because interest on debt is a tax-deductible expense and hence, more of a levered firms operating income flows to investors (Musili, 2005)

In their MM (1963) proposition one, they argued that the value of the levered firm equals the value of unlevered firm in the same risk class plus the gain from leverage which is the value of the tax savings defined by the corporation tax times the amount of debt that the firm uses. Hence firms can use (100%) debt financing to take advantage of tax savings. In their MM (1963) proposition two, they maintain that the cost of equity of a levered firm is equal to the cost of equity of unlevered firm in the same risk in the same risk class plus risk premium which is based on the difference between the cost of equity and debt to an unlevered firm.

The MM's tax corrected view suggest that, because of the tax deductibility of interest charges firms can increase its value or lower its cost of capital continuously with leverage. Thus optimal capital structure is reached when the firm employs 100% debt. However, the observed

experience does not entirely support this view. In practice firms do not employ large amounts of debt nor are lenders ready to lend beyond certain limits of the debt level imposed by lenders. They state that the existence of a tax advantage for debt financing does not necessary mean that corporations should at all times seek to use the maximum possible amount of debt in their capital structures. There are limitations imposed by lenders, as well as many other dimensions in real world problems of financial strategy, which are not fully comprehended within the framework of static equilibrium models. These considerations will normally imply the maintenance by the corporation of a sustained reserve of untapped borrowing power (Modigliani and Miller 1963)

2.2.4 The Miller (1977) theory

The MM (1958, 1963) studies laid the foundation for Miller (1977) study which put into consideration both personal and corporate taxes in determining the effect of leverage in firm's value. They observed that investors are required to pay personal taxes of the income earned by them. Therefore, from investor's point of view, taxes will include both corporate and personal taxes. A firm should thus aim at maximizing the total taxes (both personal and corporate) when deciding about borrowing. Hence the value of a levered firm is sum of the value of unlevered firm plus the gain from leverage, which is measured by the present value of interest tax shield.

In terms of corporate borrowing, Millers Model indicates that if the personal tax rate on equity income is zero, except the tax – exempt debt holders, nobody would be interested in lending to the firm. But from the firm's point of view, there is strong incentive to borrow as the corporate taxes are reduced. Therefore to induce debt- holders to lend to the firm, the firm will have to offer a higher before tax interest rate. The personal income tax system is generally progressive; therefore, the firms will have to keep the interest rate rising to attract investors in high tax

brackets. Firms will be motivated to keep the interest rate rising if the corporate tax savings is greater than personal tax loss. They will stop borrowing if corporate tax rate equals the personal tax rate of debt holders. The advantage from leverage will become zero once the interest rate offered (supply rate) becomes equal to tax exempt rate grossed up for taxes.

Miller concluded that with both corporate and personal taxes capital structure decisions are irrelevant, that is changing of the firm's capital structure has no effect on the firm's valuation. His model suggests that in equilibrium corporate tax advantage are cancelled out by the effect of personal taxes (Van Horne, 1992).

2.2.5. 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: taxes, cost of bankruptcy (financial distress), and the agency cost. Therefore, the firm seeks debt level that balances the tax advantages of additional debt against the costs of the possible financial distress and agency cost. Therefore, a firm sets target leverage ratio and gradually moves towards it Miller (1977)

Taxes: After five years of their original work, in 1963, the Modigliani and Miller published second article (Modigliani and Miller, 1963) introducing the corporate tax, that is, relaxing the early assumption of 'no tax world'. Incorporating corporate taxes, they concluded that leverage would increase a firm's value because interest on debt capital is tax-deductible expenses. The increasing leverage ratio linearly increases the value of the firm. Hence, under the corrected version of MM Proposition I, the value of levered firm is equals to the value of unlevered firm in

the same risk class plus the gain from leverage that is the value of tax saving as a result of interest payment on debt capital.

Miller (1977) extended his work, deriving an expression for the gain from leverage when different tax rates are applied to corporate profit, personal earnings from stocks and personal interest earnings. He showed that the incentive to finance completely through debt disappears under a variety of tax regimes. He states that "even in a world in which interest payments are fully deductible in computing corporate income taxes, the value of the firm, in equilibrium will still be independent of its capital structure". In his paper, Miller also suggests that clientele effects (whereby firms attract those investors that suit their degree of leverage) may reduce the tax related gains from leverage for any single firm. DeAngelo and Masulis (1980) emphasized that the tax-induced gains from leverage are reduced if a firm's expected income stream, against which interest expenses can be deducted, is less than the firm's total interest expenses. Importantly, they note that the presence of deductions from taxable income, other than interest payments, reduces the expected gains from leverage. These non-interest tax deductions are generally known as 'non-debt tax shields'. For examples, depreciation on fixed assets and investment tax credits.

Bankruptcy Costs: The use of debt in one hand provides the debt tax shield but by the same time the higher level of use of debt increases both bankruptcy and financial distress cost. The works of Stiglitz (1972), Kraus and Litzenberger (1973) and Kim (1978) are regarded as prominent in bankruptcy cost aspect of capital structure theory. According to them, when a firm raises excessive debt to finance its operations, it may default on this debt. As the proportion of

debt in the capital structure is increased, the probability of bankruptcy also increases. 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 defaults, the firm is simply transferred to the bondholders. However, there are 'dead weight' costs that arise in the case of corporate bankruptcy which come in form of 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. However, there are economies of scale with respect to direct bankruptcy costs. While they seem of less important for large firms, they can be substantial for small firms. Indirect bankruptcy costs can be significant for both large and small firms (Warner, 1977). 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.

Agency Costs: In search of optimal capital structure, beside the tax and bankruptcy cost aspect, Jensen and Meckling (1976) explored on the agency cost aspect. They use the agency cost to argue that the probability distribution of cash flow provided by the firm is not independent of its ownership structure. Their theory of corporate ownership is based on the assumptions that the firm size and outside financing are constant. Hence the actual value of the firm is the function of the agency cost incurred. Jensen and Meckling (1976) further identify two types of conflicts because of the incentive problem associated with issuance of new debt and new external equity. They argue that the conflicts between shareholder and managers arise because managers hold

less than 100% of the residual claim. Consequently, they do not capture the entire gain from their profit enhancement activities, but they do bear the entire cost of these activities. Conflict between debtholders and equityholders arise because the debt contract gives equity holders an incentive to invest optimally. The consequences of this conflict are overinvestment (risk shifting), underinvestment (assets substitution) problem and residual claim. The risk shifting 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, because equity can be viewed as a call option, managers tend to accept risky negative net present value (NPV) projects in which the value decrease consists of a decrease in the value of debt and a smaller increase in the value of equity. This is known as the overinvestment problem.

The 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 when the debt comes due. Hence, the firm will refuse to accept good investment opportunities ex post, reducing the firm value ex ante.

Further, Easterbrook (1984) and Jensen (1986) argue that for companies that largely consist of assets-in-place and that 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 it below the cost of capital or wasting it on organizational inefficiencies. Even worse, managers can invest less effort in managing firm resources, but transfer firm resources to their personal benefits. 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. However, 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.

Therefore the agency cost theories imply that corporate leverage is chosen, in a rather complex fashion, to reduce the capacity of shareholders to act in manner contrary to the welfare of bondholders and to reduce managers' capacity to act in a manner contrary to shareholders' interest. The trade-off theory of the capital structure posits that there is an optimal debt-equity ratio. Firm's attempt is to balance the tax benefits of higher leverage and the cost associated with bankruptcy and agency problem.

2.2.6 Pecking order theory

Capital structure theory has become yet another dimension with the explicit modeling of private information in financial theory. Two main strands have emerged in the literature on asymmetric information. In the first approach, suggested by Ross (1977), debt is regarded as a means to signal confidence to the firm's investors. In the second approach, suggested by Myers and Majluf

(1984), it is argued that the capital structure is designed to mitigate distortions in the investment decisions caused by information asymmetries. Firms prefer internal financing when available; and, if external financing is required, debt is preferred over equity, that is, 'pecking order'. This can be explained by the signaling hypothesis.

Accordingly, Ross (1977) assumes that managers 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. Hence 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.

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. Myers (1984) has outlined hierarchies of business financing that firms prefer internal finance. They adapt their target dividend payout ratios to their investment opportunities, although dividends are sticky and target payout ratios are only gradually adjusted to shifts in the extent of valuable investment

opportunities. Sticky dividend policies, plus unpredictable fluctuations in profitability and investment opportunities, mean that internally generated cash flow may be more or less than investment outlays. If it is less, the firm first draws down its cash balance or marketable securities portfolio. If external finance is required, firms issue the safest security first. That is, they start with debt, then possibly hybrid securities such as convertible bonds, then perhaps equity as a last resort. In this case, there is no well defined target debt-equity mix, because there are two kinds of equity, internal and external, one at the top of the pecking order and the other at the bottom. Each firm's observed debt ratio reflects its cumulative requirements for external finance. Hence the pecking order hypothesis maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available and if external financing is required, debt is preferred over equity. Moreover firms prefer more liquid assets to mitigate the investment and financing problems (Myers, 1984).

In conclusion, Fama and French (2002) carried out a study to test the predictions about debt and dividends of both trade-off and pecking order theories of capital structure. They employed regression analysis and used 1618 firms spread across all industries in the United States of America for the period 1965 to 1999. Their findings were that more profitable firms and firms with fewer investments opportunities have higher dividend payout ratios, which is consistent with the trade-off and pecking order theories. They also found that more profitable firms have lower debt ratios which are consistent with the pecking order theory and inconsistent with the trade-off theory.

2.3 Macro-Economic determinants of capital structure

From the microeconomic perspective, the theories of capital structure state that tax shield, assets structure, profitability, firm size, growth opportunities, risk , liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure (Titman and Wessels, 1988; Gaud et. al., 2005; Mirie, 2007),

Besides the firm specific attributes discussed by various researchers several macroeconomic factors, such as, economic growth rate, inflation rate, capital market development, government policies etc., also significantly influence capital structure decision of the firms(Booth et al 2001), The common practices of firm, the competencies of financial managers, age of incorporation, the availability of financing alternatives, and other institutional context are some other determinants of capital structure. Further, time variations in macroeconomic conditions; such as changes in the relative pricing of assets classes, can lead to a given firm to choose different capital structures at different points in time other things being equal (Korajezcyk and levy 2002). Several macroeconomic determinants discussed below have critical influence on firms financing

Inflation. Inflation can be defined as a persistent increase in general price levels in an economy over the time (Hardwick, 1996). Inflation effectively reduces the purchasing power of a country's currency. Low or medium levels of inflation in a country can have a positive effect on the business sector, in that it can act as an incentive to production. High levels of inflation however can harm company's profitability by affecting the cost of inputs as well as reducing final demand for its output. Ultimately the effect of inflation on a firm is determined by the nature of its operations as well as its competitive environment.

