

**THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND  
SHAREHOLDER VALUE FOR COMPANIES LISTED IN THE  
NAIROBI SECURITIES EXCHANGE**

**BY**

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**D63/68189/2011**

**RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR AWARD OF THE DEGREE OF MASTER  
OF SCIENCE IN FINANCE, UNIVERSITY OF NAIROBI**

**OCTOBER, 2013**

**DECLARATION**

I, the undersigned, declare that this project is my original work and that it has not been presented in any other university or institution for academic credit.

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**D63/68189/2011**

Signature.....

Date .....

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

Supervisor .....

Date .....

**Mirie Mwangi**

## **ACKNOWLEDGEMENTS**

I would like to give thanks to God the Almighty for his blessings, provision and good health that I have enjoyed and make my work a success.

In addition, I would like to show my greatest appreciation to Mr Mirie Mwangi my project supervisor for his tremendous support and help. Without his encouragement and guidance this project would not have materialized.

The guidance and support received from all my friends who contributed to this project, was vital for the success of the project. I am grateful for their constant support and help.

## **DEDICATION**

This study is dedicated to my loving parents, Mr. and Mrs. Thauti and my entire family members who continuously inspired me and supported my efforts throughout this study.

## **ABSTRACT**

Decision making on capital structure is one of the most challenging and difficult issues facing the companies. The capital structure of a company is a combination of debt and shareholders equities. Empirical research has shown controversial evidence on the relation between capital structure and shareholder value and the ambiguous results that have emerged regarding the existence of a relation between capital structure and shareholder value. This study sought to answer the following research question is there a relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange?

The causal study design that was employed in this research. The study population was composed of all 60 companies listed at the NSE. The study sampled 40 companies which were stratified by time periods for a period of five years between years 2007 to 2011. The data collected from the secondary source was quantitative in nature. Data analysis was done using SPSS Version 20 whereby inferential statistics was applied whereby a multiple regression model was employed. The empirical model was used in the study to test the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange.

The findings of the study confirmed that there exists a negative relationship between leverage and Market to Book ratio. The study recommends that companies at NSE must follow the financing hierarchy as postulated by the pecking order concept i.e. internal funds should be used before debt financing and then equity as equity and debt financing are more expensive and they reduce shareholder value in the company compared to internal funds.

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## **LIST ABBREVIATIONS**

AIMS	Alternative Investment Market Segment
FIMS	Fixed Income Market Segment
MIMS	Main Investment Market Segment
NDTS	Non-Debt Tax Shields
NSE	Nairobi Securities Exchange
ROA	Return on Assets
SV	Shareholder Value

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The capital structure of a firm is basically a mix of debt and equity which a firm deems as appropriate to enhance its operations in the midst of several constraints it poses. Berge and Bonaccorsi di Patti (2006) have noted that high leverage or low equity/assets ratio reduces agency cost of outside equity and thus increases firm value by compelling managers to act more in the interest of shareholders. Theories have been advanced to explain capital structure decisions. The trade-off theories of corporate financing are built around the concept of target capital structure that balances various costs and benefits of debt and equity (Modigliani and Miller, 1958; Hovakimian et al., 2004). This study seeks to determine the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange (NSE).

#### 1.1.1 Capital Structure

According to Copeland and Weston (1988) Capital can be defined as goods which are, directly or indirectly, instruments of production; the theory of capital is thus primarily a theory of material instruments of production. Companies are in constant control of capital through engagement of Chief Executive officers and finance managers. Capital it is the primary means by which wealth of companies is created. The fact that success of companies solely lays on its capital base it is therefore important to utilize capital goods in plans and consistency of such plans within the economic system as a whole.

On the other hand 'Structure' can be defined as a complex of relationships sufficiently stable in varying circumstances to display the firm outline of a clear and distinguishable pattern. Structural stability of such a complex requires a focus on external changes since the more violent the impact of such change, the less the pattern is likely to last. Capital structure or capitalization of the firm is the permanent financing represented by long term debt, preferred stock and shareholders' equity, (Copeland and Weston, 1988) . It is further contrasted from financial structure which includes short term debt in addition to the components of capital structure.

### **1.1.2 Shareholder Value**

For a publicly traded company, shareholder value (SV) is the part of its capitalization that is equity as opposed to long-term debt. In the case of only one type of stock, this would roughly be the number of outstanding shares times current share price. Shareholder value added up should be compared to required increase in value, also known as cost of capital. For a privately held company, the value of the firm after debt must be estimated using one of several valuation methods, discounted cash flow or others (Galpin, 2004).

Shareholders as the owners of businesses, ask managers maximize their investment value. There are different criteria to measure and make value judgments about company performance, (Hejaz and Hosseini, 2006). One way to reduce conflicts of interest between owners and managers is the utilization of a capital structure that increase the company value (Rigi, 2010). Creating and enhancing long-term shareholders' wealth are among the companies' main objectives and increase in wealth is achieved only by the optimal

performance. In order to evaluate the optimal performance of the business units different criteria have been used, the ones being the variable of value-based performance assessment.

### **1.1.3 Capital Structure and Shareholders Value**

Shareholder value has diffused widely in so-called westernized societies since the 1980s (Aglietta & Rebérioux, 2005). Within this ideology, the creation of value to owners is perceived as the overriding goal of management, the good of the other stakeholders being seen as a complementary target (Ezzamel, Willmott & Worthington, 2008). Shareholder value has induced several effects either within companies subject to it or within society at large. According to Useem (1993), in companies where this ideology is present, authority has been assigned to employees outside the headquarters of the organisation and headquarters staff has been reduced; performance measures and compensation schemes that emphasise shareholder value have been implemented (Hall and Liebman, 1998); and the development of a management cadre cognisant of shareholder value and its implications has been emphasized (Ezzamel, et al, 2008). Companies have configured their shareholder base in order that it meets company needs, through education and the sale of shares to those shareholders deemed favourable for the company (Useem, 1993). Shareholder value has recently been criticised by several researchers (Jensen ,Murphy & Wruck, 2004).

In their first proposition Modiglian and Miller (1958), the value of a firm is independent of its capital structure. Their second proposition states that the cost of equity for a leverage firm is equal to the cost of equity for an unleveraged firm plus an added premium for financial risk. However, other theories such as the tradeoff theory (Myers,1984), pecking order theory

(Myers and Majluf, 1984) and agency cost theory (Jensen and Meckling, 1976) argue that if capital structure decision is irrelevant in a perfect market, then, imperfection which exist in the real world may be adduce for its relevance. Such imperfections include bankruptcy costs (Kraus and Litzenberger, 1973), agency cost (Jensen and Meckling, 1976), gains from leverage-induced tax shields (DeMiguel and Pindado, 2000) and information asymmetry (Myers, 1984).

Pandey (2004) states that the capital structure decision of a firm influences its shareholders return and risk. Consequently, the market value of its shares may be affected by the capital structure decision. The objective of a firm should therefore be directed towards the maximization of its value by examining its capital structure or financial leverage decision from the point of view of its impact on the firm value.

#### **1.1.4 Nairobi Securities Exchange**

The Nairobi Securities Exchange was formed in 1954 as a voluntary organization of stock brokers and is now one of the most active capital markets in Africa. As a capital market institution, the Stock Exchange plays an important role in the process of economic development. It helps mobilize domestic savings thereby bringing about the reallocation of financial resources from dormant to active agents. Long-term investments are made liquid, as the transfer of securities between shareholders is facilitated. The Exchange has also enabled companies to engage local participation in their equity, thereby giving Kenyans a chance to own shares (www.nse.co.ke, 2009).

