

**THE EFFECT OF INDUSTRY LEVERAGE ON FIRM PERFORMANCE:
A CASE STUDY OF FIRMS QUOTED AT NSE**

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**A RESEARCH PROJECT, SUBMITTED IN PARTIAL FULFILLMENT OF THE
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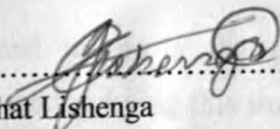
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DECLARATION

This research proposal is my original work and has not been presented for a degree at any other University

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This research proposal has been submitted for examination with my approval as University supervisor.

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TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS.....	iv
ABSTRACT.....	vi
LIST OF TABLES	Error! Bookmark not defined.
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background	1
1.2 Statement of the Problem.....	7
1.3 objective of the Study	9
1.4 Importance of the Study	9
CHAPTER TWO: LITERATURE REVIEW	11
2.1 Capital structure theories	11
2.1.1 Optimal capital structure theories	11
2.1.2 Theories based on information asymmetry	15
2.1.3 Theories based on agency conflicts	16
2.1.4 Marketing Timing Theory.....	18
2.2 Determinants of Leverage	19
2.2.1 Size.....	20
2.2.2 Profitability	20
2.2.3 Risk	21
2.2.4 Growth	21
2.2.5 Types of assets	22
2.2.6 Non-debt tax shield.....	22
2.3 Prior Empirical Research	22
2.4 Measures of capital structure/financial leverage.....	25
2.5 Measures of performance.....	26
2.5.1 Price Earnings ratio.....	27
2.5.2 Market value-to-book value (MV/BV) ratio.....	27
CHAPTER THREE: RESEARCH METHODOLOGY	28

3.1 Research Design.....	28
3.2 Population	28
3.3 Sample.....	28
3.4 Period of Study.....	28
3.5 Data collection	28
3.6 Data Variables.....	29
3.6.1 Capital structure	29
3.6.2 Performance	29
3.6.3 Industry classification	29
3.6.4 Conformists.....	29
3.6.5 Non-conformist/ Deviants.....	30
3.7 Data Analysis.	30
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS	32
4.1 Introduction.....	32
4.2 Summary Statistics of data.....	32
4.3 Rank of leverage	34
4.4 Regression Test.....	36
4.5 Analysis of Variance (ANOVA).....	36
4.6 Regression Coefficients	37
4.7 Comparisons between Conformists and Non Conformists	38
4.8 Comparisons between Companies in the Different Industries.....	38
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND	
RECOMMENDATIONS.....	40
5.1 Introduction.....	40
5.2 Summary of Findings.....	40
5.3 Conclusion	41
5.4 Limitations of the Study.....	42
5.5 Recommendation for Further Study.....	42
REFERENCES.....	44
APPENDIX I: INDUSTRY CLASSIFICATION.....	50
APPENDIX II: FINANCIAL INFORMATION.....	52

ABSTRACT

Efficient financial management requires the existence of some objective or goal because judgment as to whether or not a financial decision is efficient must be made in light of some standard. Various objectives are possible of which the primary goal of the firm is to maximize the wealth of the firm's present owners. This study sought to find out the effect of industry leverage on firm's performance.

The objective of this study is to evaluate the relationship between Industry Capital Structure norms and the performance of companies in the Industry. Secondary data was collected from the NSE. All sectors of the NSE are involved in the study with exception of the financial and investment sector whose leverage is subject to regulation. The sample period was five years between 2002 and 2006.

The findings of the study were commercial and services sector had the highest figures for leverage ratio, market value to book value and price earning ratio. Among the companies involved in the study, Total Kenya and City Trust did not finance its operations with debt. Those with highest leverage ratios comprised of; Express Kenya Limited, Kakuzi limited, Kenya Power and Lighting Company Limited, Kenya Airways limited and East African Portland Cement. Firms adopting Industry leverage had low leverage ratio, similar to that of the industry, higher MV/BV and a higher PER as compared to the rest of the firms. This leads to the rejection of the null hypothesis that conformist firms do not record higher performance than non-conformist firms and acceptance of the alternative hypothesis.

Further, in carrying out regressions tests and Analysis of Variance tests (ANOVA) it was found out that there was a significant difference in leverage for different Industries. Commercial and services sector had the highest financial leverage followed by Industrial and Allied sector and finally Agricultural sector. This is a manifestation of capital structure theories that different firms have different optimal capital structures depending upon firm characteristics.

Table 2: Standard Deviation	33
Table 3: Rank of leverage	34
Table 4: Regression Test Summary	36
Table 5: Analysis of Variance (ANOVA)	36
Table 6: Regression Coefficients	37
Table 7 Non Conformists	38
Table 8: Conformists	38
Table 9: Agricultural sector	39
Table 10: Commercial and Services Sector	39
Table 11: Industrial and Allied Sector	39

CHAPTER ONE: INTRODUCTION

1.1 Background

Efficient financial management requires the existence of some objective or goal because judgment as to whether or not a financial decision is efficient must be made in light of some standard. Various objectives are possible of which the primary goal of the firm is to maximize the wealth of the firm's present owners (Pandey, 1999).

Shares of common stock give evidence of ownership in a corporation, shareholders wealth is represented by the market price per share at the firm's common stock, which in turn is a reflection of the firm's investment, financing and dividend decisions. The idea is that the success of a business decision should be judged by the effect that it ultimately has on share prices.

Investment decision or capital budgeting involves the decision of allocation of capital or commitment of funds to long-term assets that would yield benefits in future. Because of the uncertain future, investment decisions are evaluated in terms of both expected returns and risk. Dividend decisions determine whether the firm should distribute all profits, or retain them, or distribute a portion and retain the balance. The dividend policy should be determined in terms of its impact on the shareholder's value.

The last decision and which I will focus my research on, is the capital structure decisions. A firm's capital structure refers to the relationship between debt and equity finance in its long-term funding arrangement (Mcmenamin, 1999). Horne (2007) defined capital structure as the proportions of debt instruments and preferred and common stock on its Balance Sheet. The manager must ensure that the mix between the debt and equity finance is appropriate for the firm.

Capital structure is a very controversial area of corporate financial management. The debate revolves around two issues. The first one is whether the firm's capital structure

has any effect on its market value. Second, whether there exists an optimal capital structure which will minimize a firm's cost of capital and maximize its market value.

Early studies conducted by researchers like Durand (1959), Modigliani and Miller (1958) indicated that the value of firms is not affected by the capital structure. However later on, after relaxing some assumptions, the same researchers concluded that leverage influenced the value of the firm.

According to the Net Operating Income approach (NOI) advanced by Durand in the early 1950's, a constant Weighted Average Cost of Capital (WACC) results in a constant value for the firm regardless of its use of debt. A constant WACC, along with a constant cost of debt, implies that cost of equity increases with leverage. Stockholders therefore regard the use of leverage as increasing the riskiness of the equity cash flows.

Ross and Westerfield (2002) argue that a firm cannot change the total value of its outstanding securities by changing the proportions of its capital structure. The value of the firm is always the same under different capital structures.

Arbitrage precludes perfect substitutes from selling at different prices in the same market. In this case the perfect substitutes are two or more firms in the same homogeneous risk class and that differ only with respect to capital structure. In this respect, Modigliani and Miller (1958) (MM) contend that the value of these firms has to be the same; otherwise arbitrageurs will enter and drive the values of the two firms together. The essence of their argument is that arbitrageurs are able to substitute personal leverage for corporate leverage.

A firm cannot change its value, or its weighted average cost of capital by leverage. The financing decision does not matter from the standpoint of our objective of maximizing market price per share. One capital structure is as good as the next (MM). Therefore, the value of the firm is affected by other variables rather than capital structure.

Others have suggested alternative theories of capital structure. Timmons (1994) observes that capital requirements are different at different stages of firm growth. Small young firms may be able to draw capital from internal sources such as earnings and informal sources such as family and friends. As the successful firm grows, however, more capital is required to finance growth, and the firm typically needs at some point to turn to external sources such as banks and the public debt and equity markets.

In summary, most theories on capital structure support that the value of a firm depends upon its expected earning streams and the required rate of return. Thus, the capital structure decision can affect the value of the firm either by changing the expected earnings or the cost of capital or both. Leverage cannot change the total expected earnings of the firm, but it can affect residue earnings of the shareholders.

This takes us to the second issue of whether there exists an optimum capital structure which maximizes the firms' market value. Optimal capital structure theory attributed to Modigliani-Miller-paradigm suggests there exists an optimal leverage at which the firms obtains a maximum value by minimizing its weighted average costs of capital, given the market imperfections, among others, of tax-deductibility of interest costs from pre-tax income of firms. This model is derived from the classic irrelevance capital structure theorem as amended when tax deductibility of interest is brought in to the valuation model. Considerable debate on this idea has taken place. The proposition asserts that the value of a firm with tax-deductibility interest is equal to the value of an all-equity firm as enhanced by the tax savings. That is, $V_L = V_U + TD$; where V is firms value, V_L represents a levered firm, V_U represents an unlevered, D is the debt level and T is the corporate tax rate.