A firm which experiences an inelastic demand for its products may be able to cushion itself from adverse impact of inflation by transferring the price increases to final consumers, thus leaving its margin untouched. The same could be said of a company operating in a sector with low levels of competition. From liquidity point of view, inflation is likely to result in an erosion of the real value of any financial claims outstanding an opposed to the nominal value of such claims which may find it with receivables whose real value is diminished, thus inflation harms lenders and tend to benefit borrowers (Myers, 1984). This defect is to some extent remedied by indexing interest payments to the prevailing rate of inflation, however this arrangement is more typical of long-term borrowing arrangements between lenders and lending institutions and is not common in short-term credit arrangement especially amongst non-financial institutions.

Dammon (1988) notes that inflation affects capital structure and firm value thus higher inflation forces investors to sell bonds in exchange for stocks and hence firms capital structure measured as debt-equity ratio, tends to drop. In a related literature, Dokko (1989) finds empirical support for a change in inflation to create wealth redistribution between creditors (bondholders) and

debtors (share holders),while Booth et al. (2001) found that higher inflation leads to a decrease in both total and long term debt ratios in developing countries. Kelly and Miles (1989) incorporate the capital structure theory to model the response of nominal interest rates to expected inflation on a world with tax. Platt et al (1995) states that while distressed firms may prefer no growth strategy, external pressures such as inflation may cause their sales to rise exogenously and develops a new sustainable growth rate formula that describes how much growth the firm with no debt capacity can endure.

Gajurel (2005) reveals that for the firms listed at Nepalese stock exchanges inflation is negatively related to leverage ratio. Noguera (2001). In an essay on the relationship between inflation and capital structures finds a positive relationship between leverage and inflation. Corcoran (1977), Zwick (1977), DeAngelo and Masulis (1980) theoretically explain that inflation leads to more debt since it lowers the real cost of debt, the demand for corporate bonds increases during inflationary periods. On the other hand, bond returns become higher relative to stocks return as inflation decreases and the aggregate demand for corporate bonds thus increases.

Interest Rates Interest rates represent the cost of borrowing capital for a given period borrowing capital for a given period of time. Borrowing is significant source of finance for many firms (Banerjee et al, 1999). However according to Myers and Steward (1984), prevailing interest rates are of much concern to many firms, because of indexing of interest rates to inflation. In some borrowing arrangements, interest rates continue to affect the firm for the whole period that the borrowing arrangement is outstanding. For lending and other financial intermediaries, interest

rates represent both a compensation for the loss in the value of loaned capital arising chiefly from inflation as well as profit margin to compensate the lender for the default risk he exposes himself to during the loan period. Higher interest rates deter prospective borrowers and increase the default risk of a loan portfolio already held, thus high interest rates may adversely affect financial institutions whose chief activity is lending funds. This phenomenon of bad debts was observed in early 1999. Jalilvand and Harris (1984) in a study of U.S Corporation obtained results which suggested that financial decisions are interdependent and firm size, interest rate conditions and stock price levels affect speed of adjustments to capital structure implying that they do influence it. Omondi (1996) found that, industry class, ownership, interest rates, size and turnover are significantly correlated with capital structure. His findings were consistent with (Banarjee et al 2000). According to Singh (1993), if the interest rate is high investment falls, a low rate of interest lead to increase in investment activity. Increased investment may imply use of more debt. However, in the short run interest is inelastic and fails to influence the level of investment. Hence a relation exists between investment and use of debt and level of interest rates

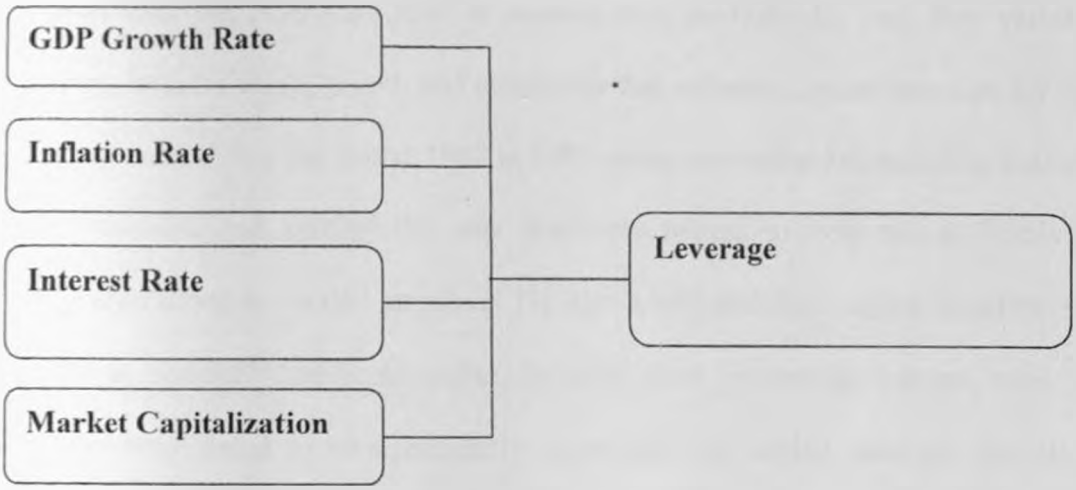
The stock Index and market capitalization. According to Sharpe et al (2000) the NSE index s a geometric mean of share prices of 20 of the most actively traded shares at the NSE. The importance of the NSE index over the economic parameters is that it is the only major indicator that is generated independent of the government, thus it exhibits a greater degree of reliability and accuracy. The NSE index is generated daily and is therefore available immediately for interpretation by investors and other decision-makers. Waciira(1999) notes that the greatest advantage over other indicators is that a stock exchange index is an aggregation of the behaviors of numerous stock market participants and represents therefore the collective wisdom of the

market. Furthermore the index is also able to incorporate future expectations about the future of the economy, thus the NSE index, for example, according to CMA (2000), downturn in the level of the index may be caused by diminished expectations by investors about the future of the economy and not necessarily by current or prevailing conditions .According to Sharpe et al (2000), the ability of the index to incorporate accurately future or anticipated conditions is to some extent reliant on the level of efficiency prevalent in the market, particularly concerning availability of information at low cost and in a timely manner. Given that the NSE index is an indicator of general economic performance, one would expect it to be closely and positively correlated to the health of the economy. If firms are experiencing adequate returns, then to continue doing so, then the index should be relatively high (Sharpe et al, 2000). Other related studies by Gajurel (2005) observes that the stock market capitalization is positively related to leverage ratio and as capital markets become more developed they become a viable option for corporate financing consistent with Booth et al (2001). Furthermore, in developing countries, firms become more leveraged as stock market develops. Booth et al (2001), in their cross-s sectional study, find negative influences of stock market ratio (on GDP) and inflation rate on total debt ratio and long-term debt ratio; and the positive influences of GDP growth rate, Miller's tax advantage and liquid liabilities/ GDP ratio. Nyamute (1998) finds a relationship between stock prices (NSE 20 share index) and major macro economic variables

GDP growth rate. The gross domestic product is a measure of the country's overall economic performance. It is the money value of total goods and services produced annually in a country using exclusively the resources of a country (Singh, 1993). Several studies have been conducted at macro economic level to determine the impact of a countries GDP growth rate on the capital

structure. The study of Booth et al. (2001), which focuses on capital structure in developing countries, found that real economic growth tends to increase total debt ratio and long-term book-debt ratio. korajaczyk and levy (2002), studied capital structure choice macro economic conditions and financial macroeconomic conditions and financial constraints Moreover, macro economic conditions were found to account for 12% to 51% of the time series variation of firms leverage financing decisions and reflect the state of the economy. Hence economic growth rate positively affects leverage ratio. Gajurel (2005) established that macroeconomic variables are significant for firm's financing and that GDP growth rate was negatively related to leverage ratio for Nepalese firms consisted with the findings of Korajezyk and Levy (2002). He further notes that economic growth tends to cause to use more debt consistent with the findings of Booth et al (2001). Cook and Tang (2007), finds that firms adjust to target leverage faster in good states than in bad states. Hence the GDP growth rate has significant effect on firms leverage and it's therefore an important macro economic determinant of capital structure. In a related study from macroeconomics point of view, Waciira (1999) reveals a significant relationship between liquidity of firms quoted at NSE and economic growth rate further emphasizing on significant influence of economic growth rate on firm's variables. Based on preceding analysis the following conceptual framework can be formulated

Figure 2.1: Conceptual Framework



Independent Variables **Dependent Variable**

Source: Author

2.4 Review of empirical studies

Existing empirical studies have, however, been largely confined to the US and other developed countries and clustered around firm specific variables; some recent studies (Gertler and Gilchrist, 1993; Bernanke and Gertler 1995; Rajan and Zingales 1995; demirguc – Kunt and maksimovic 1999; Booth et al, 2001; Korajczyk and levy, 2003) were carried out from macroeconomic perspective. In Kenya so far apparently no studies have been conducted empirically to establish the relationship between macro economic variables and corporate capital structure.

2.4.1 Empirical studies in Kenya.

Several empirical studies have been conducted in Kenya most of which have concentrated on firm specific determinants of capital structure. This includes but not limited to the following. (Omondi 1996; Kiogora 2000; Chonde 2002; Kinyua 2005; Musili 2005; Mirie 2006)

Omondi (1996) studied the relationship between debt ratios and the firm specific variables such as asset structure, firm size, level of interest rates profitability, cash flow variability, age of industry, industry class, growth and ownership that influence capital structure for all companies listed at the NSE for the period 1987 to 1996 using regression analysis. The findings were that asset structure, and profitability was positively related to debt ratios. Firm's growth was positively related to capital structure. He also concluded that capital structure varied across sectors as positively predicted earlier. Industry class, ownership, interest rates, size age and turnover were found to be significantly correlated with capital structure. The study therefore obtains results that were consistent with theoretical predictions while in other cases were not.