Nairobi Securities Exchange (NSE) is categorized into three market segments; Main Investment Market Segment (MIMS), Alternative Investment Market Segment (AIMS) and Fixed Income Market Segment (FIMS) (NSE Handbook, 2009). The firms quoted in Nairobi Securities Exchange are categorised as follows; agricultural, commercial and services, telecommunication and technology, automobiles and accessories, banking, insurance, investment and manufacturing and allied. There are as of December 2012, 60 companies listed at the securities exchange. Listed companies are generally big and publish their reports hence investors use these reports to judge which firm to invest in.

## **1.2 Research Problem**

Empirical research has shown controversial evidence on the relation between capital structure and shareholder (Harris and Raviv, 1991) and the ambiguous results that have emerged regarding the existence of a relation between capital structure and shareholder value (Heinrich, 2000, Mahrt-Smith, 2005). Empirical studies tends to be less interested on how the capital structure determines shareholders value per se, and more on how changes in the capital structure of a company affects its profitability (Hitt, Hoskisson, and Harrison, 1991), and thus its overall performance (Jensen, 1986).

Shareholders values vary with different level of debt usages. Shareholder values increase with increase of debt until the marginal benefits from leverage equal to the marginal bankruptcy costs, at this point, the Shareholders value reaches its maximum level, if we further increase the level of debt usages, Shareholders values not only increases but also decrease as per the trade-off theory later extended to include the agency costs Jensen and

Meckling (1976). Consecutively, Peterkort and Nielsen (2005) connects market-to-book ratio as a risk factor with firm's capital structure. Baker and Wurgler 2002 document the capital structure affects Shareholders.

Several studies have been done on capital structure and shareholders value; Musili (2005) studied capital structure choice by surveying industrial firms in Kenya; Munene (2006) did a study on the impact of profitability on capital structure of companies listed at NSE; Mutsotso (2007) studied the influence of the corporate tax rate as the capital structure of quoted companies at the NSE and Nyaboga (2008) did a study on the relationship between capital structure and agency cost. There is scanty of research on the relationship between capital structures and shareholders' value.

This research will be motivated to investigate the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange. This study found out what drives shareholders value in Nairobi Securities Exchange and establish the relationship between capital structure of a firm and shareholders value. This study sought to answer the following research question is there a relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange?

### **1.3 Research Objective**

To determine the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange

#### **1.4 Value of the Study**

The findings of this study will be of interest to:

The Government; the government of Kenya will be enlightened in a bid to make policies relating to capital structure. Through knowledge of the effect of capital structure on the shareholders' value of the firms will assist in ascertaining the appropriate guidelines to be in place for firms financing. The government will also be informed on how it can protect the investors and encourage more investments for the growth and development of the national economy.

The financial Consultants; these findings will enable financial consultants to offer proper services to their clients. This relates to the best capital structure where financing is stable and shareholder value is maintained. The study will provide a current perspective of capital structure in an expanding global economy characterized by the increase in the rate of change within industries.

The scholars and Academicians; as new challenges and opportunities emerge in the business environment, change is inevitable. This calls for continuous research to ascertain the actual situations rather than living on assumptions. The findings of this study therefore will prove useful to scholars and academicians who may wish to use them as a basis for further research on this subject.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This section provides a review of the theoretical literature on firm financing. This study begins the theoretical principles underlying capital structure and then discusses the empirical literature on firm level variables that affect the leverage of firms.

#### **2.2 Theoretical Review**

This study is guided by the following theories; the Modigliani and Miller theory, the tradeoff theory, agency theory and the pecking order hypothesis, these theories tries to explain the change in capital structure in determining firms' shareholder value.

##### **2.2.1 Modigliani and Miller Theory**

Over the years, alternative capital structure theories have been developed in order to determine the factors that affect capital structure decisions. Modigliani and Miller (1958) in their first proposition, Modigliani and Miller (1958) state that market is fully efficient when there are no taxes. Thus, capital structure and financing decisions affect neither cost of capital nor market value of a firm. In their second proposition, they maintain that interest payments of debt decrease the tax base, thus cost of debt is less than the cost of equity. The tax advantage of debt motivates the optimal capital structure theory, which implies that firms may attain optimal capital structure and increase firm value by altering their capital structures. The impact of investment and financing decisions on firm value has been the

focus of extensive research since Modigliani and Miller (1958) proposed the “separation principle”. The theory asserts that in a perfect capital market, the value of the firm is independent of the manner in which its productive assets are financed. In fact some authors like Barnea *et al.* (1981) support their view. However, others have contrasted the findings of the earlier studies suggesting that investment, financing, and dividend policy are related (Anderson, 1983). This is predicated on the assumption that Modigliani and Miller's ideal world does not exist. Financial markets are not perfect given taxes, transaction costs, bankruptcy costs, agency costs, and uncertain inflation in the market place.

According to Bierman and Hass (1983), management usually addresses the dividend target payout level in the context of forecasting the firm's sources and use of funds. Considering prospective investment opportunities and the internal cash generation potential of the firm, both capital structure and dividend policy are chosen to ensure that sufficient funds are available to undertake all desirable investments without using new equity (Black, 1976). But what constitutes a “desirable” investment? If it is one that has an expected return greater than the cost of funds that finance it, and if the cost of retained earnings is different from the cost of new equity capital, then dividend policy, capital structure, and investment strategy are necessarily jointly determined (Black and Scholes, 1974).

The investment opportunities available to the firm constitute an important component of market value. The investment opportunity set of a firm affects the way the firm is viewed by managers, owners, investors, and creditors (Kallapur and Trombley, 2001). The literature has given considerable attention in recent years to examining the association between investment

opportunity set and corporate policy choices, including financing, dividend, and compensation policies (Abbott, 2001). According to Jones (2001), investment opportunity set represents a firm's investment or growth options but to Myers (1984) its value depends on the discretionary expenditures of managers. Myers (1984) further explains investment opportunity as a yet-to-be realized potentially profitable project that a firm can exploit for economic rents. Thus, this represents the component of the firm's value resulting from options to make future investments (Smith and Watts, 1992).

### **2.2.3 The Pecking Order Theory**

As opposed to the tradeoff theory, the pecking order theory claims that there is no well-defined optimal debt ratio for firms to target. The pecking order theory is first advanced by Myers and Majluf (1984), based on asymmetric information and signaling problems with external financing. According to Myers and Majluf (1984) and Myers (1984), there is a hierarchy in firm's financing activities, namely, a preference for internal financing over external financing, and for debt financing over equity financing when it comes to external financing. Because the attraction of debt-related benefits and the threat of financial distress and other debt-related agency costs are assumed second-order, firms are not pursuing an optimal structure, and the debt ratio is the cumulative result of hierarchical financing decisions.

The pecking order hypothesis is based principally on the argument that asymmetric information creates a hierarchy of costs in the use of external financing which is broadly common to all firms .New instruments are financed first by retentions , then by low-risk

debt followed by hybrids like convertibles , and equities only as a last resort .At each point in time there is an optimal financing decisions which depends critically on net cash flows as the factor which determines available funds .The pecking order theory suggests that there is no well-defined optimal capital structure , instead the debt ratio is the result of the hierarchical financing over time, (Myers and Majluf , 1984).

### **2.2.3 The Tradeoff Theory**

Firms are considered to tradeoff between the benefits and the costs of debt, and based on such tradeoff there will be an optimal capital structure for the firm. Tax shields of debt and the control of free cash flow problem push firms to absorb more debt in their capital structure, while bankruptcy costs and other agency problems push firms to use less. According to the subjects on which costs and benefits are balanced, the tradeoff theory can be divided into two fields, the tax-based and the agency-cost-based (Black and Scholes, 1974).

Corporate tax and bankruptcy costs are the central market frictions on which the tax-based tradeoff theory is established. On the one hand, interest charges on debt are tax deductible and this advantage pushes firms to use more debt in their corporate financing; on the other hand, bankruptcy costs derived from high-level debt will push firms to use less debt. Quite a few papers discuss the optimal capital structure from the viewpoint of tax-based tradeoff, including Kraus and Litzenberger (1973), Scott (1976), Kim (1978) and DeAngelo and Masulis (1980).