By further modifying Modigliani and Millers assumptions, several finance researchers have discovered that financial distress and bankruptcy costs may also provide an economic rationale for the existence of an optimal capital structure: Koblitz and Myers(1958), Baxter (1966), Bierman and Thomas(1967), Kraus and Litzenberger(1972) and Scott(1973). Scott indicates that "the optimal level of debt is an increasing function

of the liquidation value of the firm's assets, the corporate tax rate, and the size of the firm" (p.50). He concludes that a unique optimal leverage exists.

$$V_L = V_U + PV(\text{Tax Shields}) - PV(\text{Bankruptcy Costs})$$

Where

V_L : value of firm with debt

V_U : Value of an all-equity firm stripped off the impact of debt,

PV: Present value of tax shield and bankruptcy costs valued at the cost of debt

With the introduction of bankruptcy cost, the equation predicts that the firm's value is maximized when a firm maintains a debt level at the optimal capital structure and when debt levels move the capital structure beyond the optimal level, firm value will decrease. Jensen and Meckling (1976) introduce agency costs as another explanation for optimal capital structure. Based on their theory, the firm is viewed as a contractual relationship between managers and capital providers namely the shareholders and debt holders. If parties to the relationship are utility maximisers, the management may not act in the best interest of the principal, given the widespread separation of ownership and control of firms listed and traded in the stock exchanges. Agency costs reflect a degree of a conflict of interests between the parties. Agency costs of equity decrease with an increase in debt usage. As a firm takes on more and more debt, the agency costs of debt rise at an increasing rate. Hence, the optimal value may be determined at the point where the total agency cost is lowest, given bankruptcy costs and value of tax shields from interest deductibility. However, in practice, it is difficult or impossible to estimate the agency costs (Arsiraphongphisit and Ariff, 2005).

Despite a sound theory and extensive research on optimal capital structure, the literature does not specify the optimal capital structure for a firm, and hence there exists a need to specify the optimal point for market practices. Most optimal capital structure studies attempt to verify the existence of optimal capital structure. These studies largely revolve around identifying variables driving the trade-off between debt and equity or demonstrating the use of financial leverage in different industries. Empirical research suggests that the managers act as if they pursue target capital structure (Jensen and

Meckling, 1976; Taggart, 1977; Marsh, 1982; Graham and Harvey, 2001). Also a number of studies report evidence that firms appear to set target leverage and either gradually or rapidly moved towards it (Campbell, 1988; Marsh, 1982; Kayhan and Titman, 2004).

The use of target leverage was examined by various researchers and evidence revealed that leverage ratios are different across industries (Scott and Martin, 1972; Omoudi, 1996; Titman and Wessels, 1984) and that firms rely on industry leverage in designing their capital structure policies (Bradley *et al.*, 1984; Kiogora, 2000 ;Home, 2007). Given this evidence, it can be implied that firms regard industry ratio as desirable financial leverage, assuming the acceptance and existence of optimal capital structure.

According to the study done by Kiogora (2000), the average level of equity for all companies quoted at the NSE was 53.7% with a standard deviation of 25.4. The agricultural sector had the highest level of equity of 77% with a standard deviation of 11.42, followed by the insurance sector with 71% and standard deviation of 3.24. Industrial sector had equity level of 51% and a standard deviation of 15.92 while financial sector had equity of 26% and standard deviation of 29.19.

The study also showed that companies differ in their capital structure on the basis of the sectors to which they are grouped and that decision makers do adjust the composition of their sources of finance to the business risk to which they are exposed. She further noted that companies within a sector cluster around some target Equity/Total asset ratio.

On stability of capital structure, Kiogora (2000) found that agricultural sector have a consistent level of equity from year to year. Companies within the commercial sector have varying equity levels from year to year. The industrial sector has a wide variation in equity patterns from year to year.

Having this in mind, this study aims at establishing whether firms which adopt an industry debt to capital ratio benchmark have higher performance as compared to firms "away from" the benchmark. The study will involve analyzing performance of firms

quoted at the NSE for a period of 6 years (2002-2006). Market ratios, which relate a firm's market value, as measured by its current share price to certain accounting values will be used. These ratios give insight into how well investors in the market place feel the firm are doing in terms of risk and return. They tend to reflect, on a relative basis, the common stockholders assessment of all aspects of the firm past and expected future financial performance (Gitman, 2007). Though firm's Value is in itself a measure of firm's performance in stockholders perspective, the term performance in this study shall incorporate Earning aspect in form of price earning (P/E) ratio to enable competent comparisons. Performance of firms which conforms to industry $D / (D+E)$ benchmark (Industry average) will be compared with performance of the non-conformists.

1.2 Statement of the Problem

Several studies on capital structure in Kenya have been done in the past. Kioko (2005) noted major determinants of capital structure choice as identified by Titman and Wessels (1988) being asset structure, non-debt tax shields, growth, uniqueness, industry classification, size, earnings volatility and profitability. However, when he studied capital structure choice of Industrial firms in Kenya, Kioko (2005) identified several financial planning principles that govern the financial decisions of the firm. This include ensuring long-term survivability, maintaining financial flexibility, maintaining security prices, maintaining a high debt rating and maintaining comparability with other firms in the industry.

Kamere (1987) singled out asset structure, growth, size and profitability as being the major factor influencing choice of capital structure of public companies in Kenya. He agreed that firms adjust towards some target debt equity ratios but noted that it's not known whether firms in Kenya have such target capital structure. Omondi (1996) found that the capital structures of firms on the sectoral basis are quite different. He concluded that industrial class does play a role in capital structure. He was empirically testing the findings of Kamere (1987). The population of his study consisted of all companies listed in the NSE over the period between January 1987 to December, 1994. To capture most

current information and thus come up with more valid results, population of this study is based on companies listed in NSE over five year period between 2002-2006.

In testing for variations in the capital structure of companies quoted at the NSE, Kiogora (2000) found evidence to indicate that companies within a sector have similar capital structure. Her results indicate there are differences in the capital structure among industry groupings and that firms within a given sector tend to cluster towards some target equity/total asset ratio. This supports the existence of optimal capital structures as promulgated by the traditionalists. She however quickly notes that the above observation is because managers have not set method of financing their activities, and the safest thing they may do, would be to adapt to the financing methods adopted by the industry as a whole.

On the other hand, based on a view that, if capital rationing is a hard constraint faced by management of firms, it is arguably correct to assume that investors are likely to be influenced by how they re-evaluate a firm's capital structure relative to the industry average capital structure at the time management discloses financial decisions/information (Arsiraphonghisit and Ariff, 2005). If industry average is used as a benchmark for a market decision on optimality, it is feasible to employ a firm's capital structure relative to the capital structure of its industry to observe whether the market is indeed valuing the firm in the manner suggested by the modern optimal models. The modern optimal models suggest that there is an optimal debt-equity mix that is determined by the trade-off between the benefits and costs of using debt. Theoretically such leverage is viewed as a strategy for counterbalancing tax advantages and bankruptcy and agency costs as demonstrated in the following equation.

$$V_L = V_U + PV(\text{Tax shield}) - PV(\text{Bankruptcy costs}) - PV(\text{Agency costs})$$

Where

V_L ; Value of firm with debt

V_U ; Value of an all-equity firm

PV; Present value

Once a firm reaches a leverage position where the costs of using debt offset its tax shield advantages, it appears to achieve the optimal capital structure with maximum firm value. Beyond or below this point, taking more or less debt respectively decreases the value of the firm.

Previous studies on capital structure of firms listed in Nairobi Stock Exchange have concentrated on determinants of the capital structure. Despite the fact that industrial norms is featured in these and other empirical studies as a prominent determinant of capital structure, no study has been done to establish whether firms that adopt such norms are rewarded by the investors in terms of higher market values or whether indeed they portray a higher financial performance than their counterparts. This Study aims to find out whether the market, values more those firms in NSE which adopt industry benchmark capital structure (conformists) as opposed to those which are far away from the industry average capital structure (Deviants). The performance of the two sets of firms will also be evaluated.

1.3 objective of the Study

In this regard, the objective of the study is:-

- 1) To evaluate the relationship between Industry Capital Structure norms and performance of companies in the Industry.

The following hypothesis was also tested:

H_0 : Conformist firms do not record higher performance than non-conformists firms

H_A : Conformists firms' record higher value and performance than non-conformists firms.

1.4 Importance of the Study

The findings and deductions of this study will be of interest to:

- The management of publicly quoted companies in determining the effect of capital structure on the value and performance of the firm.
- Useful to scholars who intend to analyze the content of information contained in financial reports and possible effect on the investor's psychology.

- Investors will be able to make informed decisions on whether to await trading results before offloading and/or repurchasing stock in the stock Exchange.
- Financial consultants will be able to offer proper advice to clients on the possible effects of change in capital structure of a firm.
- Scholars who may wish to use the findings of this study as a basis for further research on this subject.

CHAPTER TWO: LITERATURE REVIEW

2.1 Capital structure theories

Many theories have been advanced on what affects the value of the firm. These theories can be divided into four broad groups namely, Optimal capital structure theories, Theories based on information asymmetry, Theories based on agency conflicts and Market timing theory.

2.1.1 Optimal capital structure theories

These theories try to establish whether there is a level at which the mix between debt and equity gives the maximum value of a firm. David Durand came up with two extreme views on the existence of an optimum capital structure.

The Net Income (NI) Approach proposes that the firm is able to increase its total valuation and lower its cost of capital, as it increases the degree of leverage. According to this approach, a firm can lower its cost of capital continually and increase its total valuation by the use of debt funds.

The net Income approach is based on assumptions that the use of debt does not change the risk perception of investors and this results in the equity-capitalization rate and debt capitalization rate remaining constant with changes in leverage, the debt-capitalization rate is less than the equity-capitalization rate and the corporate income tax does not exist among other assumptions.