Kiogora (2000) using regression analysis tested for variations based on sectors in capital structure of companies quoted at the NSE for the period 1991 to 1998, using a sample fifty-one firms. His findings indicated that, there were significant differences in the capital structure among industry groupings and that those firms within a given sector tended to cluster towards some target debt/equity ratio. These results are consistent with the tradeoff theory of capital structure and also in line with theoretical predictions regarding sector variations in firm capital structure.

Chonde (2002) studied the relationship between debt ratios and some firm specific factors (Asset value, firm size, profitability, growth of the firm, non- debt tax shield and liquidity) that influence capital structure of government owned enterprises in Kenya using a sample of forty-three firms for the period 1994 to 1998. He concluded that Profitability and growth were

positively related to debt ratios. While asset value, firm size, liquidity and non-debt tax shield had negative correlation with leverage.

Lutomia (2002), using regression analysis studied, the relationship between the firm's capital structure and the systematic risk of companies quoted at the Nairobi Stock Exchange for the period 1992 to 2001 excluding the firms in the financial sector. The study findings were that there was a positive relationship between the firm's capital structure and the systematic risk of its common stock. However, there were positive effects of leverage leading to the difference between the mean of the levered and that of the unlevered estimate of Bata.

Chiuri(2003) studied corporate leverage clientele effect for firms listed at the NSE and having debt for the period 1990 to 2001.The results suggested that firm's may have acknowledged the importance of the gain from leverage, arising from interest tax shield in establishing the source of equity and debt finance. Maximum gain from tax was attained when firms obtained debt finances from financial institutions and equity finance from a resident corporate body or foreign individual and or foreign corporate body. The maximum gain from leverage was obtained when firms obtained equity finance from resident individual and debt finance from non-financial institutions or non-resident individuals or non-resident corporate bodies.

Muriuki (2003) in a study on the determinants of priority structure of corporate liabilities for firm quoted at the Nairobi Stock Exchange for the period 1992 to 2001 using a sample of thirty-five firms. He found that firm value and debt levels are positively correlated. This study also shown that firms with secured debt had more growth opportunities unlike the other classes of

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debt. Further, profitability was highly correlated to long-term debt while Short –term secured debt was the most prevalent across the firm.

Onsumu (2003). Regressed debt/equity ratio against the value of firms quoted at Nairobi Stock Exchange excluding finance and investment sector for the period 1993 to 2003. The results were that there was no significant relationship between debt level and the value of the firm. These findings are consistent with the debt irrelevant proposition. Odinga (2003) studied the relationship between debt ratios and factors that influence capital structure for all public companies in Kenya for the period 1989 to 2001, using similar approaches as in the previous studies, he found that Profitability and non-debt shield were the most significant variables in determining capital structure while other variables were not found to be significantly related to debt ratios. Psiwa (2005) studied the relationship between gearing levels and company size of firms quoted at the Nairobi Stock Exchange for the period 2000 to 2004. He found that firm size was positively related to debt ratios.

Kinyua (2005) studied determinants of capital structure for small and medium enterprises (SMES) in Kenya, using a sample of fifty firms firms tested several independent variables. He found that profitability, lenders attitude to the firm, Asset structure and size of the business are key determinants of capital structure. Other factors affecting capital structure include sale and lease –back facilities, size of capital investment, availability of credit, return on investment and cost of production. Also the most preferred source of finding for SMES is short-term credit, followed by retained earnings. Raising funds through new ordinary share capital issues was unpopular.

Musili (2005) Assessed the importance of firm specific factors to determine when they make financing decisions results showed that industrial firms were more likely to follow a financing hierarchy then to maintain a target debt to equity ratio. The study also found that models based on corporate and /or personal taxes, bankruptcy and other leverage related cost are not as useful in determining the financing reveals aspects of the firm's marginal asset performance. In general financial principals are more important in governing the financing reveals aspects of the firm's marginal asset performance. In general financial planning principals are more important in governing the financing decisions of the firm than are specific capital structure theories.

Matibe (2005) in a study on the relationship between ownership structure and capital structure of firm quoted at the Nairobi Stock Exchange excluding financial institutions and companies listed at the AIMS for the period 1998 to 2002. He concluded that there is negative correlation between individual, institutional and foreign ownership with capital structure. State ownership was found to be positively correlated with capital structure. Mburu (2005) in a study on the relationship between asset structure and debt structure for companies listed of NSE excluding the firms in the financial sector for the period 1999 to 2003 using correlation analysis and concluded that the higher the level of tangible assets the higher the level of corporate debt.

Gachoki (2005) tested packing order theory among firms quoted at the Nairobi Stock exchange for the period 1998 to 2003. Employing regression analysis and using a sample. Size of thirty-one companies in all sectors except finances an investment. He studied the relationship between internal fund deficits and the amount of new debt issued and found no relationship between

financing deficit and new debt issued. The results are not consistent with predictions of the pecking order theory.

Mirie (2006) in PHD independent study paper in determinants of capital structure (review of evidence) found that most of the empirical study in the area of capital structure has focused on isolating the relationship between capital structure on one hand and various explanatory variables, i.e. tangibility of Assets Non- debt tax shields, rates of taxation, growth of firm and in vestment opportunities uniqueness of firms products, industry classification, size of firms, volatility of firm earnings , profitability of firm, bankruptcy cost and country that the firm bankruptcy cost and country that the firm is based. Further he noted that in Kenya, empirical studies have tended to be concentrated on relationship between capital structure and various determinants hence recommend that a lot of empirical work required to be carried out in this area in Kenya. He further argues that there are still substantial unresolved theoretical and empirical issues. Consequently work still continues in attempting to better understand how firms make capital structure choices. However this study will adopt the broad view of capital structure to avoid ambiguity.

Others studies include, Sigala(2004) on the relationship between cost of capital and leverage for companies listed at the NSE,, Ndiangui(1992), the effects of the firms capital on the risks of common stock. A test of the NSE, kamere(1987), some factors that influence the capital structure of public companies in kenya, Munene (2006), the impact of profitability on capital structure of companies listed at the NSE, Wandeto(2005), an empirical investigation of the relationship between divided changes and earnings, cashflow and capital structure of companies

listed at the NSE, , Mburu(2005) an analysis of the relationship between Asset structure and debt policy for companies listed at the NSE.

2.4.2 Other related studies in Kenya

Nyamute (1998) studied the relationship between stock prices and macro economic variables like money supply interest rate, inflation rate, and exchange rates in Kenya. The findings were that a positive relationship exists between stock prices and exchange rates. There is however methodology flows in Nyamute (1998) study, which renders the finding of questionable validity (Sifunjo, 1999). According to Sifunjo (1999). A regression analysis was performed on non-stationery time series. While quoting Olowoye (1995), Granger (1988), Phillips (1986) and Ohania (1988). he argues that, this violates the classical theory of regression analysis with stationary time series leading to spurious relation that induce serial correlation and violate the basic assumption of estimating the regression equation. In order to avoid such methodological flaws this study will assume stationary of the time series

Sifunjo (1999) studied the causal relationship between exchange rates and stock prices in Kenya, using the NSE 20 share index as proxy for aggregate stock prices for the period November 1993 to May 1999. The results showed that exchange rates Granger causes stock prices in Kenya. Further there is unidirectional casualty from exchange rates to stock prices. The study employed co-integration and error correction models, which are common in empirical research. Movements in exchange rates exert significant influence on stock price determination in Kenya. The study findings are similar to Issam and Murinde (1997) in Korea, India, Pakistan and the Philippines.

Waciira (1999) studied the relationship between liquidity and macro economic indicators (an inter industry comparison) for all the firms quoted at the Nairobi Stock exchange for the period 1984 to 1996. He concluded that a high degree of correlation exist between the short term and the long term measures of liquidity especially cash flow from operations to current liabilities and cash flow from operations to total liabilities. The results also revealed that a significant relationship exist between the liquidity of quoted firms and the conditions of the economy. These results are consistent with what is generally known about liquidity of firms and insolvency in general.

2.4.3 Empirical studies outside Kenya

Several empirical studies have been conducted most of which are largely confined to the developed countries.

Gertler and Gilchrist (1993) find that aggregate net debt issues, following recessions associated with a monetary contraction, increase for large firms but remain stable for small firms that rely on private debt. Similarly, Gertler and Gilchrist (1994) show that aggregate net shortterm debt issues are less sensitive to the business cycle for small firms. Theoretically, the literature debates whether these patterns are due to the effect of monetary policy on firm's debt issue patterns through the bank lending channel or through the balance sheet channel. Bernanke and Gertler (1995) provide a description of the debate as well as a review of the literature. The bank lending channel focuses on the possible effects of monetary policy actions on the supply of loans by depository institution.

Rajan and Zingales (1995) examine the differences in the development of banks versus financial marks as possible determinants of capital structure. However, as the Rajan and Zingales (1995) study shows, the relative importance of banking is less indicative of differences in corporate leverage than it is of differences in the relative amounts of private financing (bank loan) and arm- length financing through open market. Demirguc – Kunt and Maksimovic (1996) find a negative relation between level of stock market development and both long- term and short – term debt to total equity of firm, and a positive relation between bank development and leverage.

Booth et al., (2001). The study is perhaps the first of its type, which focuses on capital structure in developing countries. By using new data set they assessed capital structure theory across the developing countries with different institutional structure. They analyzed capital structure choice of firms in 10 developing countries (India, Pakistan. Thailand, Malaysia, Turkey, Zimbabwe, Mexico Brazil, Jordan and Korea) by using both firm specific attributes and macroeconomic indicators. In their empirical model, leverage ratio as dependent variable was measured with three proxies; total debt ratio (total liabilities to total liabilities plus net worth), long-term book-debt ratio (total liabilities minus current liabilities divided by total liabilities minus current liabilities plus net worth), and long-term market-debt ratio (total liabilities minus current liabilities divided by total liabilities minus current liabilities plus market value of equity). The tax (average tax rate), business risk (standard deviation of EBIT), tangibility of asset (total assets minus current assets to total asset ratio), size (natural logarithm of sales multiplied by 100), ROA (EBT/total assets), market-to-book ratio (market value to book value of equity) were used as firm specific explanatory variables whereas stock market value/GDP, liquid liabilities/GDP, real GDP growth rate, inflation rate, and miller tax terms were used as macroeconomic explanatory

variables. By running separate models to test the significances of firm specific and macroeconomic variables. They arrived at the following findings and conclusions. Profitability was found the most successful independent variable and negatively related to leverage. In overall, the size and tangibility were observed to be positively related with leverage ratio. The results of risk variable were mixed. They also found that there was 'Miller' tax advantage over equity in most of these developing countries. The statistic was significant. The macroeconomic influences over capital structure were observed as, with some statistical limitations, all three measure of leverage ratio vary negatively with the equity market capitalization; except for the long-term market-debt ratio, the debt ratios vary positively with the proportion of liquid liabilities to GDP. Real economic growth tends to increase total debt ratio and long-term book-debt ratio and higher inflation leads to decrease such ratios. The debt ratios in developing countries were found comparatively lower than advance economy countries and the long-term debt ratio was observed significantly lower in developing countries. From their cross-country study, the authors concluded that the debt ratios in developing countries seem to be affected in the same way and by the same types of variables that are significant in developed countries however in developing countries, they have low long-term debt. Also, there are systematic difference in the way these ratios are affected by country factors, such as GDP growth rates, inflation rates and the development of capital markets. They also noted that the origin of the country is as important as size to determine the leverage. Hence, their study has shed light on capital structure in developing countries.