Scott (1976) confirms the existence of an optimal capital structure based on a multi-period model of debt, equity and valuation. He concludes that in an imperfect market, the market value of a non-bankrupt firm depends on both the expected future earnings and the liquidating value of its assets. He further predicts that the optimal level of debt increases with the liquidation value of the firm's assets, the corporate tax rate and the size of the firm.

Kim (1978) discusses debt capacity and the existence of optimal capital structure of firms. He states that in a perfect capital market with frictions of bankruptcy costs and corporate income taxes, the firm has a debt capacity which should be less than 100 per cent, and the debt level of the optimal capital structure should be less than its debt capacity. He also points out those low levels of debt cause the market value of a firm to increase with its levels of debt; while external financial leverage causes a firm's market value to decrease its level of debt.

DeAngelo and Masulis (1980) show a model of corporate tax and differential personal tax, introducing the factor of “non-debt corporate tax shields”, referring to “depreciation deductions or investment tax credits” and “depletion allowances” (DeAngelo and Masulis, 1980). They argue that non-debt corporate tax shields suggest a unique interior optimum leverage decision for each firm in market equilibrium, regardless of whether leverage-related costs are present or not. Based on their model, they predict that the leverage of a firm is: negatively related to the non-debt tax shields (NDTS); negatively related to marginal bankruptcy costs; and positively related to corporate tax rates.

## **2.2.4 The Agency Theory**

Debt of a firm will generate agency costs because of conflicting interests between parties contracted by the firm. On the other side, by controlling the problem of free cash flow, debt can also generate benefits by motivating efficiency in the firm. Jensen (1986) argues that by trading off the benefits and costs of debt, the firm can get an optimal capital structure, “the optimal debt-equity ratio is the point at which firm value is maximized, the point where the marginal costs of debt just offset the marginal benefits” (Jensen, 1986).

Jensen and Meckling (1976) define two types of agency costs in the “modern diffuse ownership corporation” (Jensen and Meckling, 1976), agency costs of equity and those of debt. Agency costs of equity are derived from the conflicting interests between outside stockholders and managers. Along with the separation of ownership and control in the ownership of a corporation, managers will tend to make less effort in maximizing the firm's value because they do not have 100 per cent of the residual claims on the firm; on the other hand, they also have incentive to pursue more non-pecuniary benefits because they do not bear the full cost of the non-pecuniary benefits they consume. In order to eliminate such activities by managers, the outside stockholders will cost “monitoring expenditure” to resort to methods such as “auditing, formal control systems, budget restrictions, and the establishment of incentive compensation systems” (Jensen and Meckling, 1976).

Agency costs of debt derive from conflicts of interest between debt holders and equity holders, because “by promising to take the low variance project, selling bonds and then taking the high variance project he can transfer wealth from the (naive) bondholders to

himself as an equity holder” (Jensen and Meckling, 1976). Due to the property of debt contract, if an investment can yield high returns, equity holders will take most of the gain; however, if the investment fails, debt holders will bear the loss. As a result, equity holders have the incentive to sell bonds, and carry out high risky investments. To limit such activities by equity holders, debt holders will cost “monitoring expenditure” to write bond covenants as detailed as possible, and to carry them through out.

Jensen (1986) discusses the benefits of debt, defined as “control hypothesis” (Jensen, 1986). Because managers possess the control over free cash flows, they have the incentive to shrink payouts to shareholders, and invest in low-return projects in order to enlarge the firm's size. Shrinking payouts on stocks will lead to falling stock prices, and investing in low-return projects will waste a firm's resources. Because of stock being substituted by debt, managers are forced to pay for the compulsory future cash flows on bonds, instead of the optional dividends on stocks. Thus debt can reduce the agency costs along with free cash flow.

### **2.3 Determinants of Capital Structure**

Titman and Wessels (1958) enumerated key attributes in determining capital structure. They include asset structure, growth, uniqueness, industry classification, size, earnings and volatility. Other authors have documented other factors determining capital structure choice by firms Chittenden *et al.*, (1996), Coleman and Cole (1999) and Al-Sakran (2001).

### **2.3.1 Profitability**

Corporate performance has been identified as a potential determinant of capital structure. The tax trade-off models show that profitable firms will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk Ooi (1999). However, Myers (1984) prescribes a negative relationship between debt and profitability on the basis that successful companies do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits. Titman and Wessels (1988) and Barton *et al.* (1989), agree that firms with high profit rates, all things being equal, would maintain relatively lower debt ratio since they are able to generate such funds from internal sources. Empirical evidence from previous studies Chittenden *et al.*, (1996), Coleman and Cole (1999) and Al-Sakran (2001) appears to be consistent with the pecking order theory. Most studies found a negative relationship between profitability and debt financing.

### **2.3.2 Growth**

Applying pecking order arguments, growing firms place a greater demand on their internally generated funds. Consequentially, firms with high growth will tend to look to external funds to finance the growth. Firms would; therefore, look to short-term, less secured debt then to longer-term more secured debt for their financing needs. Myers (1984) confirms this and concludes that firms with a higher proportion of their market value accounted for by growth opportunity will have debt capacity. Auerbach (1985) also argues that leverage is inversely related to growth rate because the tax deductibility of interest payments is less valuable to fast growing firms since they usually have non-debt tax shields. Michaelas *et al.* (1999)

found future growth positively related to leverage and long-term debt, while Chittenden *et al.* (1996) and Jordan *et al.* (1998) found mixed evidence.

### **2.3.3 Tax**

Different authors on capital structure have given different interpretations of the impact of taxation on corporate financing decisions in the major industrial countries. Some are concerned directly with tax policy. Auerbach (1985) studied the tax impact on corporate financing decisions. The studies provided evidence of substantial tax effect on the choice between debt and equity. They concluded that changes in the marginal tax rate for any firm should affect financing decisions. A firm with a high tax shield is less likely to finance with debt. The reason is that tax shields lower the effective marginal tax rate on interest deduction. Graham (1996) on his part concluded that, in general, taxes do affect corporate financial decisions, but the extent of the effect is mostly not significant. Ashton (1991) confirms that any tax advantage to debt is likely to be small and thus have a weak relationship between debt usage and tax burden of firms. De Angelo and Masulis (1980) on the other hand, show that depreciation, research and development expenses, investment deductions, etc. could be substitutes for the fiscal role of debt. Titman and Wessels (1988) provided that, empirically, the substitution effect has been difficult to measure as finding an accurate proxy for tax reduction that excludes the effect of economic depreciation and expenses is tedious.

### **2.3.4 Tangibility**

Tangibility which is a reflection of firm's asset structure is an important determinant of the capital structure of a new firm. The extent to which the firm's assets are tangible and generic

would result in the firm having a greater liquidation value Harris and Raviv (1991) and Titman and Wessels (1988). Studies have also revealed that leverage is positively associated with the firm's assets. This is consistent with Myers (1977) argument that tangible assets, such as fixed assets, can support a higher debt level as compared to intangible assets, such as growth opportunities. Assets can be redeployed at close to their intrinsic values because they are less specific Williamson (1988) and Harris (1994). Thus, assets can be used to pledge as collateral to reduce the potential agency cost associated with debt usage Matlitz (1985) and Allen (1995) provide empirical evidence of a positive relationship between debt and fixed assets. The empirical evidence suggests a positive relation consistent with the theoretical arguments between asset structure and leverage for large firms Van der Wijst, (1993).