One limitation of the Net Income approach is that the value of the firm is based on the Net income rather than the cashflow. Net income is thus subject to accounting method used. When a Company uses the accrual method of accounting to recognize costs and income, there arises a difference between the Net Income and the cash flow. The accrual method assigns costs and revenue to the Accounting period in which a transaction takes place rather than the period when cash is paid or received. Consequently, net income does

not equal net cash flow when there are credit sales or purchases or when expenses that did not use cash are collected in the period.

On the other extreme, Net Operating Income (NOI) approach assumes investors have an entirely different reaction to corporate debt. It assumes that investors value Net Operating Income at constant rate of Weighted Average Cost of Capital. A constant Weighted Average Cost of Capital results in a constant value of the firm regardless of its use of debt and a constant WACC along with a constant cost of debt implies that cost of equity increases with leverage, and hence that stockholders regard the use of leverage as increasing the riskness of the equity cashflows. If the Net Operating Income assumptions are true, then the capital structure decisions are unimportant (Horne, 2007).

The market value of the firm is found out by capitalizing the net operating income at the overall, or the weighted average cost of capital, which is a constant. Net Operating Income approaches rely on some critical assumptions. First, the market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important. Second, the market uses an overall capitalization rate, to capitalize the net operating income. Cost of capital depends on the business risk. If the business is assumed to remain unchanged, cost of capital is a constant.

The use of less costly debt funds increases the risk of shareholders. This causes the equity capitalization rate to increase. Thus, the advantage of debt is offset exactly by the increase in the equity capitalization rate. Third, they also assumed away corporate tax. However, in a world with corporate taxes, both the Net Income and the Net Operating Income approaches would indicate that the optimal capital structure calls for virtually a hundred per cent debt (Gapenski & Eugene 1988). The Modigliani and Miller (1958) hypothesis is identical with net operating income approach. They argue that, in the absence of taxes, a firm's market value and the cost of capital remain invariant to the capital structure changes. They support the NOI approach by providing logically consistent behavioral justifications in its favor in their 1958 article. They deny the existence of an optimal capital structure.

They make the following assumptions:

Firm's business risk can be measured by the standard deviation of Earning before Interest and Tax (EBIT) and firms with the same degree of business risk are said to be in a homogeneous risk class. Again, all present and prospective investors have identical estimates of each firm's future EBIT, that is, investors have homogeneous expectations about expected future corporate earnings and the risk ness of these earnings. Stocks and bonds are traded in perfect capital markets. This implies among other things that there are no brokerage costs and the investors, both individuals and institutions, can borrow at the same rate as corporations. The debt of firms and individuals is risk less, so the interest rate on debt is the risk-free rate. Further, this situation holds regardless of how much debt a firm (or an individual) issues. Finally all cashflows are perpetuities, that is, the firm is a zero-growth firm with an 'expectationally constant' EBIT and its bonds are perpetuities. 'Expectationally constant' means that the best guess as to the EBIT for any future year is the same as for any other year, but investors know that the realized level could be different from the expected level in any year.

The value of a firm is established by capitalizing its expected net operating income (NOI=EBIT) at a constant rate, which is appropriate for the firms risk class. Since value of the firm as established by the proposition is a constant, then under MM theory the value of the firm is independent of its leverage. This also implies that the WACC to any firm, leveraged or not, is completely independent of its capital structure and is also equal to the cost of equity to an unlevered firm in the same risk class.

Their justification was based on arbitrage process. MM Argued that two firms identical in all aspects except for their capital structures, cannot command different market values nor have different cost of capital. Their opinion is that if these two firms have different market values, arbitrage will take place to enable investors to engage in personal or homemade leverage as against the corporate leverage to restore equilibrium in the market. They showed that a company's capital structure is irrelevant in a perfect financial

market because investors can accept the company's decisions or reverse its effects on their portfolio by borrowing or lending their own money without incurring any costs.

In what they called "neutral mutation", they suggested that firms fall in to some financing patterns or habits which have no material effect on firm value. The habits may make managers feel better and since they do no harm, no one cares to stop or change them. Thus someone who identifies these habits and uses them to predict financing behavior would not be explaining anything important.

MM position changes when corporate taxes are introduced. The interest tax shield resulting from the use of debt adds to the value of the firm. This advantage reduces when personal income taxes are considered. In their article in 1963, MM show 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 levered firm will be higher than of the unlevered firm.

The need to modify MM and Net income theory assumptions to take account of the structural features of the real world forms the basis of the traditional view of corporate finance. According to traditional approach to valuation and leverage, debt can affect the value of the firm. It assumes that there is an optimal capital structure and the firm can increase its total valuation through a judicious use of debt. According to this approach the cost of capital declines and the value of the firm increases with leverage to a prudent debt level. After reaching the optimum point the cost of capital increases and the value of the firm declines. It asserts that as long as the level of borrowing in a firm does not go beyond a certain level, the value of the firm will continue to grow with the increased use of debt. The cost of capital declines with leverage because debt capital is cheaper than equity capital within a reasonable or acceptable limit of debt (Solomon 1963).

In the same thread, Solomon (1963) argues that a firm with certain structure of assets and that offers net operating earnings of given size and quality, and given a certain structure of rates in the capital markets, there should be some specific degrees of financial leverage

at which the market value of the firm's security will be higher (or the cost of capital will be lower) than at other degrees of leverage.

Debt was commonly used prior to the existence of the current tax subsidies on interest payments, thus optimal capital structure theories do not capture what must be some important determinants of the corporate financial structure. This leads us other theories.

2.1.2 Theories based on information asymmetry

In these theories, firm managers or insiders are assumed to possess private information about the characteristics of the firm's return stream or investment opportunities. In one set of approaches, choice of the firm's capital structure signals to outside investors the information of insiders. In another, capital structure is designed to mitigate inefficiencies in the firm's investment decisions that are caused by the information asymmetry.

Myers and Majluf (1984) showed that, if investors are less well-informed than the current firm insiders about the value of the firms' assets, then equity may be mispriced by the market. If firms are required to finance new projects by issuing equity, under pricing may be so severe that new investors capture more than the NPV of the new project, resulting in a net loss to existing shareholders. In this case the project will be rejected even if its NPV is positive. This underinvestment can be avoided if the firm can finance the new project using a security that is not so severely undervalued by the market. For example, internal funds and/or riskless debt involve no undervaluation, and therefore, will be preferred to equity by firms in this situation. Even (not too) risky debt will be preferred to equity. Myers (1984) refers to this as a "pecking order" theory of financing.

On the other hand, Information asymmetry and signaling model proposes that a manager may use capital structure changes to convey information about the profitability and risk of the firm. The implication is that insiders (managers) know something about the firm that outsiders (security holders) do not. In Ross (1977) model, managers know the true distribution of firms' returns, but investors do not. Increased leverage is a positive sign. Increased leverage implies a higher probability of bankruptcy. Since managers benefit if

the firm's securities are more highly valued by the market and are penalized contractually if bankruptcy occurred. investors conclude that you have good reason to believe that things are really better than the stock price reflects (Horne & Wachowicz, 1998). Thus, these investors are likely to bid up a firms stock prices after the firm has issued debt.

This implies that firms can fool investors by taking on some additional leverage. However, in a world where managers do not attempt to fool investors, valuable firms issue more debt than less valuable ones. It turns out that even when managers attempt to fool investors, the more valuable firms will still want to issue more debt than the less valuable firms. That is, while all the firms will increase debt levels somewhat to fool investors, the cost of extra debt prevents the less valuable firms from issuing more debt than the valuable firms issue. Thus investors can still view an announcement of debt as a positive sign for the firm (Ross *et al.*, 2008).

2.1.3 Theories based on agency conflicts

Jensen and Meckling (1976), Grossman and Hart (1982), Jensen (1986), Harris and Raviv (1990), Stulz (1990) and Ross *et al.*,(2008) theorize that debt can mitigate the agency problems between stockholders and managers. They all agree that the benefit of debt is that it causes the decisions that managers make to be more aligned with the interests of stockholders.

Jensen and Meckling (1976) argue that an optimal capital structure can be obtained by trading off the agency cost of debt against the benefit of debt. They called their model Trade off theory.

Jensen and Meckling identified two types of conflict. Conflicts between shareholders and managers arise because managers hold less than 100% of their 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. As a result managers overindulge in transferring firm resources to their own personal benefit relative to the level that would maximize firm value. This inefficiency is reduced if the managers own a larger fraction

of the firms' equity. Holding constant the managers absolute investment in the firm, increases in the fraction of the firm financed by debt increase the manager's share of the equity and mitigate the loss from the conflict between the manager and shareholders.

Jensen (1986) also noted that debt commits the firm to pay out cash, and reduces the amount of 'free' cash available to managers to engage in their personal pursuit. Just like a criminal when committing a crime, a manager must have a motive and opportunity to waste firms resources. New equity dilutes the holding of a manager with equity interests, increasing their motive to waste firms' resources. Debt on the other hand, reduces free cash flow, because the firm must make interest and principal payment implying debt reduces the opportunity for managers to waste resources (Ross et al., 2008).

This mitigation of the conflicts between managers and equity holders constitutes the benefits of debt financing. Conflict between debt holders and equity holders arise because the debt contract gives equity holders an incentive to invest sub optimally. Debt contract provides that if an investment yields large returns, above the face value of the debt, equity holders capture most of the gain. If however, the investment fails, because of limited liability, debt holders bear the consequences. As a result, equity holders may benefit from investing in very risky projects even if they are value decreasing.