Korajaczyk and levy (2002), studied capital structure choice macro economic conditions and financial macroeconomic conditions and financial constraints, issuing regression analysis, they

regressed optimal leverage ratio as function of known macroeconomic largest variables and known firm specific target variables. They concluded that the leverage of firms in financially unconstrained firms vary counter cycle with macroeconomic conditions. The findings are supported by levy (2001). Moreover, macro economic conditions account for 12% to 51% of the time series variation of firms leverage financing decisions and reflect the state of the economy. The results are consistent with elements of both trade off and packing order theories and with the findings of Booth et al (2001).

Gajurel (2005) in a study of the determinants of corporate capital structure of Nepalese companies examined the macro economic influences on debt equity ratio of Nepalese companies excluding firms in the finance and banking sectors between the periods 1995 to 2004. He regressed capital structure against certain firm specific variables and the macro economic variables (GDP growth rate, inflation and market capitalization to GDP ratio). Results found that macro economic variables are significant for forms capital structure choice specifically he concluded that GDP growth rate negatively related to total debt ratio and short term debt ratio and positively related to long term debt ratio. The results indicate that higher economic growth tends to cause firms to use more long-term debt and he is less short-term debt. The evidence is obvious. This implies that Nepalese companies prefer long-term debt securities and risk less on short-term borrowing. When economic growth is higher, inflation was found to be negatively related to total debt ratio and short term debt ratio as well as positively related to long term debt ratio. implying that increasing inflation supports to an increase in long term debt and decrease short term debt. Market capitalization was observed to be positively related to debt ratios, indicating that as capital markets become more developed they be come a viable option for

corporate financing. These findings are consistent with results of studies from emerging markets (Booth et el 2001).

Noguera (2001). In an essay on the relationship between inflation and capital structures. The essay concerns the effect of (steady) inflation on corporate financial leverage of American Corporations by using a theoretical model that explains the affected of inflation on capital structures to establish links and examine how inflation affects the yield on yield equality and bondholding and hence demand and supply of corporate bonds. He tested the main results by combining time series for the period 1978 to 1996 and the cross sectional data for forty major American companies to establish the relationship between the capital structure and inflation rate. His findings suggest that no unique effect appears to dominate contrary to the conclusions of Kim and Wu (1988) in a related study finds that Miller and Schell effects dominate. Further, they note that the inconsistence is due to methodological differences and assumptions.'

Cook and Tang (2007), in a study of macro economic conditions and capital structure adjustments speed for American firms over a thirty years sample period to tested the relationship between macro economic conditions and capital structure adjustment speed using both two stage and integrated partial adjustment dynamic capital structure models. The results are that firms adjust to target leverage faster in good states than in bad states. Where they defined states by the term spread, default spread, GDP growth rate and market dividend yield. Their results are consistent with findings of hackbarth et al (2006) and also support the pecking order theory, in that under levered firms adjust faster than firms that are over levered. The findings also support the market timing theory implication that under levered firms have less incentive to adjust

toward target leverage when stock market performance is good as measured by dividend yield on the market and price output ratio.

In conclusion therefore it is worth noting that all the above studies provide a strong case for a study on macroeconomic determinants of corporate capital structure in developing countries since they provide a significant grounds and justifications for existence of a relationship between these variables and capital structure.

CHAPTER THREE: RESERCH METHODOLOGY.

3.1 Introduction

This chapter details the research methodology employed in carrying out the study. It provides a description of the entire methodological approach employed in the study, which involves the research design, population of study, sampling and sample size, data collection and data analysis technique including the operational definition of the variables. Notably in empirical studies the consistency of findings is mostly linked to empirical methodology it has employed (Gajurel, 2005; Korajaczyk and Levy, 2002). Hence the methodology in this study was based on the works of Gajurel (2005) in a study of the capital structure determinants in Nepalese context and Nyamute (1998) in Kenyan context

3.2 Research Design

This was an empirical study which analyzed and described the magnitude and direction of the relationship between leverage (dependent variable) and macrocconomic determinants viz.; GDP growth rate, inflation and interest rates. Hence it followed both analytical and descriptive research design.

3.3 Population of the Study

The population of interest in this study consisted of all firm listed at the Nairobi stock exchange for the period between January 2004 and December 2008. a period of 5 years. This period is considered sufficient enough to monitor the variation in macro-economic variables and given time constraint over which the study was to be conducted. Gajurel (2005), however, used 10 year

period and regressed debt/equity ratio against macroeconomic variables using data from Nepalese Stock Exchange between 1995 and 2005.

3.4 Sampling and Sample Size

The sample consisted of firms that have a clear capital structure consisting of both debt and equity among the firms listed at the NSE for the period 2004 to 2008. Banks, finance companies, investment sector and insurance companies were excluded from the sample because they do not have a clear capital structure (Onsumu, 2003; Lutomia, 2002; Gachoki, 2005; Nyamute, 1998. Gajurel, 2005 citing Ozkan, 2001). Therefore the sample size consists of 39 firms in the industrial and allied, agricultural, commercial and allied as well as service sector.

3.5 Data Collection

The study relied purely on accounting data of firms listed at Nairobi stock exchange for the period of 1999 to 2008. The required data on the debt-equity ratio were extracted from annual reports of firms available at the NSE database. Hence this study mainly relied on secondary data. The macro-economic data were extracted from Economic Surveys for the period 2004 to 2008, available from Central Bank of Kenya and the annual statistical survey from Central Bureau of Statistics for the period 2004 to 2008.

3.6 Model and Variables Specification

The model and variables used in this study was based on theoretical foundations suggested by capital structure theories as well as previous studies. The model described below was used to in the analysis:

3.6.1 Model Specification

Multiple regressions are most appropriate for studies involving two or more independent variables (Nachmias and Nachmias, 1996). This study used econometric models of multiple linear regressions where leverage was regressed against GDP growth rate, inflation, ratio of and interest rate. The time series model is adapted from Gajurel (2005) and Korajezcyk and Levy (2002)) and states:

$DR_t=\alpha+\beta_1 GDP_t+\beta_2 INFL_t+\beta_3 INT_t+e_t$

Where

DR_t= Debt Equity Ratio over 10 year period

α = Coefficient of regression.

β_s= are the unknown parameters (constant of regression).

GDP_t= Annual GDP growth rate

INF_t= is the annual inflation rate measured as changes in consumer price index

INT_t= Represents the interest rate as a proxy of 91 day Treasury bill rate

e_t= is the error term (Noise) and is assumed stochastic.

In this model it was assumed that the underlying time series is stationary (Gajurel, 2005 citing Johnson and Divardo, 1997).

3.6.2 Variables Specification and their Proxies

Variables (dependent and independent) used in this study are described in the following paragraphs. Table 3.1 below summarizes the variables used in this study and their appropriate proxies.

(i) Dependent Variable.

Leverage. Debt/equity ratio was the measure of capital structure i.e. leverage. Mirie (2007) posits that in assessing the question of determinants of capital structure, several measures of capital structure can be used including total liabilities, long-term liabilities, short-term liabilities and convertible debt dividend by either book values or market values of equity. Korajezcyk and Levy (2002) citing Rajan and Zingales(1995 argued that the ratio of book value of total debt to total asset is defined as the leverage ratio and it is more appropriate definition of financial leverage. In view of the above studies, this study adopted the broad view of capital structure to avoid ambiguity and used the following proxies (Booth et al., 2001).

Leverage ratio (DR) was measured as follows:

Total debt ratio (TD) = Total debt (long-term+ short-term)/ Total assets.

Short-term debt ratio (STD) = Total current liabilities/Total assets.

Long-term debt ratio (LTD) = Total long-term liabilities/Total assets

(ii) Independent Variables.

Capital structure (leverage) was regressed against three macro economic (independent) variables to establish the relationship between independent and dependent variables. In empirical testing of the functional relationships between the dependent and independent variables, a key decision that requires to be made is the choice of the independent variables (Mirie, 2007). Hence the following independent variables were adopted in this study. The variables were selected on the basis of prior research, which identified them as having an effect on leverage

Inflation: This study used the inflation rate as measured by the annual change in consumer price index based on the assumption that inflation affects leverage (Gajurel, 2005).

Interest Rate: This study used the 91-day Treasury bill interest rate as a proxy for the measure of interest rate consisted with other studies (Nyamute 1998).

GDP Growth Rate: As suggested by Gajurel (2005) and following Booth et al., (2001). It was consistent to use GDP growth rate at factor cost as an independent variable in this study. The variables and their proxies are shown in the table 3.1 below.

Table 3.1 Variables and their Proxies

Variables	**Proxy measure**
Leverage Ratio	Total debt ratio= total debt/total assets
	Long-term debt ratio = Long term debt /total assets
	Short term debt ratio = short term debt /total assets
Inflation:	Annual change in consumer price index
Interest Rate	91 day treasury bill interest rate
GDP growth rate	Annual rate of GDP growth

Source: Author

3.7 Data Analysis

This study employed econometric analysis of multiple regressions to investigate the magnitude and directions of the relationship between leverage and various explanatory variables as modeled in section 3.6.1 above. The regression results on the explanatory variables were analyzed at significant level of 0.05 while F-statistics was used to test the strength of the relationship especially between leverage and macroeconomic determinants (Gajurel, 2005).