### **2.3.5 Size**

Size plays an important role in determining the capital structure of a firm. Researchers have taken the view that large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies Smith and Warner (1979) . Following the trade-off models of capital structure, large firms should accordingly employ more debt than smaller firms. According to Berryman (1982), lending to small businesses is riskier because of the strong negative correlation between the firm size and the probability of insolvency. Hall (1995) added that, this could partly be due to the limited portfolio management skills and partly due to the attitude of lenders. Marsh (1982) and Titman and Wessels (1988) report a contrary negative relationship between debt ratios and firm size. Marsh (1982) argues that small companies, due to their limited access to equity capital market tend to rely heavily on loans for their funding requirements. Titman and Wessels (1988) further posit that small

firms rely less on equity issue because they face a higher per unit issue cost. The relationship between firm size and debt ratio is, therefore, a matter for empirical investigation.

### **2.3.6 Non-Debt Tax Shields**

Reducing corporate tax burden can not only be made from interest tax shields but the existence of non-debt tax shields provides an alternative (less costly) means of reducing income taxes and may serve to mitigate the benefit of debt tax shields Cloyd (1997). Various non-debt tax shields include accelerated depreciation and investment tax credits (Allen and Mizuno, 1989).

DeAngelo and Masulis (1980) perceive tax deductions for depreciation and investment tax credits as substitutes for the tax benefits of debt financing. Firms with large non-debt tax shields will employ less debt in their capital structure due to a positive relation between investment-related tax shields and the probability of losing the deductibility of debt tax shields. In line with the proposition of DeAngelo and Masulis (1980), Bowen et al. (1982), and Ayers et al. (2001) have all confirmed tax substitution hypothesis. Similarly, Schulman et al. (1996) note that if a firm uses sufficient tax shields from depreciation to reduce taxable income to zero, debt may yield no additional tax benefit, and capital structure decisions will be based on non-tax considerations.

Contrary to the assertions by DeAngelo and Masulis (1980), some studies have suggested an inverse relationship between non-debt tax shields and debt (Ozkan, 2001). However, the results of Titman and Wessels (1988) do not provide support for an effect on debt ratios arising from non-debt tax shields. On their part, Bradley et al. (1984) found a significant

positive relation between firm leverage and the amount of non-debt tax shields suggesting that firms that invest heavily in tangible assets generate relatively high levels of depreciation and tax credits, thereby tending to have higher financial leverage. The lack of negative relation between non-debt tax shields and leverage ratios contradicts the theory that focuses on the substitutability between non-debt and debt tax shields (interest tax shields) as argued by De Angelo and Masulis (1980). Commenting on the positive relation between debt and non-debt tax shields, Graham (2005) notes that one problem with using non-debt tax shields, in the form of depreciation and investment tax credits, is that they are positively correlated with profitability and investment.

## **2.4 Empirical Review**

Since Modigliani and Miller (1958) proved irrelevance of financial leverage in frictionless perfect capital markets, numerous theoretical and empirical papers have addressed the corporate choice of capital in imperfect capital markets. Recently, there have been a number of articles that examined conservative leverage policy in US firms. Graham (2003) develops interest-deduction benefit functions by estimating a series of marginal tax rates and argues that firms could increase their value by about 15 percent if they used the optimal amount of debt. Surprisingly, he finds that large, profitable, liquid firms that face low-expected distress costs use debt conservatively. For these firms, the optimal level of debt per finance theory would certainly be greater than the zero debt policy that we examine. Also, conservatism in the use of debt according to Graham is positively correlated with excess cash holdings and weakly related to future acquisitions.

They document that financial conservatism is not an industry-specific phenomenon, even though conservative firms are frequently found in industries thought to be sensitive to financial distress. Also, low-leverage firms have relatively high market-to-book ratios, follow a pecking order style financial policy, and stockpile financial slack to be prepared for a decline in the internal funding and/or to finance acquisitions and capital expenditures. They argue that financial conservatism is largely a transitory financial policy, which is inconsistent with Lemmon *et al.* (2008) who claim that firms maintain remarkably stable leverage ratios over time. As we previously noted, we specifically examine firms that maintained a zero-debt policy for multiple years.

Strebulaev and Yang (2006) investigate the tendency of many large non-financial, non-utility firms on the CRSP/COMPUSTAT data set over the period of 1962-2003 to avoid debt (i.e. zero-leverage puzzle), and find that industry and size alone cannot explain the zero-leverage phenomenon. Also, they find that zero-leverage firms are on average smaller than their proxies, more profitable, pay higher income taxes, have higher market-to-book ratios, and hold substantially higher cash balances. Conditioning on the dividend payment, they find that zero-leverage firms pay substantially larger dividends than their dividend-paying proxies. Similar to Graham's (2003) findings, they argue that the zero-leverage behavior is a persistent phenomenon.

Existing studies are primarily concerned with the motivation for financial conservatism and characteristics of the firms that operate with zero or low leverage. Strebulaev and Yang (2006) address the long-term stock performance of these financially conservative firms and

propose a testable hypothesis, “divergence in beliefs.” They argue that firm choices to avoid debt could be due to differential perceptions of debt-free firms between managers and capital markets. They assert that zero-debt firms' higher market-to-book ratios relative to proxy firms can lead insiders to believe that their equity is overvalued, i.e. unlevered firms' managers have lower valuation of their firms than the financial markets. They argue that in the long term, the disparity in valuation between managers and capital markets will be corrected. They find significantly negative buy-and-hold abnormal returns (BHARs) of debt-free firms over the period of 1962-1998, but the significance almost disappears for the period of 1987-1998. They claim the results are supportive of the divergence in beliefs hypothesis. They also document the results from the Fama-French three-factor models and the four-factor models, reporting negative abnormal performance by the debt-free firms with the three-factor model. However, the significance disappears when the momentum factor is added.

Strebulaev and Yang (2006) that the higher market-to-book ratio is linked with overvaluation of zero-debt firms. We reason that zero-debt firms' higher market-to-book ratios could be due to their relatively healthier financial condition coupled with growth options and financial flexibility. Studies on capital structure find that profitability and growth opportunities are inversely related to the debt ratio Graham (2000). Wald (1999, p. 172) reports that profitability has “the largest single effect on debt/asset ratios”. More recently, Byoun (2006) finds that large debt-free firms are more profitable, have more growth options, and hold more cash.

In Kenya, Barako (2007) examined voluntary disclosure practices in the annual reports of listed companies in Kenya from 1992 to 2001. The study investigates the extent to which corporate governance attributes ownership structure and company characteristics influence voluntary disclosure of various types of information. It was found that, disclosures of all types of information are influenced by corporate governance attributes, ownership structure and corporate characteristics among. The corporate characteristics examined in the research were: size, leverage, type of audit firm, profitability and liquidity. Among these characteristics leverage was found to be significant for financial disclosures.

Bitok et al., (2011), discussed the determinants of leverage at the Nairobi Securities Exchange, Kenya. In the study all the 54 firms listed in the Nairobi Securities Exchange were considered but excluded financial firms and utilities because they are considered highly regulated and their leverage levels are heavily influenced by regulation. The study considered three leading theories of capital structure were reviewed; static trade off theory, pecking order theory and agency cost theory. It was found that the static trade-off theory which suggests that optimal capital structure exists and is a trade-off between net tax benefit of debt financing and bankruptcy cost, provides the most robust explanation of leverage for Kenyan listed firms for the period 2003 to 2008. It was found that firms with more tangible assets are in a position to provide collateral for debts, so these firms raise more debt. Further, larger and more profitable firms maintain high debt ratios, while firms with higher growth rate use less debt financing. In summary, the findings were that firm leverage is positively associated with both asset tangibility, profit, macro-economic and size, and negatively associated with firm-level profitability and non-tax debt tax shield.

Chebie, Kipchumba and Wasike (2011) undertook a study to find out the role of capital structure in dividend payouts and whether high level of debt in the capital structure contributes to payment or non-payment of dividends. The study covered companies listed at the exchange for the period 1998 to 2004. Secondary data from 34 companies was used. It found that there is a significant relationship between capital structure and dividend payout with companies that optimally engage financial leverage in their operations standing a chance of favourable competitive situations because of the absence of financial inhibitions.