According to Ross *et al.*, (2008), when a firm has debt, stockholders are tempted to pursue three selfish strategies. They referred the first one as selfish investment strategy. The incentive here is to take large risks. Firms near bankruptcy often take great chances because they belief that they are playing with someone else's money. The second is an incentive towards underinvestment. In this case, firms do not use own funds to improve value of a firm that they belief the debt holder will soon repossess. They referred the third selfish strategy as milking of the property. Stockholders pay out themselves extra dividends or other distributions in times of financial distress, leaving less in the firm for debt holders

If debt holder correctly anticipate equity holders future behavior, they enter protective covenants which include features that attempt to prevent asset substitution such as interest coverage requirements, prohibitions against investment in new, unrelated line of businesses etc. Thus the cost of the incentive to invest in value-decreasing projects created by debt is borne by the equity holders who issue the debt. This is an agency cost of debt financing.

Jensen & Meckling (1976) theory has two implications on this study. First, industries in which the opportunities for asset substitution are more limited will have higher debt levels, *ceteris paribus*. Second, firms that have large cash inflows from operations should have more debt. This supports existence of certain $D/(D+E)$ levels for certain industries.

2.1.4 Marketing Timing Theory

In corporate finance “equity market timing” refers to the practice of issuing shares at high prices and repurchasing at low prices (Baker & Wurgler, 2002). The intention is to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital.

In the efficient and integrated capital markets studied by Modigliani and Miller (1958), the costs of different forms of capital do not vary independently so there is no gain from opportunistically switching between equity and debt. In capital markets that are inefficient or segmented, by contrast, market timing benefits ongoing shareholders at the expense of entering and existing ones. Managers thus have incentives to time the market if they think it is possible and if they care more about ongoing shareholders.

There is evident for market timing in four different kinds of studies. First, analyses of actual financing decision show that firms tend to issue equity instead of debt when market value is high, relative to the book value and past market values and tend to repurchase equity when market value is low. Second, analysis of long run stock returns following corporate finance decisions suggest that equity market timing is successful on average. Firms issue equity when the cost of equity is relatively low and repurchase

equity when the cost is relatively high. Third, analyses of earnings forecasts and realizations around equity issues suggest that firms tend to issue equity times when investors are rather too enthusiastic about earnings prospects. Fourth, manager admits to market timing in anonymous surveys. Graham and Harvey (2001) said that two thirds of CFOs agree that the amount by which their stock is undervalued or overvalued was an important or very important consideration in issuing equity.

Market timing has large, persistent effects on capital structure. Baker and Wurgler (2002) found that low leverage firms are those that raised funds when their market valuations were high, as measured by the market to book ratio, while high leverage firms are those that raised funds when their market valuations were low. In short, capital structure is the cumulative outcome of attempts to time the equity market.

2.2 Determinants of Leverage

Capital structure theories imply that depending upon firm characteristics, the optimal capital structure differs across firms. Kamere (1987) singled out size, profitability, growth, and asset structure as being the major firm characteristics influencing choice of capital structure of public companies in Kenya. Other similar studies in other countries have found risk and non-debt tax shield being key firms' characteristics that determine their optimal capital structure. According to Harris and Raviv (1990), the consensus is that "leverage increases with fixed assets, non-debt tax shields, investment opportunities and firm size and decreases with volatility, advertising expenditure, the probability of bankruptcy, profitability and uniqueness of the product". Titman and Wessels (1988) states the assets structure, on-debt tax shields, growth, uniqueness earning volatility and profitability are factors that may affect leverage according to different theories of capital structure. There exists a disagreement on how these determinants may affect leverage (i.e. whether it is negatively or positively correlated with leverage). All in all this reflects a consensus among researchers of what may constitute a minimum set of attributes but still leaving a room for arguing in favor of including other determinants as well. For example, Castanias (1983) also finds negative correlation between leverage and default probability. These minimum set of firms' characteristics are discussed below

2.2.1 Size

Several papers predict a positive relationship between size and leverage (e.g. Rasan and Zingales (1995), among others. The explanation offered is that information asymmetries are smaller for large companies so that the latter have easier access to the market of debt finance. Hence, at least when compared to internally generated funds, issuance costs of debt financing decrease, so that this mode of financing becomes more attractive. Therefore one could argue that the pecking order theory would predict a positive relationship between size and leverage. However, Titman and Wessels (1988) note that both the cost of issuing debt and equity securities is related to firms size. As issuing equity is relatively much more costly for small firms as compared to the costs for large ones, small firms may be more leverage than large companies. Furthermore to reduce issuance costs even more, small firm may prefer to borrow short term (through bank loans) rather than issue long term debt. Hence, if there are major differences in the way size impacts on the issuance costs of alternative sources of financing, a negative relationship between size and leverage may also materialize within the pecking order logic. From the perspective of the trade-off theory, one would expect that, as large companies tend to be more diversified and less prone to bankruptcy, the latter firms would opt for more debt in their capital structure. As more information is available for large firms, there is also less need for quality signaling through, high debt levels by those firms. Furthermore, in view of the availability of more information, the agency perspective would also predict less need for debt as a disciplining device. Hence signaling and agency perspectives would predict a negative relationship between size and leverage.

2.2.2 Profitability

Another important firm characteristic that may influence capital structure is profitability. The Pecking order theory of Myers and Majiluf (1984) predicts that firms prefer financing through retained earnings, and then move to debt and as a last resort issue new equity. Consequently firms with high past profitability and hence opportunities to retain earnings should have lower debt. By contrast, the trade- off theory would predict a positive effect since profitable firms are less likely to go bankrupt and hence can sustain

more debt, thereby capturing more tax advantages. Also agency based theories like the free cash flow theory of Jensen (1986) predict a positive relationship between profitability and leverage: in profitable firms with excess cash flow a higher debt level is needed to refrain managers from engaging in sub optimal investment projects. Finally as high profitability may serve as an alternative signal of quality, there is less need for profitable firm to take on high leverage to distinguish themselves from lower quality companies. Hence the signaling perspective would predict a negative relationship between leverage and profitability.

Gitman (2007) emphasizes more on stability of revenue. He states that firms having stable and predictable revenues can more safely undertake highly levered capital structures than can firms with volatile patterns of sales revenue.

2.2.3 Risk

The variability of profits- a proxy for company risk- is hypothesized to be negatively related to leverage. Specifically, the trade-off theory implies that the expected cost of financial distress increase with risk, while the chances that the tax shields will be (fully) used decrease. Simultaneously, risk also exacerbates the negative impact of asymmetric information and debtors are likely to protect themselves by strengthening conditions in debt contracts. Consequently as direct and indirect costs of debt increases, the pecking order hypothesis also implies a negative relationship between risk and leverage. By contrast, the agency and signaling perspective would both predict more leverage as risk increases. For as argued above, risk exacerbates the negative impact of asymmetric information, increasing the need for quality and disciplining.

2.2.4 Growth

According to the trade-off theory, growth companies borrow less because of increased expected cost of bankruptcy. Specifically, growth opportunities are intangible; they increase the value of the firm but they cannot be collateralized. Also from the agency perspective growth companies have continuously large cash flow needs and are therefore hampered in their normal investment decisions by the pressure of the additions cash outflows for debt servicing because internal financing is not likely to fill the needs of these firms, the pecking order theory would predict that growth companies are likely to

hold more debt. Finally, as growth may serve as an alternative quality signal, the signaling perspective would hypothesize less need for leverage.

2.2.5 Types of assets

Myers and Majluf (1984) suggest that managers may reduce the cost of debt by issuing secured debt. Therefore they expect firms with assets that can be collateralized to use more leverage. Similarly, the trade off theory also predicts such a positive relationship as firms with a relatively large portion of tangible assets also have a higher liquidation value, which in turn reduces bankruptcy costs. Neither the signaling nor the agency perspective are very helpful in formulating relevant hypothesis concerning the link between tangibility and leverage except perhaps that agency problems might reduce with the increase of tangible assets because there may be less room for abuse by management.

2.2.6 Non-debt tax shield.

Titman and Wessels (1988) indicate that reductions for depreciation and investment tax credits are substitutes for the tax benefits of debt financing. Therefore, it can be assumed that firms with large non-debt tax shield include less debt in their capital structure. By contrast one may argue that firms with substantial non-debt tax shields should have considerable tangible assets. Consequently there is more room for cheap borrowing which may induce firms to use more leverage.

2.3 Prior Empirical Research

Early empirical financial leverage ratio research (e.g., Schwartz and Arosen, 1967; and Scotts, 1972) finds similarities in financial leverage within industries and persistent differences across industries. This suggests that the average DE for an industry serves as a unique norm or target for firms within that industry.

Taggart, 1977; and March, 1982) indicate that managers strive towards target DEs while still attempting to time offerings to coincide with favorable market condition. Earlier ratio research views a target DE as implying some sort of wealth-maximizing DE that is consistent with the existence of an optimal DE.

The ensuing leverage ratio research reinforces the idea that industry DE norms are reasonable approximations of optimal DEs. For example, Bowen, Daley, and Huber (1982) discover that industry average leverage ratios are stable over time and firms gravitate towards such ratios as if these ratios are optimal. They suggest that a firm's industry average book value of debt to market-based equity ratios is a valid proxy for an optimal leverage ratio.