Similar approach was used in related studies in Kenya. For example, Nyamute (1998) regressed stock prices against macro-economic variables i.e. money supply, interest rates, inflation and exchange rates. Waciira (1999) regressed liquidity against macro-economic variables (inter-industry) comparison for firms quoted at Nairobi stock exchange. Omondi (1996) used regression analysis to study the relationship between debt ratio and certain firm specific variables. Based on the above studies and their findings it was assumed the model ensured consistency and validity of the findings.

CHAPTER FOUR: DATA FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents the data findings on the macro-economic influences on corporate capital structure of listed companies in Kenya. The data was collected from the secondary sources available from NSE handbook of 2008 and economic survey of 1995 - 2008. Out of the 55 companies that trade at NSE, the study collected data on 39 companies being that some had not traded consistently for the period 2004 to 2008.

4.2 Macro Economic Financial analysis

Table 4.1: Macro Economic Financial Data

Year	Real GDP Growth rate	Annual Inflation rate (%)	Interest rate (%) Treasury bill rate
2004	4.9	11.6	8.04
2005	5.8	10.3	8.14
2006	6.4	14.5	5.83
2007	7	9.8	6.87
2008	1.7	26.2	8.59
Mean	**5.16**	**14.48**	**7.494**
Min	**1.7**	**9.8**	**5.83**
Median	**5.8**	**11.6**	**8.04**
Max	7	**26.2**	**8.59**
STDEV	**2.083987**	**6.80125**	**1.126379**

Source: Author

Regarding the findings on the macro economic financial data the study found out that real GDP growth rate stood at 5.16, annual inflation rate stood at 14.48 while interest rate 7.494. However looking at the values for the year 2005 and 2006; the years that the total debt ratio was high and low respectively, a conclusion can not be reached at on the influences of the three macro-economic factors on the total debt ratio.

4.3 Total Debt Ratio Findings

Table 4.2: A Break Down of Total Debt Ratio from 2004 to 2008

	2008	2007	2006	2005	2004
Kakuzi	0.4112	0.4667	0.5456	0.5589	0.4918
Rea Vipingo	0.4637	0.3921	0.3884	0.4076	0.4402
Sasini	0.3059	0.2276	0.2088	0.1904	0.2021
Eaagads	0.3039	0.2501	0.2199	0.2139	0.1825
Kapchorua Tea Company Limited	0.3673	0.3597	0.3218	0.3389	0.3226
Limuru Tea	0.3749	0.3469	0.3121	0.3580	0.3312
Williamson Tea Kenya Limited	0.2950	0.2896	0.2652	0.2730	0.2713
Car and General (Kenya) Limited	0.5896	0.5659	0.4881	0.4804	0.4635
CMC Holdings	0.5979	0.5644	0.5467	0.5695	0.5661
Standard News	0.6285	0.6405	0.5603	0.6306	0.7032
Kenya Airways	0.6630	0.7200	0.7510	0.7247	0.7131
NMG	0.3481	0.3666	0.3392	0.2702	0.2945
TPS Serena	0.4236	0.4575	0.4455	0.5246	0.4687
Express Kenya	0.6728	0.4609	0.5783	0.5894	0.6735
Barclays	0.8786	0.8886	0.8738	0.8736	0.8825
NIC Bank	0.8694	0.8485	0.8835	0.8678	0.8411
Stan Chart Bank	0.8839	0.8802	0.8750	0.8684	0.9097
K.C.B	0.8897	0.8904	0.8744	0.8713	0.8767
H.F.C.K.	0.7445	0.8605	0.8497	0.8710	0.8816
CFC Bank	0.8268	0.8610	0.8610	0.8799	0.8051
Diamond Trust	0.8750	0.8478	0.8681	0.8992	0.8713
Jubilee	0.8414	0.7847	0.7645	0.7732	0.7594
Pan African ins	0.8054	0.7563	0.7207	0.7480	0.7617
I.C.D.C	0.0083	0.0087	0.0375	0.9555	0.9814
N.B.K	0.8546	0.8801	0.8935	0.9011	0.9142
E.A Cables	0.5509	0.6566	0.5780	0.4401	0.3559
Unga	0.3775	0.3762	0.3882	0.4509	0.5301
Total Kenya	0.6546	0.6203	0.6962	0.5715	0.5713
Crown Berger	0.5781	0.4666	0.4977	0.4863	0.4435
B.A.T	0.5252	0.4937	0.4606	0.3768	0.3856
E.A.B.L.	0.3349	0.3297	0.2500	0.2521	0.2654
Bamburi	0.4116	0.2724	0.2580	0.2642	0.2921
Kenya Oil	0.6060	0.6244	0.6500	0.5204	0.4558
Athi River -Min	0.6651	0.6066	0.6769	0.6264	0.4871
B.O.C.	0.2932	0.2470	0.2542	0.2148	0.2134
Mumias Sugar	0.3611	0.3003	0.3506	0.3598	0.4094

Kenya Power	0.6007	0.5298	0.4691	0.4727	0.4584
E.A Portland	0.5562	0.5965	0.6601	0.7081	0.7587
Sameer Africa Limited	0.3058	0.3795	0.4408	0.3670	0.3262
Mean	**0.5575**	**0.5414**	**0.5411**	**0.5577**	**0.5529**
Min	**0.0083**	**0.0087**	**0.0375**	**0.1904**	**0.1825**
Max	**0.8897**	**0.8904**	**0.8935**	**0.9555**	**0.9814**
STDEV	**0.2206**	**0.2319**	**0.2366**	**0.2356**	**0.2397**

Source: Author

The data findings on the total debt ratio was analyzed and presented in table 4.2 above. According to the findings in the table, year 2005 had the highest mean of 0.5577 and a standard deviation of 0.2356 while 2006 had the lowest mean of 0.5411 or 54.11% and a STDEV of 0.2366. This shows that in 2005 when the leverage ratio was high 55.77% of the total assets were represented by the total debts of companies, attesting to the fact that Kenyan firms largely depend on debt for financing their operations due to the difficulty generating the finance from within companies. However, the minimum value of total debt ratio in the same year was 0.1904, revealing that in some companies most of the assets were financed through equity. The regression model is discussed in the preceding table below

Table 4.6: Total Debt Ratio Regression Model

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	.512	.146		3.516	.176	-1.339	2.363
Annual GDP growth rate	-.001	.010	-.232	-.094	.941	-.127	.125
inflation rate	.000	.002	-.125	-.067	.957	-.029	.029
interest rate	.006	.009	.813	.699	.612	-.103	.115

Table 4.6 above presents the data findings on the total debt regression model. According to the table the findings indicated that the intercept was 0.512, that is, when all the factors are equated to zero the total debt ratio will be 0.512, while the coefficients for annual GDP growth rate was -

0.001, inflation rate coefficient was 0 while interest rate coefficient was 0.006. This gives the regression model below:

$DR_t = 0.512 - 0.001GDP_t + 0.006INT_t + e_t$

According to the model above, an increase in GDP brings about a 0.001n decrease in total debit ratio while an increase in interest rate brings about a 0.006 increase in total debt ratio. This depicts that annual GDP growth rate influences total debt ratio hence capitalization negatively, interest rate positively, while inflation rate has no influence on total debt ratio. The value of R is 0.932 which means that there is a strong positive correlation between the observed and predicted value of the dependent variable and further that the regression model has explained 87.2% of the variations in the dependent variable.

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
				R Square Change	F Change
0.934	0.872	0.489	0.0059520	0.062	0.488

4.4 Long-Term Debt Ratio Findings

Table 4.7: Long Term Debt Ratios for the Listed Companies

Companies	2008	2007	2006	2005	2004
Kakuzi	0.2576	0.2856	0.2877	0.2617	0.3185
Rea Vipingo	0.1240	0.1372	0.1579	0.1751	0.1965
Sasini	0.2528	0.1596	0.1316	0.1234	0.1469
Eaagads	0.2114	0.2037	0.2085	0.1957	0.1703
Kapchorua Tea Company Limited	0.2476	0.2437	0.2480	0.2386	0.2521
Limuru Tea	0.1973	0.2512	0.2265	0.2732	0.2373
Williamson Tea Kenya Limited	0.2179	0.2031	0.1987	0.2058	0.2157
Car and General (Kenya) Limited	0.0756	0.0930	0.1121	0.1030	0.0397
CMC Holdings	0.0200	0.0275	0.0524	0.0524	0.0711
Standard News	0.3138	0.3218	0.1347	0.0880	0.1365
Kenya Airways	0.4792	0.5316	0.5227	0.4125	0.4591
NMG	0.0198	0.0453	0.0678	0.0084	0.0026

TPS Serena	0.2672	0.2617	0.3384	0.3782	0.1599
Express Kenya	0.2870	0.1500	0.1493	0.0676	0.0312
I.C.D.C	0.0000	0.0000	0.0076	0.9167	0.9208
E.A Cables	0.1604	0.2093	0.1747	0.0424	0.0419
Unga	0.0545	0.0136	0.0248	0.0238	0.0324
Total Kenya	0.0000	0.0000	0.0000	0.0000	0.0000
Crown Berger	0.0493	0.0673	0.0759	0.0571	0.0486
B.A.T	0.0983	0.1113	0.0979	0.1059	0.0992
E.A.B.L.	0.0682	0.0660	0.0769	0.0744	0.0773
Bamburi	0.2187	0.1169	0.1253	0.1454	0.1585
Kenya Oil	0.0177	0.0440	0.0299	0.0324	0.0463
Athi River -Min	0.3750	0.3699	0.4227	0.4657	0.1639
B.O.C.	0.2932	0.0336	0.0406	0.0356	0.0315
Mumias Sugar	0.1210	0.1650	0.1816	0.1905	0.2100
Kenya Power	0.2911	0.1527	0.1560	0.1773	0.1938
E.A Portland	0.4265	0.4359	0.5057	0.5922	0.6144
Sameer Africa Limited	0.0418	0.0481	0.0610	0.0456	0.0380
Mean	**0.1789**	**0.1637**	**0.1661**	**0.1893**	**0.1764**
Min	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
Max	**0.4792**	**0.5316**	**0.5227**	**0.9167**	**0.9208**
STDEV	**0.1339**	**0.1341**	**0.1382**	**0.2027**	**0.1984**

Source: Author

The table 4.7 above shown that break down of the long term debt ratios for the period 2004 to 2008. Accordingly, long-term debt ratios were highest at 18.83% in 2005 with a standard deviation of 0.2027 while it was lowest at 16.37% in 2007 and a standard deviation of 0.1341 as shown in table 4.4 above. However the rations are lower than the short term ratios indicating that listed companies in Kenya prefer financing using the short term funds. The regression results are discussed below.