Empirical studies done locally include ; Kiogora (2000) did a study testing for variations in the capital structure at the NSE, an empirical study, he found that various firms listed at the NSE adopted various capital structure which were dependent on the industry category, Size of the firm and the profitability of the firm. Kyalo (2002), capital allocation and efficiency of banking institutions in Kenya, a case of quoted banks at NSE, the study found that there was efficiency in the capital allocation by commercial banks in Kenya owing to their regulated capital structure by central banks, Lutomia ( 2002) did a study on the relationship between the firm's capital structure and the systematic risk of common stocks, an empirical study of Cross Quoted Stocks quoted on the NSE, where he revealed that there was a negative relationship between 's capital structure and the systematic risk of common stocks among firms listed in the NSE and Gachoki (2005) conducted a study capital structure choice, an empirical testing of the pecking order theory among firms quoted on the NSE, he established that firm listed in the NSE did not follow the pecking hypothesis in their financing decision .

## **2.5 Summary of Literature Review**

Modigliani and Miller theory, the tradeoff theory, agency theory and the pecking order hypothesis, these theories tries to explain the change in capital structure in determining shareholder value offer the theoretical framework on the capitals structure decisions and the resultant performance measures. Empirical studies in the area of financial leverage and shareholders value offer a broad set of both consistent and contradictory results. Empirical research has shown controversial evidence on the relation between capital structure and shareholder (Harris and Raviv, 1991) and the ambiguous results that have emerged regarding the existence of a relation between capital structure and shareholder value (Heinrich, 2000, Mahrt-Smith, 2005). Empirical studies tends to be less interested on how the capital structure determines shareholders value per se, and more on how changes in the capital structure of a company affects its profitability (Hitt, Hoskisson, and Harrison, 1991), and thus its overall performance (Jensen, 1986). This study is motivated to investigate the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The causal study design was employed in this research. Causal research suggests causal linkages between variables by observing existing phenomena and then searching back through available data in order to try to identify plausible causal relationships, (Kothari, 2004). It is concerned with determining cause and effect relationship and to understand which variable is dependent and which is independent. This research design was the best in explaining if two variables are related and if they vary together with the help of enough information or data for testing cause and effect relationship. It aimed to explore the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange and the empirical evidences that help answer the research objective.

#### **3.2 Population**

The study population was composed of all companies listed at the NSE from all sectors which are 60 companies.

#### **3.3 Sample Design**

Judgmental sampling was employed to select 40 companies listed at the NSE whereby available information and data was stratified by time periods for a period of five years between years 2007 to 2011. The sample excluded financial companies because their leverage is highly dependent on regulation. According to Gay 1983 as cited by Mugenda and

Mugenda, (2003) suggests that for empirical studies based on secondary data at least 3 years period is enough for empirical studies.

### **3.4 Data Collection**

Secondary data from financial statements of companies quoted on the Nairobi Securities Exchange was collected using data collection forms. The data that was collected from the secondary source was quantitative in nature.

### **3.5 Data Analysis**

Data analysis was done using SPSS Version 20 whereby inferential statistics was applied whereby a multiple regression model was employed.

The empirical model to be used in the study to test the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange as follows:

$$MBV = \beta_0 + \beta_1 LEV + \beta_2 PROF + \beta_3 GRO + \beta_4 SIZE + \beta_5 LIQ + \beta_6 TANG + \beta_7 NON TAX + \varepsilon$$

Where;

Leverage (LEV) is the firm leverage which was measured capital structure, Leverage is measured by debt equity ratios

MBV is the market value to book value which was measured shareholder value, MBV is the ratio of market value to book value computed as  $[(\text{book total assets} - \text{book equity}) + \text{market equity}] / \text{book assets}$

PROF denotes profitability; it was used to measure the profitability of the firm, Profitability is measured by Return on Assets (ROA).

GRO represents growth of the firm, which measured the growth of the firm, Growth of the firm is measured by book value of assets less book value of equity divided by book value of assets (total assets- equity/ total assets).

SIZE is the size of the firm, which was measured the size of the firm, Size is measured by ratio of sales to total assets of the firm.

LIQ is the liquidity of the firm which is a measure of risk, Liquidity of the firm is represented by ratio of current assets to current liabilities.

TANG (tangibility) is the share of fixed assets of the firm, Tangibility is measured by log of fixed assets of the firm.

NON TAX is the non-debt tax shield, Non-debt tax shield is measured by depreciation divided by total assets.

$\beta_0, \beta_1, \dots, \beta_7$ ; are the regression coefficients and  $\varepsilon$  is the error term.

Analysis of Variance (ANOVA)-According to Tredoux & Durrheim (2002), ANOVA was used to test for differences between the means of more than two groups, and can be used in designs with more than one independent variable. In the present study, ANOVA was used to test the mean score differences between shareholder value and leverage of firms listed in the NSE and to test for significance at 95% confidence level and 5% level of significance.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents the research findings on the relationship between leverage and market value to book ratio for firms listed at the Nairobi Securities Exchange. The study was conducted on 40 firms listed at the NSE where secondary data from the period of 2007 to 2011 was used in the analysis. Regression analysis was used in analysis the data.

#### 4.2 Descriptive Statistics

**Table 1: Descriptive Statistics**

	<b>MBV</b>	<b>Leverage</b>	<b>Size</b>	<b>Profitability</b>	<b>Growth</b>	<b>Non-Debt</b>	<b>Liquidity</b>
Averages	2.79	2.89	1.02	0.14	0.81	0.10	1.82
Median	2.4	2.51	1.00	0.14	0.83	0.09	1.8

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.892 <sup>a</sup>	.795	.761	.162

Adjusted R squared is coefficient of determination which tell us the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.761 an indication that there was variation of

76.1% on the ratio of market value to book value of companies listed at the NSE due to changes in the independent variable which are leverage of the firm, Profitability, Growth of the firm, Size, Liquidity of the firm, Tangibility and Non-debt tax shield at 95% confidence interval . This shows that 76.1% changes in ratio of market value to book value could be accounted for by leverage, profitability, Growth of the firm, Size, Liquidity of the firm, Tangibility and Non-debt tax shield. R is the correlation coefficient which shows the relationship between the study variable, from the findings shown in the table above there was a strong positive relationship between the study variable as shown by 0.892.

**Table 3: Coefficients**

Model		Unstandardized		Standardized		
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	2.809	.519		5.414	.000
	Leverage	-.012	.049	-.026	-.256	.799
	Profitability	.016	.099	.024	.166	.868
	Growth	.102	.078	.164	1.301	.197
	Size	.088	.104	.104	.844	.401
	Liquidity	.058	.100	.075	.573	.568
	Tangibility	.162	.092	.188	1.757	.083
	Non-debt tax shield	-.173	.076	-.247	-2.269	.026

From the data in the above table the established regression equation for year 2009 was

$$Y = 2.809 - 0.012 \text{ LEV} + 0.016 \text{ PROF} + 0.102 \text{ GRO} + 0.088 \text{ SIZE} + 0.058 \text{ LIQ} + 0.162 \text{ TANG} - 0.173 \text{ Non Debt.}$$

From the above regression equation it was revealed that holding leverage of the company, Profitability, Growth of the firm, Size, Liquidity of the firm, Tangibility and Non-debt tax to a constant zero, market value to book value of firms listed at the NSE would stand at 2.809, a unit increase in leverage of the company would lead to decrease in the market value to book value ratio of the company by a factor of 0.012, unit increase in profitability of the company would lead to increase in market value to book value ratio of the company by factors of 0.016, unit increase in growth would lead to increase in market value to book value ratio of the company by a factor of 0.102, unit increase in size would lead to increase in the market value to book value ratio of the firm by a factor of 0.088, a unit increase in market value to book value ratio of the firms listed at the NSE would lead to increase in market value to book value ratio of the firms by factors of 0.058, unit increase in tangibility would lead to increase in market value to book value ratio of the company by a factor of 0.162, further unit increase in non-debt tax shield would lead to decrease in market value to book value ratio by a factor of 0.173.