Using the market value of equity in their leverage ratio, Bradley, Jarrell, and Kim (1984) offer additional evidence that leverage ratios within industries are similar, while those across industries are different. Fischer, Heinkel, and Zechner (1989) use debt to market value of equity ratios in their empirical tests when documenting support for optimal models in a dynamic setting. Using debt to market value of equity ratios in their analysis, Billingsley, Smith, and Lamy (1994) show that firms issuing equity and debt simultaneously have more favorable announcement-period stock returns than firms issuing just equity or just debt. They attribute this to the fact that a dual offering of equity and debt makes it easier for firms to achieve average DEs.

In conclusion, the leverage ratio research suggests that the market views a firm industry average book value of debt to market value of equity ratio as a wealth maximizing norm. Consequently, a firm's industry DE norm is usable in Empirical tests as a benchmark to generate performance predictions. Many real-world firms base their capital structure decisions on industry averages. This keeps the firms from deviating far from accepted practice. After all, the existing firms in any industry are the survivors. Therefore we should pay at least some attention to their decisions.

On the other hand a few empirical studies have been performed to analyze the relationship between leverage and firm performance. The major difference between them is found in the definition of firm performance. One series of papers uses basic accounting measures of performance. Majumdar and Chhibber (1999) test the relationship between leverage and corporate performance on a sample of Indian companies. Adopting an accounting measure of profitability, return on net worth, in order to evaluate performance, they observe a significant negative link between leverage and firm

performance. Kinsman and Newman (1999) use various measures of performance on a sample of US firms, based on accounting or ownership information (firm value, cash-flow, liquidity, earnings, institutional ownership and managerial ownership). They perform regressions of leverage on this set of performance measures. Their conclusion is that the existence of robust relationships between leverage and some of the measures of performance such as a negative link with firm value and cash-flow.

In this study, Kinsman and Newman (1999) approach is varied slightly in that firm value is used as a measure of performance in form of Price to book value ratio. In addition, Price to Earning ratio is introduced.

However, criticism of Kinsman and Newman (1999) work is based on the use of contested performance measures, such as liquidity, but also on their joint inclusion in regressions, that mixes their influence. It must be emphasized however, that profitability can not be strictly considered as a performance variable to explain leverage, since profitability is the source of internal financing. As a result, there exists a negative impact of profitability on leverage, as higher profitability means a reduced need for external financing such as financial debt. Here the conclusion is undoubtedly a negative relationship between profitability and leverage [Rajan and Zingales (1995), Johnson (1997), Michaela et al. (1999)]. There is however a second series of works focusing on the relationship between leverage and firm performance that develop more sophisticated measures of performance. Pushner (1995) aims to investigate the relationship between leverage and corporate performance in conjunction with the influence of equity ownership in Japan. Here, corporate performance is measured by total factor productivity: a production frontier is estimated, in which performance is equal to the residual of OLS estimate. He concludes that a negative relationship exists between leverage and firm performance. Two studies test the role of financial pressure on corporate performance, which is a closely related issue. Both analyze data on the United Kingdom and again measure firm performance as total factor productivity. Nickell et al. (1997) observe a positive link between financial pressure and Productivity growth, while Nickell and Nicolitsas (1999) conclude to a weak positive effect of financial pressure on productivity growth. To conclude this brief survey about former empirical literature, it

appears that there is no consensus on the relationship between leverage and firm performance.

2.4 Measures of capital structure/financial leverage

Different measures of capital structure exist. Roughly, two major categories of leverage measures exist: those that are based on market value of equity and those that are based on booked value of equity. It is though rather common that due to data limitations, empirical studies must use only leverage measures in terms of book values rather than market values of equity as is the case in the study by Titman and Wessels (1988).

Rajan and Zingales (1995), argue that the choice of the most relevant measure depends on the objective of the analysis. Though, they conclude that the effects of past financing decisions are probably best represented by the ratio of total debt over capital (defined as total debt plus equity). The table below lists the different measures of leverage and each measures pros and cons, discussed in Rajan and Zingales (1995).

Leverage measures

Pros and Cons

TOTAL LIABILITIES /
TOTAL ASSETS

- +The broadest definition of leverage: proxy for what is left for shareholders in case of liquidation.
- Not a good indication of whether the firm is at risk of default in the near future.
- May overstate leverage sine total liabilities include items like accounts payable, untaxed reserves etc.

TOTAL DEBT/TOTAL ASSETS

- +Does not include liabilities like untaxed reserves or accounts payable.
- Affected by level of trade credit (i.e. unpaid bills, make up bulk of account payable)

TOTAL DEBT/NET ASSETS

- +No influenced by trade credit (Net assets= Total Assets - accounts payable - other liabilities).

TOTAL DEBT/ CAPITAL

- Still affected by factors that have nothing to do with financing, e.g. assets held against pension liabilities
- +Probably the best representation of past financing decisions (capital =debt + equity).

EBIT/ INTEREST EXPENSE

- Measure of the risk that equity holders will not be able to make fixed payments and will have to give up control.
- + Appropriate measure of investments equal in magnitude to depreciation needed to keep the firm a going concern.
- based in assumption that short-term liabilities like accounts payable and short-term debt will be rolled over.

EBITDA/INTEREST EXPENSE

- very sensitive to income fluctuations.
- +measure of the risk that equity holders will not be able to make fixed payments and will have to give up control.
- Very sensitive to income fluctuations.
- Based in assumption that short-term liabilities and short term debt will be rolled over.

In our analysis, Preference capital will not be included in debt but will form part of the net worth. This is because the performance as measured by MV/BV ratio reflects the financial risks the investors have placed on a firm based on its leverage

2.5 Measures of performance.

Market Value ratios relate the firm's stock price to its earnings and book value per share. These ratios give management an indication of what investors think of the Company's past performance and future prospects. If the firm's liquidity, asset management, debt

management, and profitability ratios are good, then its market value ratios will be high, and its stock price will probably be as high as can be expected. Kiilu (2006) used Reilly and Brown (1997) definition of financial performance as the extent to which organization goals and objectives are achieved. In stockholders perspective, performance refers to stock prices performance and is best measured using market value ratios.

2.5.1 Price Earnings ratio

The price earnings ratio is used to value the firm's performance as expected by investors. It indicates investor's judgment or expectations about the firm's performance. P/E reflect investors' expectations about the growth in the firm's earnings.

$$P/E \text{ ratio} = \text{Price per share} / \text{EPS}$$

P/E ratio is higher for firms with high growth prospects.

2.5.2 Market value-to-book value (MV/BV) ratio

MV/BV ratio = Market value per share / Book value per share

Book value is net worth divided by the number of shares outstanding. MV/BV ratio provides an assessment of how investors view the firms' performance. It relates the market value to their book-strict accounting value. This ratio will be used in our analysis since it reflects the investors' judgment about the company's value without reference to earning power.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

This was a basic research aimed at satisfying the researchers' curiosity as to whether performance of non-conformists is lower than that one of conformists. The research is quantitative in nature and relies on secondary data obtained from Nairobi Stock Exchange and firms financial reports.

3.2 Population

The population constituted all firms quoted at the Nairobi Stock Exchange for a period of five years (2002-2006). Those in the finance and investment sector were excluded since their leverage is subject to regulation. There is also difficulty in defining some of their assets and liabilities, e.g. the clients' deposits and statutory deposits to Central Bank.

3.3 Sample

The sample was made of all those firms that have consistently traded in a period of 5 years and whose financial reports are available to the researcher. Of all those companies listed in 2002, 33 qualified and were selected (see Appendix I). 7 were classified in the Agricultural sector, 8 in the commercial and Services sector and 16 in the Industrial and allied sector. This period was considered long enough to provide sufficient variables to assist in ascertaining a norm on capital structure and capture consistent performance.

3.4 Period of Study

The period of the study ran from 2002 to 2006. This period was chosen in order to capture the most recent data and to give results that reflect the current capital structure trend.

3.5 Data collection

For the purpose of this study, data was purely secondary and was collected from financial statements of firms that are quoted at the Nairobi Stock Exchange. These reports/statements were obtained from Nairobi Stock Exchange handbook. Data collected includes debt, equity, price earning ratio, market value and book value.

3.6 Data Variables.

3.6.1 Capital structure

This is represented by the book value of debt to capital ratio ($D/(D+E)$ ratios).

Debt ratio is a direct measure of the degree of indebtedness. The higher the ratio, the higher the firms' financial leverage. An acceptable degree of financial leverage for one industry can be highly risky in another due to differing operating characteristics between the industries (Gitman, 2007). The effects of past financing decisions are probably best represented by the ratio of debt over capital (Rajan and Zingales (1995)).

3.6.2 Performance

Performance is jointly represented by market price per share divided by book value per share or the price to book (MV/BV) ratio and the Price Earning Ratio (PER). As stated earlier, these ratios tend to reflect on a relative basis, the common stockholders and other stakeholders assessment of all aspects of the firm past and expected future financial performance (Gitman,2007).

3.6.3 Industry classification

It is represented by the NSE classification of firms. We defined an industry as a sector in the NSE. Commercial and Services sector represented one industry, Agriculture sector another industry, while Industrial and Allied was the last. Firms in the Alternative Investment Market Segment were placed where they fit best in the above three sectors based on the description of their nature of business. As stated earlier, those in Finance and Investment sector were omitted. This categorization is similar to Omondi (1996) who used NSE segment to represent different industries in his study of capital structure in Kenya. (See appendix on Industry classification)

3.6.4 Conformists

These are firms within a sector whose $D/(D+E)$ ratio lies between the lower quartile and the upper quartile of the total firms in that sector.