Table 4.8: Long-Term Debt Ratio Regression Model

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.087	.304		.286	.823
Real GDP Growth rate	0.002	.021	.470	.113	.929
Annual Inflation rate (%)	0.000	.005	.151	.048	.969
Interest rate (%) Treasury bill rate	0.010	.018	1.056	.539	.685

The study further regressed long-term debt ratio against real GDP Growth rate, annual inflation rate and interest rate and presented the data in the table 4.5 above. The study found out that holding other factors constant, a unitary increase in GDP growth rate leads to a 0.002 increase in long-term debt ratio while an increase in interest rate, holding other factors constant, leads to a 0.01 increase in long-term debt ratio. The study however found out that annual Inflation rate has no influence on the long term debt ratio. This shows that as GDP growth rate increases, companies are turn to taking long term debts like loans and debentures so as to increase their scope and scale operations in responsive to the opportunities brought by GDP growth as an indicator of economic growth. As interest rates increases, companies tend to limit taking long term debts since they are costly to them. This leads to the following regression equation:

Long-Term Debt Ratio = $0.087 + 0.002GDP_t + 0.01INT_t + e_t$

The study further found out a strong positive correlation between the observed and predicted value of the dependent variable and further that ($r = 0.79$) as shown below.

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.799	0.638	-0.449	0.0124224

4.5 Short Term Debt Ratio Findings

Table 4.6: Short Term Debt Ratios of Listed Companies

Companies	2008	2007	2006	2005	2004
Kakuzi	0.1536	0.1811	0.2579	0.2972	0.1733
Rea Vipingo	0.3397	0.2549	0.2306	0.2325	0.2437
Sasini	0.0531	0.0680	0.0772	0.0670	0.0552
Eaagads	0.0925	0.0463	0.0114	0.0182	0.0122
Kapchorua Tea Company Limited	0.1197	0.1160	0.0739	0.1003	0.0706
Limuru Tea	0.1776	0.0957	0.0856	0.0849	0.0939
Williamson Tea Kenya Limited	0.0771	0.0865	0.0665	0.0672	0.0556
Car and General (Kenya) Limited	0.5140	0.4729	0.3760	0.3774	0.4239
CMC Holdings	0.5778	0.5369	0.4943	0.5171	0.4950
Standard News	0.3146	0.3186	0.4255	0.5426	0.5666

Kenya Airways	0.1838	0.1884	0.2283	0.3122	0.2539
NMG	0.3283	0.3213	0.2714	0.2618	0.2919
TPS Serena	0.1563	0.1958	0.1070	0.1464	0.3088
Express Kenya	0.3858	0.3109	0.4291	0.5218	0.6423
I.C.D.C	0.0083	0.0087	0.0299	0.0388	0.0606
E.A Cables	0.3906	0.4472	0.4033	0.3977	0.3140
Unga	0.3230	0.3626	0.3633	0.4272	0.4977
Total Kenya	0.6546	0.6203	0.6962	0.5715	0.5713
Crown Berger	0.5288	0.3993	0.4218	0.4291	0.3949
B.A.T	0.4269	0.3824	0.3627	0.2709	0.2864
E.A.B.L.	0.2667	0.2637	0.1731	0.1778	0.1881
Bamburi	0.1929	0.1556	0.1328	0.1188	0.1335
Kenya Oil	0.5883	0.5803	0.6201	0.4880	0.4095
Athi River -Min	0.2901	0.2367	0.2543	0.1607	0.3231
B.O.C.	0.0000	0.2133	0.2136	0.1792	0.1820
Mumias Sugar	0.2401	0.1354	0.1691	0.1694	0.1994
Kenya Power	0.3096	0.3771	0.3131	0.2953	0.2646
E.A Portland	0.1297	0.1606	0.1544	0.1159	0.1444
Sameer Africa Limited	0.2640	0.3315	0.3798	0.3214	0.2882
Mean	**0.2789**	**0.2713**	**0.2697**	**0.2658**	**0.2739**
Min	**0.0000**	**0.0087**	**0.0114**	**0.0182**	**0.0122**
Max	**0.6546**	**0.6203**	**0.6962**	**0.5715**	**0.6423**
STDEV	**0.1777**	**0.1623**	**0.1740**	**0.1674**	**0.1714**

Source: Author

As shown in table 4.6 above, short-term debt ratios were highest at 27.89% in 2008 with a standard deviation of 0.1777 while it was lowest at 26.58% in 2005 and a standard deviation of 0.6474 as shown in table 4.6 above. However the rations are higher than the long term ratios indicating that listed companies in Kenya prefer financing using the short term funds.

Table 4.7: Short Term Debt Ratio Regression Model

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.329	0.128		2.569	.236
Real GDP Growth rate	-0.005	0.009	-2.010	-.540	.685
Annual Inflation rate (%)	-0.001	0.002	-0.740	-.265	.835
Interest rate (%) Treasury bill rate	-0.003	0.008	-0.764	-.438	.737

Source: Author

The table 4.7 above shows the coefficients of short term debt ratio of the regression model. The study found out that when real GDP growth rate, annual inflation rate and interest rate constant are all zero, short-term debt ratio will be 0.329. The study further found out that holding other factors constant, a unit increase in real GDP growth rate will lead to a 0.005 decrease in short term debt ratio, a unit increase in annual inflation rate leads to a 0.001 decrease in short term debt ratio while a unit increase in interest rates leads to a 0.003 decrease in short term debt ratio.

This could be explained by the fact that when the GDP growth rate increases signifying economic growth most assets will be financed by the company's equity. It can also be depicted that when there is an increase in inflation rate, companies would prefer long term debts to short term debts partly owing to the fact that short term debts will be too expensive in comparison and partly because they would anticipate mitigation against the factors leading to the inflation while when interest rates increase, companies would opt for financing their assets either through equity or long term debts since short term debts have high interest.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary and discussions of the data findings presented in chapter four, conclusions based on the findings and recommendations there-to. The chapter is thus structured into discussions, conclusions, recommendations and areas for further research.

5.2 Discussions

As regards the total debt ratio, the study found out that when all the factors are equated to zero, the total debt ratio will be 0.512 which means that 51.2% of the companies total assets will be represented liability. The study further found out that when interest rates and inflation rates are held constant, an increase in annual GDP growth rate will lead to a 0.001 decrease in total debt ratio/leverage. This is consisted with Gajurel (2005) finding that GDP growth rate is negatively related to total debt ratio for Nepalese firms. The study also found out that with GDP growth rate and inflation held constant, a unit increase in interest rate will lead to a 0.006 increase in total debt ratio while inflation rate do not influence the total debt ratio incosisted with Booth et al (2001)

On the long term debt ratio, the study found out that holding other factors constant, a unitary increase in GDP growth rate leads to a 0.002 increase in long-term debt ratio while an increase in interest rate, holding other factors constant, leads to a 0.01 increase in long-term debt ratio. Gajurel (2005) also found out that GDP growth rate is positively related to long term debt ratio since higher economic growth tends to cause firms to use more long-term debt and less short-

term debt. The study however found out that annual inflation rate has no influence on the long term debt ratio.

On the short term debt ratio, the study found out that when growth rate, annual inflation rate and interest rate constant are all zero, short-term debt ratio will be 0.329. The study further found out that holding other factors constant, a unit increase in real GDP growth rate will lead to a 0.005 decrease in short term debt ratio, a unit increase in annual inflation rate leads to a 0.001 decrease in short term debt ratio while a unit increase in interest rates leads to a 0.003 decrease in short term debt ratio. The study thus explained this by the fact that when the GDP growth rate increases signifying economic growth most assets will be financed by the company's equity while when there is an increase in inflation rate, companies would prefer long term debts to short term debts partly owing to the fact that short term debts will be too expensive in comparison and partly because they would anticipate mitigation against the factors leading to the inflation. This concurs with the Gajurel (2005) findings that inflation is negatively related to short term debt ratio, implying that increasing inflation decreases short term debt. From the same findings, the study found out that when interest rates increase, companies would opt for financing their assets either through equity or long term debts since short term debts have high interest.

5.3 Conclusions

Macroeconomic factors influence corporate capital structure in different ways; for instance, GDP growth rate has a positive influence on long term debt ratio consisted with the findings of Booth et al (2001) and a negative influence on total debt ratio and short term debt ratio. Meaning that an increase in GDP growth rate Kenyan firms revert from financing assets with short term debts

to long term debts like loans from banks however the companies would prefer generating finances from within than without.

The study also concludes that inflation only has a negative influence on the short debts of the Kenyan listed companies. However the same has no influences on the long term debt ratio and total debt ratio. The study also concludes that interest rate as measured by the treasury bills has a positive influence on the long term debt ratio and total debt ratio and a negative influence on the short term debt ratio.

5.4 Policy Recommendations

The study recommends that when the economic growth as indicated by the GDP growth rate increases, the Kenyan companies should generated more finances from within than without so as finance their operations and growth. This is because economic growth provides more business opportunity for firms and they should, however, minimize risks and costs associated with short-term and long-term debts by generating finances internally. The study also recommends that the same should be the case when there is an increase in the interest rates, since an increase in interest rate means that the cost of debt financing becomes higher. The researcher also recommends that as a policy finance managers before designing capital structure of any company , a careful attention should be paid on appropriate features of capital structure and various determinants of capital structure. It is observed that most executives do not pay attention to macro environment while making their financing decisions. The government fiscal and monetary policies should focuses on creating conducive environment for firms to make financing decisions.

5.5 Limitations of the study.

The findings of this study owe to certain methodological and conceptual limitations. The reliance on secondary data which is collected from annual financial statements implies that the study suffers from those limitations that are associated with preparation of annual financial statements. Further the assumptions and limitations of econometric modeling are inherent in the study.

There is a lot of literature in capital structure theories including many empirical studies. This study could not review all those literature. Hence posing a major limitation for comparison. For quantitative analysis, SPSS 11.5 software programme was used, hence the limitations of this program are also inherent

5.6 Suggestions for further research.

The researcher finds that a lot of work needs to be done in the area of capital structure and therefore makes the following recommendations for further research in this area. The researcher suggest that further research be done on the macro-economic influence and cost of capital so as to get a holistic view on how macro economic factors affect the firms financing decisions. Since capital structure is one of the most controversial issues in corporate finance, there is room for study from different perspectives. One can develop his or her own methodological approach to study various aspects of capital structure. A rigorous study of capital structure from macro economic perspective is also expected. For example capital structure and exchange rate including its relationship with capital market development. A study similar to this can be conducted from time to time. The long-term stability of the results needs to be reviewed from time to time. Also the determinants of capital structure vary from one period to another period, from one firm to

another firm and from one industry to another industry. Hence the macro economic influence on capital structure for individual firm, particular industry should be conducted.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Charles Muthama Mutuku
University of Nairobi, School of Business
P.O. Box 30197
Nairobi.