### **4.3 Summary and Interpretation of Findings**

The study found that variation in market value to book ratio of the firm can be accounted for by leverage, profitability, growth of the firm, Size, liquidity of the firm, Tangibility and Non-debt tax shield. The study further revealed that there was strong relationship between ratio market value to book value and leverage, profitability, growth of the firm, Size, liquidity of

the firm, tangibility and non-debt tax shield. From the regression equation it was revealed that growth of the firm, size of the firm, liquidity of the firm, profitability and tangibility of the firm had positive relationship with market value to book ratio of the firm, the study also found a negative relationship between leverage of the firm and ratio of market to book value of the firm and non-debt tax shield.

The study had intended to determine the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange. From the findings on the regression analysis, adjusted R squared is coefficient of determination which tell the variation in the market to book value ratio of the firm listed in the NSE due to changes in the leverage, Profitability, Growth of the firm, Size, Liquidity of the firm, Tangibility and Non-debt tax shield , the study revealed that value of adjusted R square ranged between 0.815 and 0.526, this is an indication that variation in leverage of the firm can be accounted for by market value to book value, profitability, growth of the firm, Size, liquidity of the firm, Tangibility and Non-debt tax shield. The study further revealed that there was strong relationship between ratio market value to book value and leverage , profitability, growth of the firm, Size, liquidity of the firm, tangibility and non-debt tax shield.

From the regression equations, it was revealed that there is a negative relationship between leverage and market to book ratio. The relationship between market to book ratio and profitability was established to be positive. The results revealed that there is a positive relationship between market to book ratio and growth. There is also a positive relationship between market to book ratio and size. The relationship between market to book ratio and

liquidity was found to be positive. A positive relationship was also established between market to book ratio and tangibility of the firm. Finally, the relationship between market to book ratio and non-debt tax shield was found to be negative. These findings agreed with past empirical studies as highlighted in the discussion below.

The negative relationship between leverage and Market to Book ratio confirms the findings of Rajan and Zingales (1995) who had documented a negative relation between book leverage and the market-to-book ratio in various countries. The relationship is also consistent with Frank and Goyal (2003) who upon examining the empirical implications of the trade-off theory, the market timing theory, and Welch's theory of capital structure using aggregate US data had found a high market-to-book ratio as being associated with subsequent debt reduction. This study has confirmed these findings by depicting a negative relationship between leverage and Market to Book Ratio.

The findings of this study also disagreed with findings of Myers (1984) who found that there exist a negative relationship between profitability of the company and market to book ratio of the company. Myers (1984) prescribed a negative relationship between leverage and profitability on the basis that successful companies do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits. Titman and Wessels (1988) and Barton *et al.* (1989), agree that firms with high profit rates, all things being equal, would maintain relatively lower debt ratio since they are able to generate such funds from internal sources.

The study found a positive relationship between growth of the company and market to book ratio. This concurs with the findings of Michaelas *et al.* (1999) found future growth positively related to leverage and long-term debt, Myers (1977) had confirmed that firms with a higher proportion of their market value accounted for by growth opportunity will have debt capacity. However against this view are Marsh (1982) and Titman and Wessels (1988) who reported a contrary negative relationship between debt ratios and firm size. Marsh (1982) argues that small companies, due to their limited access to equity capital market tend to rely heavily on loans for their funding requirements. Titman and Wessels (1988) further posit that small firms rely less on equity issue because they face a higher per unit issue cost. This study has confirmed some of these findings by depicting a positive relationship between leverage and firm size.

According to the results of the study, a negative relationship was established between liquidity and market to book ratio. Liquidity which was used as a proxy for risk has been depicted by previous studies as having a negative relationship to leverage. Empirical evidence suggests that there is a negative relationship between risk and leverage of small firms Ooi (1999) and Titman and Wessels (1988) since firms with relatively higher operating risk will have incentives to have lower leverage than more stable earnings firms.

From the study, a positive relationship between tangibility and leverage was established. This is consistent with Studies have also revealed that leverage is positively associated with the firm's assets. This is consistent with Myers (1977) argument that tangible assets, such as fixed assets, can support a higher debt level as compared to intangible assets, such as growth

opportunities. Non Debt Tax Shield was found to have negative relationship with leverage and this was in agreement with the findings of Auerbach (1985), MacKie-Mason (1990) who studied the tax impact on corporate financing decisions. The studies provided evidence of substantial tax effect on the choice between debt and equity. They concluded that changes in the marginal tax rate for any firm should affect financing decisions and thus the shareholder value.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The chapter provides the summary of the findings from chapter four. The objective of this study was to determine the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange.

#### **5.2 Summary of Findings**

This study was intended to reveal the nature of relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange. The focus was to determine the role that debt or equity in market to book value ratio. In order to achieve this objective, the study was designed to collect and analyse the relevant data for Kenyan listed companies.

In order to determine the relationship between market to book ratio and leverage, the study sort evidence from firms listed at the Kenya's Nairobi Securities Exchange. Regression analysis on data from a sample of 40 companies listed at the Exchange for five years period from 2007 to 2011 was conducted to examine the variables market to book value ratio and leverage while controlling for Profitability, Growth of the firm, Size, Liquidity of the firm, Tangibility and Non-debt tax shield. A suitable regression model was designed in order to capture all the relevant variables of the study.

The study revealed that market to book value ratio of the firm can be accounted for by leverage. There was strong negative relationship between Market to Book Ratio of the firm and leverage. The relationship between market to book ratio and one control variables namely Non-Debt Tax Shield was negative. A positive relationship between market to book value ratio and the other five control variables namely; profitability growth, size, liquidity and tangibility was established.

The findings of this study have enriched the existing literature on market book value ratio and the factors that tend to account for market book value ratio levels of firms. It has shown that leverage is key factor that managers should review in order to determine Market to Book Ratio. Increasing Market to Book Ratio will favor equity issuance in whatever form as opposed debt. Debt will increase when the Market to book ratio is below 1. The leverage position was therefore found to be partly derived by Market to Book Ratios. This finding is useful to motivate further studies on this area.

### **5.3 Conclusion**

The research objective was to determine the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange. The findings of the study confirmed that there exists a negative relationship between leverage and Market to Book ratio. This can be explained by various factors such as the role of a high share prices increasing the Market to Book Ratio in turn leading to firms opting to issue more equity which will be highly priced leading to higher proceeds from the issue.

Practitioners will then need to consider the market to book ratio whenever they intend to adjust leverage either by issuing more equity or if the decision is to otherwise acquire more debt. It will enable the firms to know the consequence that adoption of any of these two financing decisions has on the Market to Book ratio hence pre-empt the valuation. The firm will then be able to operate within the most optimal selection when faced with the decision.

#### **5.4 Recommendations**

From the above discussion and conclusion the study recommends that companies at NSE must follow the financing hierarchy as postulated by the pecking order concept i.e. internal funds should be used before debt financing and then equity as equity and debt financing are more expensive and they affect the capital structure of the company compared to internal funds.

The study also recommends that companies must take note of their market to book ratios as well as profitability, growth, size, liquidity, tangibility, non-debt tax shields because these will affect financing decisions. All this will have a bearing on the leverage levels of these firms. Management will therefore need to keep a close watch on these variables to assist in determining the impact that they will have on the leverage levels.

It is recommended that financiers of companies including both shareholders and debt issuers keep a watch on market to book ratios as well as the other determinants of leverage. This will aid in an attempt to predict the possible leverage position of the firm. By doing this well in

advance potential problems of illiquidity and potential adverse effects of inadequate capital or over-borrowing can be avoided.