3.6.5 Non-conformist/ Deviants

Non-conformists are defined as firms within a sector whose $D/(D+E)$ ratio lies below the first quartile and the third quartile. This is a combination of firms that have extremely low and extremely high leverage ratios

3.7 Data Analysis.

Data analysis involves determining the leverage and the firms' performance of all the firms listed in the NSE except those in the financial and Investment sector. Leverage and firm performance valuables are taken as the average values for the five years (2002-2006). Firms are then ranked based on their leverage. Firms below the first quartile and the third quartile are classified as non-conformists and those lying between the lower and the upper quartile are labeled conformists. For conformists, the relationship between leverage and firm performance is determined and compared with that of the non-conformists using regression and Analysis of Variance (ANOVA) analysis. Leverage for the different Industry classification namely Agriculture sector, commercial and services sector and industrial and allied sector is compared using ANOVA tests.

Method of analysis.

Regression analysis

The $D/D+E$ for each year and each firm in the NSE is determined. MV/BV ratio and P/E ratio for each firm each year will also be computed. For each year, the three variables will be regressed using the equations:-

$$Y = a + bX \text{ and}$$

$$Y^* = c + dX$$

Where

$$Y = \text{MV/BV ratio}$$

$$Y^* = \text{P/E ratio (PER)}$$

$$X = \text{leverage as measured by } D/D+E$$

A, b, c, d are constants

Correlation coefficient will be determined to ascertain the extent at which firm Value and performance is influenced by leverage.

Again for all firms except those in the financial and investment sector, average $D/(D+E)$ for each year will be calculated. Then conformist firms and deviant firms will be identified as per the definition of conformist and non-conformist firms.

A regression between firm performance on one hand and leverage on the other hand will be done for conformist and deviants. The correlation coefficient will be calculated and compared to establish which group between the conformist and non conformist has a higher correlation between performance and leverage.

ANOVA analysis

Then we shall compare the average MV/BV and P/E for conformist with that of non-conformists to determine whether the two sets differ. A standard two-way analysis of variance technique was used. The use of this test was dependent of two prime assumptions: (1) that the populations being sampled are normally distributed, and (2) that they have same variances. (Mason and Lind, 1990). A counterpart nonparametric test was also used to improve the generality of the results derived from the parametric procedure. Similar to what (Scott and Martin, 1975) did, Kruskal-Wallis analysis of variance by ranks were applied.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents analysis and findings of the research. The findings are represented in tables and grouped according to the various industries represented at the Nairobi Stock Exchange. These are the Agriculture sector, Commercial and Services and Industrial and Allied sector.

4.2 Summary Statistics of data

This section illustrates the summary of statistics of the companies involved in the study.

Table 1: Mean

Debt/Debt + Capital	2002	2003	2004	2005	2006	Average
Agriculture industry	0.246	0.254	0.249	0.247	0.243	0.248
Commercial and services	0.226	0.304	0.197	0.268	0.287	0.257
Industry and allied	0.190	0.200	0.152	0.162	0.197	0.181
Market Value to Book Ratio						
Agriculture industry	1.158	0.894	0.969	1.205	1.184	1.082
Commercial and services	0.618	2.406	1.906	1.919	2.316	1.833
Industry and allied	0.516	1.380	1.622	2.106	2.521	1.629
Price Earning Ratio						
Agriculture industry	28.186	23.740	4.740	-9.390	11.540	11.763
Commercial and services	6.661	6.363	19.134	44.963	15.936	18.611
Industry and allied	4.519	11.934	9.291	15.579	0.090	8.283

Table 2: Standard Deviation

Debt/Debt + Capital	2002	2003	2004	2005	2006	Average
Agriculture industry	0.099	0.083	0.072	0.074	0.072	0.080101
Commercial and services	0.199	0.323	0.220	0.202	0.187	0.201823
Industry and allied	0.239	0.248	0.168	0.185	0.185	0.194915
Market Value to Book Ratio						
Agriculture industry	1.955	1.243	1.182	1.395	1.322	1.419487
Commercial and services	0.551	3.184	2.120	1.996	2.188	2.176958
Industry and allied	0.405	1.382	1.321	1.558	2.088	1.350919
Price Earning Ratio						
Agriculture industry	80.896	37.946	15.323	50.197	39.605	44.79351
Commercial and services	11.446	27.360	17.266	93.434	9.405	33.68812
Industry and allied	10.969	16.421	10.659	6.853	78.609	24.70221

Table 1 and 2 provides a summary of descriptive statistics. In terms of leverage we can see that commercial and services sector had the highest mean of 0.257, followed by the agriculture sector at 0.248 and finally Industrial and allied sector (0.181). This translates to mean that commercial and services sector had the highest financial leverage. Commercial and services sector recorded the highest deviation from the mean of 0.201 for leverage. Commercial and services sector recorded the highest level of market to book value ratio of 1.833 followed by Industrial and allied sector (1.629). In the same way Commercial and services sector recorded the highest level of deviation from mean at 2.19. Considering price earning ratio we can see that commercial and services sector took the lead at a mean of 18.611 for the five years under study followed by the agricultural sector at 11.763. On the part of standard deviation we can see that the agricultural sector took the lead at 44.79. Generally it can be seen that commercial and services sector had the highest figures for leverage ratio, market value to book value and price earning ratio. It can also be seen that the standard deviation figures are greater than the means. This can

be explained by the fact that in each industry there are various companies and each with varying degrees of capitalization.

4.3 Rank of leverage

This section sought to rank companies with respect to their leverage ratio. The results are illustrated in the table below:

Table 3: Rank of leverage

Non Conformists	Leverage	MV/BV	PER
Total Kenya Ltd	0	1.82	15.34
City Trust Limited	0	0.78	14.2
Nation Media Group Limited	0.028588	3.73	17.93
BOC Kenya Limited	0.043874	1.79	12.37
Sameer Africa Limited	0.07014	2.09	-45.89
Unga Group Limited	0.078932	0.38	1.34
Kenya Oil Company Limited	0.08414	1.56	8.01
A. Baumann & Company Limited	0.096182	0.18	-2.79
Kapchorua Tea Company Limited	0.270886	0.62	-11.63
TPS (Tourism Promotion Services	0.32868	1.09	72.11
Athi-River Mining Limited	0.363154	1.35	17.5
Standard Group Limited	0.363972	5.64	8.36
Express Kenya Limited	0.371214	0.95	14.65
Kakuzi Limited	0.390065	0.38	3.25
Kenya Power and Lighting Company Limited	0.505017	0.26	5.83
Kenya Airways Limited	0.592677	0.37	5.58
East African Portland Cement Company	0.674022	0.86	10.97
Mean	0.250679	1.402941	8.654706
Conformists	Leverage	MV/BV	PER
East African Breweries Limited	0.100965	3.03	14.12
Crown-Berger Kenya Limited	0.10209	0.95	13.82

Car and General (Kenya) Limited	0.111036	1.49	14.95
CMC Holdings Limited	0.120485	0.75	8.46
Sasini Tea and Coffee Limited	0.123574	0.29	-15.09
East African Cables Limited	0.12796	3.54	10.74
Marshalls (East Africa) Limited	0.137567	0.64	6.84
British American Tobacco Kenya Limited	0.139144	3.98	15.69
Eaagads Limited	0.177631	0.79	21.67
Bamburi Cement Company Limited	0.178097	3.17	25.86
Williamson Tea Kenya Limited	0.231146	0.25	-0.32
Mumias Sugar Company Ltd	0.251322	1.17	9.55
Olympia Capital Holdings limited	0.25497	0.79	14.11
Rea Vipingo Plantations Ltd	0.259251	0.96	25.98
Limuru Tea Company Limited	0.259981	4.47	25.08
Unilever Tea Kenya Limited	0.26933	0.88	45.17
Mean	0.177784	1.696875	14.78938

The above table ranks the companies involved in the study according to their leverage. It can be seen that Total Kenya and City Trust did not finance its operations with debt was on top of the table. This was followed by Nation Media Group, BOC Kenya and Sameer Group closing the top five positions. At the bottom five positions were, Express Kenya Limited, Kakuzi limited, Kenya Power and Lighting Company Limited, Kenya Airways limited and closing the list was East African Portland Cement with the highest financial leverage. The top eight companies and the last eight companies comprise the non conformists list. The middle sixteen companies from East African Breweries Limited to Unilever Tea Kenya Limited comprise the conformists group. It can be seen that the conformists had a lower leverage ratio, higher MV/BV and a higher PER as compared to the non conformists.

4.4 Regression Test

In this section the major objective was to determine the relationship between MV/BV, PER ratios and leverage. This was done with the use of regression tests. Table 4 provides a summary for the regressions model utilized in the study.

Table 4: Regression Test Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
MV/BV	.173(a)	.030	-.001	1.398417759
PER	.144(a)	.021	-.011	18.508052314

a Predictors: (Constant), Leverage

The coefficient of determination (R square) measures the proportion of variability in a data set that is accounted for by a statistical model. In this case it can be seen that there is very small relationship between leverage and Market value to Book value ratio. Only 3% of the variation in market value to book value (MV/BV) is explained by leverage. As regards Price Earning Ratio (PER) it can be seen that only 2% of the variation in PER is explained by change in leverage. Standard error is a measure of variability. It measures the variability that a constant would be expected to show during sampling. It can be seen that PER exhibited more variation than MV/BV.

4.5 Analysis of Variance (ANOVA)

This section brings out the analysis of variance for the companies involved in the study.