30th September 2009.

The Chief Executive Officer
Nairobi Stock Exchange
Nairobi,

Dear Sir/Madam,

RE: MANAGEMENT RESEARCH PROJECT FOR MBA (FINANCE)

I am a Post Graduate Student at the University of Nairobi, School of Business undertaking a Master of Business Administration (Finance). I am conducting a Management Research on **"An empirical analysis of macro- economic influences on corporate capital structure of listed companies in Kenya".**

The research will be based on secondary data obtained from financial statement of listed companies. This is therefore to request for your assistance in availing the required information. All the information obtained for this study will be used solely for academic purposes and will be treated with strict confidentiality. A copy of the final report will be made available to you upon request. Your assistance and co-operation will be highly appreciated.

Thanking you in advance
Yours faithfully,

.....
Mutuku Charles Muthama
(MBAStudent)

Appendix II : Listed Companies at the NSE

MAIN INVESTMENT MARKET SEGMENT

AGRICULTURAL SECTOR

Kakuzi

Rea Vipingo Plantations Ltd

Sasini Ltd

Unilever Tea (Delisted early 2009)

COMMERCIAL AND SERVICES

Accesskenya Ltd

Car & General (K)

CMC Holdings Ltd

Hutchings Biemer Ltd

Kenya Airways Ltd

Marshalls (E.A.) Ltd

Nation Media Group

Safaricom Ltd

ScanGroup Ord.

Standard Group Ltd

TPS Eastern Africa (Serena)

Uchumi Supermarket Ltd

FINANCE AND INVESTMENT

Barclays Bank Ltd

Centum Investment Co. Ltd

CFC Stanbic Holdings Ltd

Diamond Trust Bank Kenya Ltd

Equity Bank Ltd

Housing Finance Co Ltd

Jubilee Holdings Ltd

Kenya Commercial Bank Ltd

Kenya Re-Insurance Corporation Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Olympia Capital Holdings ltd

Pan Africa Insurance Holdings Ltd

Standard Chartered Bank Ltd

The Co-operative Bank of Kenya

INDUSTRIAL AND ALLIED

Athi River Mining

B.O.C Kenya Ltd

Bamburi Cement Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

Crown Berger Ltd 0rd

E.A.Cables Ltd Ord

E.A.Portland Cement Ltd

East African Breweries Ltd

Eveready East Africa Ltd

Kenya Oil Co Ltd

Kenya Power & Lighting Ltd

KenGen Ltd.

Mumias Sugar Co. Ltd

Sameer Africa Ltd

Total Kenya Ltd

Unga Group Ltd

ALTERNATIVE INVESTMENT MARKET SEGMENT

A.Baumann & Co.Ltd

City Trust Ltd

Eaagads Ltd

Express Ltd

Williamson Tea Kenya Ltd

Kapchorua Tea Co. Ltd

Kenya Orchards Ltd

Limuru Tea Co. Ltd

Source: NSE, (2009), NSE Handbook 2008

Appendix III: Debt Ratios worksheet

		2008	2007	2006	2005	2004
Agricultural sector						
Kakuzi	N.L	685,997	677,843	660,449	540,036	683,200
	C.L	408,889	429,922	592,149	613,252	371,829
	T.L	**1,094,886**	**1,107,765**	**1,252,598**	**1,153,288**	**1,055,029**
	N.A	2,223,158	2,036,407	1,902,126	1,747,597	1,906,486
	C.A	439,361	337,274	393,741	315,909	238,893
	T.A	**2,662,519**	**2,373,681**	**2,295,867**	**2,063,506**	**2,145,379**
Rea Vipingo	N.L	202,358	160,026	168,381	182,983	202,180
	C.L	554,440	297,394	245,958	243,005	250,674
	T.L	**756,798**	**457,420**	**414,339**	**425,988**	**452,854**
	N.A	840,611	693,907	687,267	623,606	632,555
	C.A	791,353	472,678	379,444	421,621	396,106
		1,631,964	**1,166,585**	**1,066,711**	**1,045,227**	**1,028,661**
Sasini	N.L	1,717,778	610,433	504,175	424,910	590,503
	C.L	361,223	259,979	295,812	230,608	221,756
	T.L	**2,079,001**	**870,412**	**799,987**	**655,518**	**812,259**
	N.A	5,824,508	3,298,435	3,248,788	2,985,002	3,449,183
	C.A	971,798	526,609	581,675	457,732	570,099
	T.A	**6,796,306**	**3,825,044**	**3,830,463**	**3,442,734**	**4,019,282**
Eaagads	N.L	58,511	44,280	47,085	36,456	32,078
	C.L	25,606	10,067	2,585	3,382	2,299
	T.L	**84,117**	**54,347**	**49,670**	**39,838**	**34,377**
	N.A	216,752	193,235	193,482	147,550	159,02
	C.A	60,037	24,098	32,383	38,698	29,30

	T.A	**276,789**	**217,333**	**225,865**	**186,248**	**188,323**
Kapchorua Tea Company Limited	N.L	243,165	270,523	239,372	246,913	250,325
	C.L	117,585	128,725	71,318	103,803	70063
	T.L	**360,750**	**399,248**	**310,690**	**350,716**	**320,388**
	N.A	773,597	851,504	804,306	810,063	784,666
	C.A	208,461	258,390	161,095	224,717	208367
	T.A	**982,058**	**1,109,894**	**965,401**	**1,034,780**	**993,033**
Limuru Tea	N.L	11,399	14,426	13,858	15,650	16,302
	C.L	10,259	5,494	5,238	4,863	6,451
	T.L	**21,658**	**19,920**	**19,096**	**20,513**	**22,753**
	N.A	17,243	26,684	27,777	26,235	28,419
	C.A	40,532	30,737	33,418	31,056	40,271
	T.A	**57,775**	**57,421**	**61,195**	**57,291**	**68,690**
Williamson Tea Kenya Limited	N.L	780,201	762,730	626,814	685,796	698,590
	C.L	276,030	324,764	209,720	223,816	180,090
	T.L	**1,056,231**	**1,087,494**	**836,534**	**909,612**	**878,680**
	N.A	2,977,624	2,980,715	2,630,847	2,677,570	2,677,867
	C.A	602,701	774,134	523,947	654,384	560,769
	T.A	**3,580,325**	**3,754,849**	**3,154,794**	**3,331,954**	**3,238,636**
Commercial & Service Sector						
Car and General (Kenya) Limited	N.L	208,038	189,960	160,461	119,619	29,436
	C.L	1,413,637	965,848	538,014	438,090	314,401
	T.L	**1,621,675**	**1,155,808**	**698,475**	**557,709**	**343,837**
	N.A	921,188	770,571	699,712	581,515	305,738
	C.A	1,829,332	1,271,836	731,242	579,398	436,032
	T.A	**2,750,520**	**2,042,407**	**1,430,954**	**1,160,913**	**741,770**
CMC Holdings	N.L	240,868	256,508	409,723	369,782	448,299
	C.L	6,947,732	5,006,369	3,861,940	3,645,725	3,120,141
	T.L	**7,188,600**	**5,262,877**	**4,271,663**	**4,015,507**	**3,568,440**
	N.A	1,910,382	1,699,189	1,756,937	1,652,782	1,534,424
	C.A	10,113,112	7,625,532	6,056,751	5,397,943	4,769,417
	T.A	**12,023,494**	**9,324,721**	**7,813,688**	**7,050,725**	**6,303,84**
Standard News	N.L	842,960	709,278	173,964	86,335	133,22
	C.L	845,209	702,317	549,526	532,616	552,89
	T.L	**1,688,169**	**1,411,595**	**723,490**	**618,951**	**686,11**
	N.A	1,532,058	1,273,139	504,392	421,667	434,85
	C.A	1,154,155	930,911	786,968	559,897	540,88
	T.A	**2,686,213**	**2,204,050**	**1,291,360**	**981,564**	**975,74**
Kenya Airways	N.L	36,794,000	41,084,000	36,218,000	18,490,000	13,502,00
	C.L	14,113,000	14,563,000	15,819,000	13,992,000	7,468,00