### **5.5 Limitation of the Study**

In attaining its objective the study was limited to 36 firms listed companies in the NSE. Financial companies were excluded since their leverage is highly dependent on legislation. The study could not therefore incorporate the impact on these of companies.

Secondary data was collected from the firm financial reports. The study was also limited to the degree of precision of the data obtained from the secondary source. While the data was verifiable since it came from the Nairobi Securities Exchange publications, it nonetheless could still be prone to these shortcomings.

The study was limited to establishing the relationship between capital structure and shareholder value for companies listed in the Nairobi Securities Exchange. For this reason the non-listed firms could not be incorporated in the study.

The study was based on a five year study period from the year 2007 to 2011. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

## **5.6 Suggestions for Further Research**

A study can be designed to find out how what variables are applicable to financial companies. This will give an indication as to what factors are critical in arriving at the leverage status of these firms and thus shareholder value.

From the findings and conclusion, the study recommends an in-depth study to be carried out on the relationship between shareholders value and other determinants of capital structure not analyzed in this study. This will help to allow more insight not only on the factors but on multi-variation among them.

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## APPENDICES

### Appendix I: Companies listed on the Nairobi Security Exchange

1. Eaagads Ltd.
2. Kapchorua Tea Co. Ltd.
3. Kakuzi Ltd.
4. Williamson Tea Kenya Ltd
5. Rea Vipingo Plantations Ltd.
6. Sasini Ltd.
7. Limuru Tea Co. Ltd
8. Kenya Airways Ltd.
9. Nation Media Group Ltd.
10. Standard Group Ltd.
11. TPS Eastern Africa (Serena) Ltd.
12. Express Ltd.
13. Car and General (K) Ltd.
14. CMC Holdings Ltd.
15. Sameer Africa Ltd.
16. Marshalls (E.A.) Ltd.
17. City Trust Ltd.
18. Olympia Capital Holdings ltd.

19. Centum Investment Co Ltd.
20. Longhorn Kenya Ltd
21. B.O.C Kenya Ltd.
22. British American Tobacco Kenya Ltd.
23. Carbacid Investments Ltd.
24. East African Breweries Ltd.
25. Mumias Sugar Co. Ltd.
26. Unga Group Ltd.
27. Eveready East Africa Ltd.
28. Kenya Orchards Ltd.
29. Athi River Mining.
30. A.Baumann Co.Ltd.
31. Bamburi Cement Ltd.
32. Crown Berger Ltd.
33. E.A.Cables Ltd.
34. E.A.Portland Cement Ltd.
35. KenolKobil Ltd.
36. Total Kenya Ltd.
37. Kenya Power & Lighting Co Ltd
38. KenGen Ltd.
39. Pan Africa Insurance Holdings Ltd.
40. Kenya Re-Insurance Corporation Ltd.

41. CFC Insurance Holdings
42. British-American Investments Company ( Kenya) Ltd
43. CIC Insurance Group Ltd.
44. Trans-Century Ltd
45. Barclays Bank Ltd.
46. CFC Stanbic Holdings Ltd.
47. Diamond Trust Bank Kenya Ltd.
48. Housing Finance Co Ltd.
49. Kenya Commercial Bank Ltd.
50. National Bank of Kenya Ltd.
51. NIC Bank Ltd.
52. Standard Chartered Bank Ltd.
53. Equity Bank Ltd.
54. The Co-operative Bank of Kenya Ltd.
55. Jubilee Holdings Ltd.
56. Safaricom Ltd.
57. Hutchings Biemer Ltd
58. AccessKenya Group Ltd.
59. I&M Holdings Ltd
60. Liberty Kenya Holdings Ltd.

## Appendix II : Regression Analysis

### Summary of Data

Company	MBV	Leverage	Size	Profitability	Growth	Non-Debt	Liquidity
Unilever	1.660	2.620	0.897	0.060	0.821	0.062	3.050
Kakuzi	0.754	2.520	0.637	0.102	0.855	0.072	2.006
Rea	1.228	1.140	1.045	0.177	0.577	0.050	2.025
Sasini	0.718	2.507	0.473	0.181	0.799	0.092	3.557
Car General	1.812	3.469	0.908	0.176	0.842	0.098	1.842
Cmc	1.690	8.549	1.019	0.097	0.893	0.020	2.335
Kq	1.144	3.517	0.948	0.106	1.045	0.238	1.762
Marshalls	1.232	2.995	1.193	0.060	0.858	0.060	1.265
N M G	6.280	2.965	1.294	0.242	0.842	0.054	1.862
Standard	4.246	2.186	1.449	0.175	0.718	0.182	1.903
Tps	1.696	1.941	0.768	0.077	0.698	0.171	1.084
Athi-River	3.468	1.873	0.929	0.097	0.775	0.088	1.422
Bamburi	3.526	2.123	1.049	0.230	0.740	0.082	1.971
B A T	4.718	2.474	1.742	0.237	0.763	0.099	1.465
Boc Kenya	3.774	2.508	0.822	0.175	0.800	0.033	2.400
Crown-Berger	2.164	3.618	1.109	0.128	0.916	0.024	2.223
East A Cables	7.040	5.157	1.306	0.197	0.834	0.086	2.381
East A Portland	4.340	2.730	0.905	0.157	0.846	0.104	1.944
Eabl	4.694	3.249	1.004	0.218	0.805	0.087	2.202

Sameer	0.590	2.009	0.997	0.141	0.685	0.065	2.517
Limuru	3.746	4.293	1.113	0.108	0.788	0.393	1.846
Williamson	0.562	3.016	1.183	0.100	0.922	0.100	1.135
Kapchorua	0.764	2.196	1.150	0.141	0.910	0.061	1.582
Eaagads	1.814	3.750	1.091	0.156	0.888	0.067	1.536
Scan Group	6.342	1.731	1.283	0.154	0.741	0.124	1.463
Hutchings	3.092	1.781	1.038	0.132	0.771	0.091	1.176
Uchumi	3.288	1.835	0.839	0.115	0.676	0.113	1.292
Express	4.164	2.355	0.922	0.135	0.759	0.118	1.416
City Trust	2.402	2.373	1.054	0.140	0.842	0.067	1.334
Olympia	2.546	2.599	1.040	0.173	0.776	0.073	1.311
Centum	2.158	1.661	0.984	0.110	0.741	0.094	1.381
Carbacid	4.122	2.594	0.926	0.152	0.844	0.110	1.300
Mumias	2.290	1.723	0.998	0.119	0.826	0.057	1.362
Unga	1.116	2.708	1.078	0.186	0.841	0.072	1.704
Eveready	3.466	2.248	0.973	0.207	0.873	0.070	2.155
Orchard	2.404	5.711	0.822	0.107	0.831	0.117	1.637
A.Bauman	4.378	1.900	0.868	0.109	0.850	0.169	1.888
KenolKobil	3.640	2.963	0.872	0.128	0.908	0.076	2.016
Kengen	1.618	6.016	1.179	0.118	0.877	0.103	2.473
Kplc	0.966	1.853	0.879	0.139	0.802	0.038	1.662
Total	4.637	4.027	0.925	0.134	0.923	0.024	1.853