The results are tabulated below:

Table 5: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F test	Sig.
MV/BV	Regression	1.869	1	1.869	.956	.336(a)
	Residual	60.623	31	1.956		
	Total	62.492	32			
PER	Regression	225.000	1	225.000	.657	.424(a)
	Residual	10618.988	31	342.548		
	Total	10843.988	32			

a Predictors: (Constant), Leverage

b Dependent Variable: MV/BV, PER

Analysis of variance (ANOVA) is a method of testing the null hypothesis that several group means are equal in the population, by comparing the sample variance estimated from the group means to that estimated within the groups. Sum of squares measures the variability of a data set. In this case we see that PER was more variable than MV/BV. F statistic measures if the regression model fits well. It can be seen that the relationship between MV/BV and leverage is more pronounced than that between PER and leverage. Nevertheless pegging the significance level at 0.5 we see that the two variables are both significant.

4.6 Regression Coefficients

This section provides the regression coefficients including t values and p values. The results are tabulated below:

Table 6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	P-value
		B	Std. Error	Beta			
MV/BV	(Constant)	1.862	.405		4.599	.000	6.76E-05
	Leverage	-1.469	1.503	-.173	-.978	.336	0.335785
PER	(Constant)	8.159	5.359		1.522	.138	0.138035
	Leverage	16.119	19.889	.144	.810	.424	0.423855

a Dependent Variable: MV/BV, PER

The t-test determines the strength of the relationship between MV/BV, PER and leverage. The relationship between MV/BV and leverage though negative is stronger than that

between PER and leverage. The p value is the probability of obtaining a result at least as extreme as the one that was actually observed, given the null hypothesis is true. A P value of an experiment is a random variable defined over a sample space of the experiment such that its distribution under the null hypothesis is uniform in the interval. A value greater than 0.5 is not significant while that below 0.5 is significant. In this case leverage is significant in determining both ratios of MV/BV and PER.

4.7 Comparisons between Conformists and Non Conformists

In this section, the aim was on finding the relationship between conformists and non conformists with regard to the relationship between MV/BV, PER and Leverage.

Table 7 Non Conformists

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.710	15	.047	.978	.672
Within Groups	.048	1	.048		
Total	.758	16			

Table 8: Conformists

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.061	14	.004	1.454	.579
Within Groups	.003	1	.003		
Total	.064	15			

One assumption of ANOVA is that the variances of the groups are equivalent. ANOVA assumes equality of variance across groups. The significance value of the *F* test in the ANOVA table is 0.978 for non conformists and 1.454 for conformists. This shows that there exists difference between conformists and non conformists and conformists have their MV/BV and PER having a stronger relationship to leverage.

4.8 Comparisons between Companies in the Different Industries

This section seeks to compare if difference exists within the various industries in terms of their leverage. This section was carried out with the help of ANOVA tests.

Table 9: Agricultural sector

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.042	7	.006	.865	.423
Within Groups	.000	0	.		
Total	.042	7			

Table 10: Commercial and Services Sector

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.249	7	.036	.645	.534
Within Groups	.000	0	.		
Total	.249	7			

Table 11: Industrial and Allied Sector

MV/BV	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.532	16	.033	.674	.467
Within Groups	.000	0	.		
Total	.532	16			

In general, *F* statistics establish that there is or is not a difference between group means, and means plots suggest where the difference may lie. The Levene statistic (Sig) rejects the null hypothesis that the group variances are equal. ANOVA is robust to this violation when the groups are of equal or near equal size. It can be seen from table 9, 10 and 11 that the Commercial and services sector recorded the highest variance followed by Industrial and allied sector and finally the Agricultural sector. This can be seen from the mean squares and it confirmed by the *F* test and the Levene statistic.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

From the analysis of data collected in the foregoing discussions, conclusions and recommendations were made. The response was based on the objective of the study.

5.2 Summary of Findings

The objective of the study was to evaluate the relationship between Industry Capital Structure norms and the performance of companies in the Industry.

In terms of leverage we can see that commercial and services sector had the highest mean followed by the agriculture sector and finally Industrial and allied sector. This translates to mean that commercial and services sector had the highest financial leverage. Commercial and services sector recorded the highest level of market to book value ratio followed by Industrial and allied sector. Considering price earning ratio commercial and services sector took the lead followed by the agricultural sector. Generally it was observed that commercial and services sector had the highest figures for leverage ratio, market value to book value and price earning ratio.

Among the companies involved in the study, Total Kenya and City Trust did not finance its operations with deb. Those with lower leverage ratios also included; Nation Media Group, BOC Kenya and Sameer Group. Those with highest leverage ratios comprised of; Express Kenya Limited, Kakuzi limited, Kenya Power and Lighting Company Limited, Kenya Airways limited and East African Portland Cement. This group comprised of the non conformists companies. Conformists companies were the ones in the 'safe', middle zone and comprised of sixteen companies from East African Breweries Limited to Unilever Tea Kenya Limited. The conformists had a lower leverage ratio, higher MV/BV and a higher PER as compared to the non conformists. This leads to the acceptance of the null hypothesis and rejection of the alternative hypothesis.

Carrying out regressions tests it was found out that there was a very small relationship between leverage and Market value to Book value ratio. An even trivial relationship was found between Price Earning Ratio (PER) and leverage. It was found out that PER exhibited more variation than MV/BV. On carrying out an Analysis of Variance tests (ANOVA) it was confirmed that PER was more variable than MV/BV. F statistic also confirmed that the relationship between MV/BV and leverage was more pronounced than that between PER and leverage. Even though the relationship between the three variables was small it was nevertheless significant. Using the t-test it was found out that the relationship between MV/BV and leverage though negative was stronger than that between PER and leverage.

Comparisons were carried out between conformists and non conformists as well as among the three sectors using ANOVA. It was found out that there existed a difference between conformists and non conformists and that the conformists MV/BV and PER had a stronger relationship to leverage. It was also found out that the Commercial and services sector recorded the highest variance followed by Industrial and allied sector and finally the Agricultural sector. This was further confirmed by the F test and the Levene statistic.

5.3 Conclusion

This study concludes that industry leverage is a determinant factor when it comes to capital structure of firms quoted in the NSE. Firms adopting industry leverage norm record better performance than their counterparts. Firms therefore gravitate towards such capital structures as they are deemed optimal. Similarly, Size, profitability, growth, and asset are the major firm characteristics influencing choice of capital structure of public companies in Kenya (Kamere,1987). Other factors that determine capital structure include risk and non-debt tax shield. Generally the bigger the company in terms of size, the larger its capital base. From this study large companies like East African Portland and Kenya Power Lighting were found to use more debt capital. This is consistent with Myers & Majiluf (1984). Most companies prefer financing through retained earnings, and then

move to debt and as a last resort issue new equity thus adopting pecking order theory. The expected cost of financial distress increase with risk, while the chances that the tax shields will be (fully) used decrease. Companies in their initial growth stages borrow less because of increased expected cost of bankruptcy.

Managers may reduce the cost of debt by issuing secured debt. Firms with assets usually use more leverage. Deductions for depreciation and investment tax credits are substitutes for the tax benefits of debt financing. Other studies like Schwartz and Arosen, (1967); and Scotts, (1972) finds similarities in financial leverage within industries and persistent differences across industries. This is consistent with this study where it was found out that differences existed between the various industries with respect to their leverage. Also this study found a negative relationship between performance and leverage just like Kinsman and Newman (1999) even though they only used price to book value ratio.

5.4 Limitations of the Study

Care must be taken to generalize the results of this study as there were some limitations. The use of regression analysis means that there is an assumption of linearity with the various models. This may not be fully appropriate. The study also focused on firms listed in NSE. Most of these firms are large or extremely large companies and this compromises the finding since some of them might be able to avoid the discipline of the capital markets with regard to capital structure that would be applied to smaller, less powerful firms

5.5 Recommendation for Further Study

The current research focused on the firms quoted on the Nairobi Stock Exchange with the exclusion of the financial and investment sector since their leverage is subject to regulation. Given that the Nairobi stock exchange comprises of a number of companies in different industries, future studies should consider a specific sector such as the manufacturing industry with a sample of companies in that sector without regard whether they are listed or not. The results are inconsistent with the original Modigliani and Miller

(1958) proposition that leverage is irrelevant to the value of the firm. Using value as a measure of performance, it's evident that leverage of a firm, in relationship to that of the Industry, will affect the value of the firm. However further research that employs additional leverage ratios and use more performance measures is recommended.

Sector classification used in the NSE and used as basis for industry classification on this study is openly discredited by some financial analysts and I recommend a similar study be done using a non-convexional and more accurate industry classification of firms quoted at NSE. To overcome the limitation whereby extremely large companies escape the discipline of capital markets, I recommend a similar study be done for firms not listed at NSE. Future research should also explore the role of Industry leverage when assessing the market reaction to security offering announcements especially stock for debt transactions where firm changes its debt-to-equity ratio in relationship to its Industry DE norm.

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APPENDIX I: INDUSTRY CLASSIFICATION

AGRICULTURE INDUSTRY

Unilever tea Kenya Ltd

Kakuzi Limited

Rea Vipingo Plantation Ltd

Sasini Tea and Coffee Limited

Kapchorua Tea Co. Ltd

Limuru Tea Co. Ltd

Williamson Tea Kenya Ltd

COMMERCIAL AND SERVICES INDUSTRY

Car & General (k) Ltd

CMC Holdings Ltd.