	T.L	**50,907,000**	**55,647,000**	**52,037,000**	**32,482,000**	**20,970,000**
	N.A	55,347,000	56,984,000	51,441,000	33,260,000	22,908,000
	C.A	21,433,000	20,303,000	17,853,000	11,562,000	6,500,000
	T.A	**76,780,000**	**77,287,000**	**69,294,000**	**44,822,000**	**29,408,000**
NMG	N.L	131,200	267,200	358,900	37,100	10,600
	C.L	2,172,900	1,895,400	1,436,400	1,158,900	1,181,900
	T.L	**2,304,100**	**2,162,600**	**1,795,300**	**1,196,000**	**1,192,500**
	N.A	2,590,900	2,284,200	2,087,200	2,051,000	2,026,400
	C.A	4,027,800	3,614,400	3,204,800	2,375,700	2,022,900
	T.A	**6,618,700**	**5,898,600**	**5,292,000**	**4,426,700**	**4,049,300**
TPS Serena	N.L	1,738,714	1,774,649	2,077,532	1,899,889	328,514
	C.L	1,017,357	1,327,959	657,005	735,586	634,366
	T.L	**2,756,071**	**3,102,608**	**2,734,537**	**2,635,475**	**962,880**
	N.A	5,257,076	5,384,313	5,147,995	4,112,657	1,355,278
	C.A	1,249,920	1,396,706	990534	910,858	699,241
	T.A	**6,506,996**	**6,781,019**	**6,138,529**	**5,023,515**	**2,054,519**
Express Kenya	N.L	378,979	123,617	133,703	41,680	19.030
	C.L	509,539	256,195	384,273	321,502	391,699
	T.L	**888,518**	**379,812**	**517,976**	**363,182**	**410,729**
	N.A	1,136,245	619,521	646,184	423,938	387,532
	C.A	184,379	204,585	249,435	192,253	222,276
	T.A	**1,320,624**	**824,106**	**895,619**	**616,191**	**609,808**
Finance and Investment						
Barclays	**T.A**	**168,510,000**	**157,655,668**	**117,722,000**	**104,226,000**	**106,195,000**
	T.L	148,047,000	140,092,014	102,860,000	91,049,000	93,720,000
NIC Bank	**T.A**	**42,619,119**	**31,281,018**	**26,062,413**	**20,585,232**	**16,643,493**
	T.L	37,053,369	26,543,285	23,026,171	17,863,412	13,999,526
Stan Chart Bank	**T.A**	**99,019,571**	**91,121,942**	**81,014,123**	**72,841,617**	**67,113,927**
	T.L	87,520,764	80,205,934	70,884,266	63,252,368	61,050,733
K.C.B	**T.A**	**191,211,586**	**120,479,553**	**92,526,571**	**78,315,052**	**69,600,167**
	T.L	170,124,634	107,274,893	80,906,265	68,233,061	61,020,008
H.F.C.K.	**T.A**	**14,294,368**	**10,369,255**	**9,133,831**	**9,861,078**	**9,460,632**
	T.L	10,641,952	8,922,984	7,761,068	8,589,364	8,340,706
CFC Bank	**T.A**	**111,128,799**	**43,262,781**	**40,368,662**	**33,112,194**	**29,815,563**
	T.L	91,880,826	37,249,812	34,758,345	29,135,736	24,004,079
Diamond Trust	**T.A**	**56,145,697**	**35,997,571**	**21,737,391**	**16,384,422**	**11,167,723**
	T.L	49,125,280	30,518,866	18,869,301	14,732,188	9,730,651
Jubilee	**T.A**	**20,202,824**	**17,942,462**	**15,356,375**	**11,590,704**	**9,723,842**
	T.L	16,998,236	14,079,690	11,740,111	8,962,076	7,384,270
Pan African ins	**T.A**	**6,094,129**	**5,901,463**	**4,752,584**	**3,696,063**	**3,353,620**
	T.L	4,908,183	4,463,278	3,425,267	2,764,724	2,554,476
I.C.D.C	N.L	0	0	48,604	3,752,210	2,996,538

	C.L	67,721	73,226	192,182	158,798	197,142
	T.L	**67,721**	**73,226**	**240,786**	**3,911,008**	**3,193,680**
	N.A	7,836,658	8,062,468	6,072,771	3,936,899	3,139,922
	C.A	309,192	359,188	356,513	156,307	114,254
	T.A	**8,145,850**	**8,421,656**	**6,429,284**	**4,093,206**	**3,254,176**
N.B.K	**T.A**	**42,695,700**	**41,414,272**	**36,122,843**	**32,583,569**	**30,593,625**
	T.L	36,487,855	36,447,037	32,275,004	29,360,226	27,968,826
Industrial & Allied						
E.A Cables	N.L	488,078	671,922	333,311	44,592	20,612
	C.L	1,188,676	1,435,432	769,336	418,492	154,562
	T.L	**1,676,754**	**2,107,354**	**1,102,647**	**463,084**	**175,174**
	N.A	1,070,195	981,352	661,926	306,715	81,633
	C.A	1,973,398	2,228,347	1,245,731	745,455	410,583
	T.A	**3,043,593**	**3,209,699**	**1,907,657**	**1,052,170**	**492,216**
Unga	N.L	259,438	50,571	89,098	91,987	137,921
	C.L	1,538,044	1,347,809	1,304,461	1,654,379	2,117,032
	T.L	**1,797,482**	**1,398,380**	**1,393,559**	**1,746,366**	**2,254,953**
	N.A	1,823,246	1,607,109	1,750,476	1,949,388	2,131,733
	C.A	2,938,282	2,110,260	1,839,693	1,923,331	2,121,935
	T.A	**4,761,528**	**3,717,369**	**3,590,169**	**3,872,719**	**4,253,668**
Total Kenya	N.L	0	0	0	0	0
	C.L	9,508,962	7,761,162	10,688,392	6,156,647	6,026,038
	T.L	**9,508,962**	**7,761,162**	**10,688,392**	**6,156,647**	**6,026,038**
	N.A	2,763,203	2,737,629	2,829,117	2,774,021	2,330,024
	C.A	11,763,581	9,775,124	12,524,339	7,999,275	8,218,765
	T.A	**14,526,784**	**12,512,753**	**15,353,456**	**10,773,296**	**10,548,789**
Crown Berger	N.L	96,002	102,678	116,478	71,939	53,472
	C.L	1,030,327	609,363	647,310	540,213	434384
	T.L	**1,126,329**	**712,041**	**763,788**	**612,152**	**487,856**
	N.A	571,798	554,034	500,576	393,340	355048
	C.A	1,376,483	971,876	1,034,165	865,481	745059
	T.A	**1,948,281**	**1,525,910**	**1,534,741**	**1,258,821**	**1,100,107**
B.A.T	N.L	1,013,524	1,032,190	760,959	661,449	607,488
	C.L	4,400,433	3,544,446	2820597	1,691,929	1,753,374
	T.L	**5,413,957**	**4,576,636**	**3,581,556**	**2,353,378**	**2,360,862**
	N.A	5,684,334	5,276,633	4210277	3,698,596	3,520,820
	C.A	4,623,268	3,993,253	3565764	2,547,845	2,601,067
	T.A	**10,307,602**	**9,269,886**	**7,776,041**	**6,246,441**	**6,121,887**
E.A.B.L.	N.L	2,269,487	2,051,597	1,905,700	1,690,612	1,606,002
	C.L	8,867,918	8,203,822	4,290,427	4,042,591	3,905,915
	T.L	**11,137,405**	**10,255,419**	**6,196,127**	**5,733,203**	**5,511,917**
	N.A	15,719,734	13,002,948	10,908,686	10,039,511	9,773,831
	C.A	17,534,514	18,103,247	13,873,011	12,698,983	10,996,706

	T.A	**33,254,248**	**31,106,195**	**24,781,697**	**22,738,494**	**20,770,537**
Bamburi	N.L	6,170,000	2,422,000	2,319,000	2,230,000	2,348,000
	C.L	5,443,000	3,223,000	2,458,000	1,821,000	1,978,000
	T.L	**11,613,000**	**5,645,000**	**4,777,000**	**4,051,000**	**4,326,000**
	N.A	18,179,000	13,632,000	12,894,000	11,532,000	11,235,000
	C.A	10,036,000	7,088,000	5,619,000	3,800,000	3,576,000
	T.A	**28,215,000**	**20,720,000**	**18,513,000**	**15,332,000**	**14,811,000**
Kenya Oil	N.L	490.983	584,305	399,572	271,314	288,785
	C.L	16,301,749	7,700,702	8,278,132	4,085,990	2553086
	T.L	**16,792,732**	**8,285,007**	**8,677,704**	**4,357,304**	**2,841,871**
	N.A	6,597,205	3,285,946	2,991,682	2,428,626	2,375,746
	C.A	21,111,387	9,983,495	10,358,925	5,944,522	3,859,060
	T.A	**27,708,592**	**13,269,441**	**13,350,607**	**8,373,148**	**6,234,806**
Athi River -Min	N.L	2,382,004	1,666,345	1,798,138	1,508,230	332.147
	C.L	1,842,931	1,066,348	1,081,698	520,465	654,617
	T.L	**4,224,935**	**2,732,693**	**2,879,836**	**2,028,695**	**986,764**
	N.A	4,467,467	3,321,696	3,197,514	2,181,627	1,342,629
	C.A	1,885,011	1,182,981	1,056,814	1,057,037	683,362
	T.A	**6,352,478**	**4,504,677**	**4,254,328**	**3,238,664**	**2,025,991**
B.O.C.	N.L	603,119	62,531	69,191	57,480	46,116
	C.L	0	396,672	364,315	289,026	266,811
	T.L	**603,119**	**459,203**	**433,506**	**346,506**	**312,927**
	N.A	919,958	832,809	800,015	745,540	672,264
	C.A	1,137,269	1,026,526	905,337	867,627	794,026
	T.A	**2,057,227**	**1,859,335**	**1,705,352**	**1,613,167**	**1,466,290**
Mumias Sugar	N.L	1,712,983	1,965,833	2,155,414	1,808,854	1,921,217
	C.L	3,398,096	1,613,376	2,007,043	1,608,685	1,824,015
	T.L	**5,111,079**	**3,579,209**	**4,162,457**	**3,417,539**	**3,745,232**
	N.A	9,571,230	8213280	7,426,083	5,851,910	5,547,628
	C.A	4,581,346	3,703,589	4,445,423	3,645,664	3,599,709
	T.A	**14,152,576**	**11,916,869**	**11,871,506**	**9,497,574**	**9,147,337**
Kenya Power	N.L	17,412,457	7,226,460	6,043,551	6,355,677	6,259,702
	C.L	18,517,743	17,846,004	12,124,956	10,583,627	8,544,160
	T.L	**35,930,200**	**25,072,464**	**18,168,507**	**16,939,304**	**14,803,862**
	N.A	39,057,243	28,283,300	22,787,238	22,284,793	22,611,570
	C.A	20,754,879	19,038,564	15,941,674	13,552,690	9,683,511
	T.A	**59,812,122**	**47,321,864**	**38,728,912**	**35,837,483**	**32,295,081**
E.A Portland	N.L	3,870,221	3,896,220	4,577,333	4,570,362	4,589,480
	C.L	1,176,375	1,435,255	1,397,941	894,683	1078354
	T.L	**5,046,596**	**5,331,475**	**5,975,274**	**5,465,045**	**5,667,834**
	N.A	6,411,608	5,768,197	5,570,488	4,768,043	5,050,681
	C.A	2,661,737	3,170,375	3,481,719	2,949,837	2,419,616
	T.A	**9,073,345**	**8,938,572**	**9,052,207**	**7,717,880**	**7,470,297**

Sameer Africa Limited	N.L	128,528	151,947	201,829	146,024	113,583
	C.L	812,054	1,048,104	1,257,251	1,030,036	860,571
	T.L	**940,582**	**1,200,051**	**1,459,080**	**1,176,060**	**974,154**
	N.A	1,009,208	936,354	985,687	971,269	1,011,175
	C.A	2,066,940	2,225,529	2,324,379	2,233,261	1,975,269
	T.A	**3,076,148**	**3,161,883**	**3,310,066**	**3,204,530**	**2,986,444**