Kenya Airways Ltd

Marshalls (east Africa) Limited

Nation Media Group Ltd

TPS Eastern Africa (Serena) Ltd.

Express Kenya Ltd

Standard Group Ltd

INDUSTRIAL AND ALLIED

Athi River Mining Ltd

B.O.C Kenya Ltd

Bamburi Cement Company Ltd

British American Tobacco Kenya Ltd

Crown-Berger Kenya Ltd

East African Cables Ltd
East African Portland Cement company
East African Breweries Ltd
Sameer Africa Ltd
Kenya Oil Company Ltd
Mumias Sugar Company ltd
Olympia Capital Holding Ltd
Kenya power & Lighting Company Ltd
Total Kenya Ltd
Unga Group Ltd
Baumann & Co. Ltd

APPENDIX II: FINANCIAL INFORMATION

LEVERAGE RATIO

AGRICULTURE INDUSTRY	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	0.260642	0.271798	0.262458	0.275476	0.27627
Kakuzi Limited	0.405394	0.39969	0.385216	0.372373	0.38765
Rea Vipingo Plantations Ltd	0.309775	0.293357	0.259876	0.228095	0.20515
Sasini Tea and Coffee Limited	0.061992	0.114903	0.158372	0.136087	0.14651
Kapchorua Tea Company Limited	0.270881	0.279384	0.271217	0.265219	0.26772
Limuru Tea Company Limited	0.241368	0.250451	0.261926	0.298505	0.24765
Williamson Tea Kenya Limited	0.184104	0.184638	0.155174	0.17244	0.19179
Eaagads Limited	0.236885	0.238323	0.234565	0.227021	0.21893
COMMERCIAL AND SERVICES					
Car and General (Kenya) Limited	0.077596	0.063291	0.068795	0.165447	0.18005
CMC Holdings Limited	0.108172	0.141159	0.140811	0.1086	0.10368
Kenya Airways Limited	0.499869	0.57036	0.615911	0.599955	0.67728
Marshalls (East Africa) Limited	0	0.002465	0.002221	0.383267	0.29988
Nation Media Group Limited	0.02526	0.011953	0.003642	0.011152	0.09093
Standard Group Limited	0.374873	0.449986	0.428898	0.261515	0.30458
TPS (Tourism Promotion Services)	0.276717	0.27823	0.231323	0.475161	0.38196
Express Kenya Limited	0.448227	0.917682	0.08725	0.141437	0.26147
INDUSTRY AND ALLIED					
Athi-River Mining Limited	0.170037	0.253217	0.251944	0.564785	0.57578
Bamburi Cement Company Limited	0.197383	0.176858	0.192286	0.172748	0.15121
British American Tobacco Kenya Limited	0.131747	0.126123	0.139061	0.145229	0.1535
BOC Kenya Limited	0.041553	0.044364	0.038447	0.043409	0.05159
Crown-Berger Kenya Limited	0.108108	0.090658	0.080322	0.100109	0.13125

Olympia Capital Holdings limited	0.339033	0.246823	0.134965	0.104134	0.449894
East African Cables Limited	0.081625	0.083963	0.061045	0.088787	0.324378
East African Portland Cement Company	0.713777	0.670486	0.71801	0.669827	0.59801
East African Breweries Limited	0.096041	0.102168	0.106003	0.09923	0.101382
Sameer Africa Limited	0.075476	0.056324	0.053429	0.067153	0.098318
Kenya Oil Company Limited	0.111261	0.088942	0.078438	0.063285	0.078773
Mumias Sugar Company Ltd	0.274384	0.272089	0.262342	0.229291	0.218503
Kenya Power and Lighting Company Limited	0.834304	0.948387	0.263556	0.251672	0.22716
Total Kenya Ltd	0	0	0	0	
Unga Group Limited	0.06362	0.117958	0.093777	0.06135	0.05795
A. Baumann & Company Limited	0	0.124631	0.117326	0.100271	0.13868
City Trust Limited	0	0	0	0	

MARKET VALUE TO BOOK RATIO

AGRICULTURE INDUSTRY	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	0.6	0.77	1.04	1.08	0.89
Kakuzi Limited	0.17	0.17	0.44	0.65	0.49
Rea Vipingo Plantations Ltd	0.23	0.47	0.73	1.53	1.86
Sasini Tea and Coffee Limited	0.26	0.24	0.21	0.38	0.38
Kapchorua Tea Company Limited	1.01	0.6	0.42	0.42	0.66
Limuru Tea Company Limited	5.93	3.91	3.8	4.51	4.22
Williamson Tea Kenya Limited	0.21	0.2	0.23	0.34	0.28
Eaagads Limited	0.85	0.79	0.88	0.73	0.69
COMMERCIAL AND SERVICES					
Car and General (Kenya) Limited	0.65	4.01	0.78	0.89	1.13
CMC Holdings Limited	0.17	0.62	0.84	0.67	1.46
Kenya Airways Limited	0.24	0.15	0.2	0.36	0.91
Marshalls (East Africa) Limited	0.75	0.43	1.12	0.46	0.45
Nation Media Group Limited	1.88	3.67	3.17	4.15	5.79
Standard Group Limited	0.5	9.3	6.7	5.84	5.84
TPS (Tourism Promotion Services	0.52	0.76	1.29	1.47	1.42
Express Kenya Limited	0.23	0.31	1.15	1.51	1.53
INDUSTRY AND ALLIED					
Athi-River Mining Limited	0.42	1.55	1.02	1.35	2.43
Bamburi Cement Company Limited	1.24	3.29	2.69	3.76	4.86

British American Tobacco Kenya Limited	1.14	5.74	4.58	4.48	3.98
BOC Kenya Limited	0.5	1.73	2.23	2.14	2.33
Crown-Berger Kenya Limited	0.24	1.17	1	1.16	1.17
Olympia Capital Holdings limited	0.36	1.04	0.72	0.82	1.01
East African Cables Limited	0.7	1.02	3.06	4.38	8.54
East African Portland Cement Company	0.17	0.64	0.67	1.28	1.55
East African Breweries Limited	0.73	1.78	2.9	5.25	4.47
Sameer Africa Limited	1.13	1.64	1.64	2.75	3.29
Kenya Oil Company Limited	0.33	1.04	1.38	2.96	2.07
Mumias Sugar Company Ltd	0.18	0.26	0.63	1.58	3.21
Kenya Power and Lighting Company Limited	0.03	0.13	0.29	0.35	0.5
Total Kenya Ltd	1.04	1.6	3.61	1.54	1.29
Unga Group Limited	0.11	0.33	0.43	0.55	0.5
A. Baumann & Company Limited	0.09	0.07	0.11	0.2	0.41
City Trust Limited	0.36	0.43	0.61	1.25	1.25

PRICE EARNING RATIO

AGRICULTURE INDUSTRY	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	21.28	51.82	12.25	65.43	75.05
Kakuzi Limited	37.82	-24.34	9.36	-12.82	6.22
Rea Vipingo Plantations Ltd	6.17	95.81	4.43	9.88	13.59
Sasini Tea and Coffee Limited	-72.29	-9.78	1.01	-3.2	8.83
Kapchorua Tea Company Limited	-38.75	15.4	10.12	14.99	-59.92
Limuru Tea Company Limited	113.82	11.93	22.05	-65.91	43.49
Williamson Tea Kenya Limited	-16.59	9.52	8.71	11.81	-15.03
Eaagads Limited	174.03	39.56	-30.01	-95.3	20.09
COMMERCIAL AND SERVICES					
Car and General (Kenya) Limited	29.9	24.97	9.14	3.33	7.43
CMC Holdings Limited	2.74	9.33	10.16	6.75	13.31
Kenya Airways Limited	4.17	6.64	3.4	3.67	10.04
Marshalls (East Africa) Limited	9	3.95	11.32	5.08	4.83
Nation Media Group Limited	11.12	16.95	14.17	18.92	28.5
Standard Group Limited	-10	-52.34	36.42	39.48	28.24
TPS (Tourism Promotion Services)	6.94	42.03	14	274.23	23.37
Express Kenya Limited	-0.58	-0.63	54.46	8.24	11.77
INDUSTRY AND ALLIED					
Athi-River Mining Limited	7.62	20.35	11.95	18.41	29.18
Bamburi Cement Company Limited	12.93	42.86	20.07	23.58	29.85
British American Tobacco Kenya Limited	6.56	24.21	16.53	14.76	16.4

BOC Kenya Limited	4.95	12.73	16.71	13.65	13.83
Crown-Berger Kenya Limited	2.72	12.94	13.05	24.13	16.28
Olympia Capital Holdings limited	9.9	18.79	6.92	13.98	20.95
East African Cables Limited	-31.33	29.52	8.35	13.03	34.15
East African Portland Cement Company	9.13	18.41	-15.88	14.36	28.85
East African Breweries Limited	3.88	16.43	12.7	20.58	16.99
Sameer Africa Limited	10.46	21.07	12.64	29.24	302.84
Kenya Oil Company Limited	1.85	5.85	6.07	13.87	12.43
Mumias Sugar Company Ltd	19.58	-8.04	5.83	9.69	20.71
Kenya Power and Lighting Company Limited	-0.36	-0.83	15.3	6.91	8.13
Total Kenya Ltd	9.85	12.82	28.34	13.34	12.37
Unga Group Limited	-3.82	-28.11	-8.97	16.87	30.74
A. Baumann & Company Limited	-0.72	-8.78	-3	-0.25	-1.18
City Trust Limited	13.62	12.66	11.34	18.7	14.69