**Appendix III: Data****Table of Year 2007**

<b>company</b>	<b>MBV</b>	<b>leverage</b>	<b>size</b>	<b>profitability</b>	<b>Growth</b>	<b>non-debt</b>	<b>liquidity</b>
Unilever	1.180	3.342	0.872	0.027	0.900	0.096	1.373
Kakuzi	0.910	5.387	0.637	0.114	0.959	0.057	0.785
Rea	1.820	1.773	1.057	0.144	0.670	0.006	1.589
Sasini	0.780	2.140	0.346	0.018	0.940	0.013	2.026
Car General	1.310	9.670	0.904	0.126	0.945	0.035	1.317
CMC	1.570	21.620	0.963	0.094	0.974	0.006	1.523
KQ	1.450	7.310	0.761	0.077	0.970	0.072	1.394
Marshalls	0.750	9.350	1.028	0.034	0.943	0.145	1.227
N M G	5.860	6.317	1.303	0.272	0.940	0.033	1.907
Standard	6.300	2.897	1.183	0.187	0.832	0.349	1.325
TPS	1.800	1.518	0.541	0.091	0.622	0.035	1.052
Athi-River	3.020	2.337	0.862	0.138	0.823	0.028	1.109
Bamburi	5.050	2.776	1.067	0.263	0.912	0.036	2.199
B A T	4.130	4.544	1.701	0.221	0.892	0.115	1.127
BOC Kenya	2.380	4.960	0.809	0.215	0.946	0.018	2.588
Crown-Berger	1.300	6.136	1.370	0.092	0.922	0.035	1.595
East A Cables	8.930	15.177	1.079	0.186	0.968	0.100	1.552
East A Portland	2.150	2.307	0.716	0.124	0.877	0.022	2.209
E ABL	4.650	5.173	1.204	0.342	0.937	0.067	2.207

Sameer	0.440	1.753	1.097	0.053	0.560	0.016	2.123
Limuru	3.740	2.270	0.870	0.124	0.922	0.083	1.359
Williamson	0.550	1.594	0.942	0.072	0.969	0.013	1.568
kapchorua	0.930	2.546	0.762	0.101	0.967	0.263	1.129
Eaagads	2.070	1.440	1.203	0.049	0.934	0.019	1.229
Scan group	8.380	2.036	1.198	0.217	0.933	0.007	2.231
Hutchings	1.950	1.954	0.747	0.236	0.713	0.064	1.432
Uchumi	3.210	1.079	0.532	0.081	0.587	0.169	1.508
Express	5.180	4.076	0.612	0.091	0.834	0.239	0.977
City trust	1.490	2.632	0.903	0.202	0.904	0.072	2.286
Olympia	1.190	3.581	1.629	0.225	0.871	0.066	1.264
Centum	0.860	1.594	0.942	0.072	0.969	0.013	1.568
Carbacid	1.750	2.546	0.762	0.101	0.967	0.263	1.129
Mumias	1.840	1.440	1.203	0.049	0.934	0.019	1.229
Unga	0.790	2.036	1.198	0.217	0.933	0.007	2.231
Eveready	7.330	1.954	0.747	0.236	0.713	0.064	1.432
Orchard	4.860	1.079	0.532	0.081	0.587	0.169	1.508
A. Bauman	3.020	4.076	0.612	0.091	0.834	0.239	0.977
Kenol kobil	3.670	4.274	0.259	0.275	0.953	0.239	2.571
Kengen	1.830	1.697	0.959	0.061	0.961	0.048	1.529
KPLC	0.730	2.160	1.146	0.055	0.906	0.030	2.776
<b>Total</b>	<b>3.605</b>	<b>3.087</b>	<b>0.848</b>	<b>0.059</b>	<b>0.850</b>	<b>0.001</b>	<b>1.387</b>

**Table Year 2008**

<b>Company</b>	<b>MBV</b>	<b>leverage</b>	<b>size</b>	<b>Profitability</b>	<b>growth</b>	<b>non-debt</b>	<b>liquidity</b>
Unilever	1.140	4.577	0.787	0.015	0.909	0.048	1.576
Kakuzi	0.780	2.782	0.609	0.083	0.957	0.067	0.665
Rea	1.400	1.078	1.107	0.148	0.640	0.060	1.543
Sasini	1.120	2.209	0.331	0.091	0.950	0.069	1.966
Car General	1.360	2.270	0.870	0.124	0.922	0.083	1.359
CMC	1.790	1.594	0.942	0.072	0.969	0.013	1.568
KQ	1.290	2.546	0.762	0.101	0.967	0.263	1.129
Marshalls	0.820	1.440	1.203	0.049	0.934	0.019	1.229
N M G	5.850	2.036	1.198	0.217	0.933	0.007	2.231
Standard	3.410	1.954	0.747	0.236	0.713	0.064	1.432
TPS	1.430	4.086	1.034	0.071	0.922	0.210	0.870
Athi-River	3.170	1.192	1.330	0.023	0.925	0.002	0.819
Bamburi	4.250	4.458	1.202	0.221	0.934	0.091	1.712
B A T	2.610	1.853	1.807	0.125	0.621	0.130	0.978
BOC Kenya	2.180	1.604	0.814	0.096	0.708	0.017	1.102
Crown-Berger	1.420	4.327	0.651	0.196	0.941	0.032	2.485
East A Cables	5.270	6.438	1.101	0.052	0.923	0.070	1.598
East A Portland	1.840	1.832	1.070	0.222	0.947	0.186	1.619
E ABL	4.610	5.442	0.683	0.102	0.879	0.089	2.491

Sameer	0.370	1.891	1.511	0.343	0.869	0.035	1.849
Limuru	4.270	1.048	0.958	0.004	0.580	0.004	1.849
Williamson	0.610	1.732	1.276	0.063	0.927	0.000	1.100
kapchorua	0.750	1.721	1.677	0.363	0.793	0.003	2.656
Eaagads	1.910	1.954	0.747	0.236	0.713	0.064	1.432
Scan group	7.820	1.079	0.532	0.081	0.587	0.169	1.508
Hutchings	5.540	2.553	1.483	0.207	0.799	0.355	1.425
Uchumi	5.310	0.843	0.841	0.101	0.558	0.045	1.152
Express	4.100	1.079	0.532	0.081	0.587	0.169	1.508
City trust	3.210	4.076	0.612	0.091	0.834	0.239	0.977
Olympia	1.590	1.604	0.814	0.096	0.708	0.017	1.102
Centum	0.790	1.397	0.809	0.085	0.651	0.130	1.044
Carbacid	5.190	2.383	0.829	0.188	0.877	0.026	1.808
Mumias	3.860	1.192	1.330	0.023	0.925	0.002	0.819
Unga	0.890	4.458	1.202	0.221	0.934	0.091	1.712
Eveready	3.250	1.594	0.942	0.072	0.969	0.013	1.568
Orchard	0.890	2.546	0.762	0.101	0.967	0.263	1.129
A. Bauman	2.090	1.440	1.203	0.049	0.934	0.019	1.229
Kenol kobil	3.260	3.087	0.848	0.059	0.850	0.001	1.387
Kengen	0.930	4.086	1.034	0.071	0.922	0.210	0.870
Kplc	0.810	1.954	0.747	0.236	0.713	0.064	1.432
<b>Total</b>	<b>1.810</b>	<b>1.697</b>	<b>0.959</b>	<b>0.061</b>	<b>0.961</b>	<b>0.048</b>	<b>1.529</b>

**Table of Year 2009**

<b>company</b>	<b>MBV</b>	<b>leverage</b>	<b>size</b>	<b>profitability</b>	<b>growth</b>	<b>non-debt</b>	<b>liquidity</b>
Unilever	1.770	2.054	0.953	0.021	0.900	0.018	1.105
Kakuzi	0.610	1.768	0.538	0.054	0.953	0.077	2.370
Rea	1.090	1.108	1.057	0.177	0.632	0.009	3.833
Sasini	0.580	3.449	0.271	0.152	0.945	0.135	7.007
Car General	1.960	1.006	0.915	0.244	0.904	0.238	3.806
CMC	1.580	1.539	0.966	0.065	0.966	0.017	5.520
KQ	0.980	1.074	0.922	0.104	0.949	0.231	4.107
Marshalls	0.890	1.732	1.276	0.063	0.927	0.000	1.834
N M G	9.520	1.355	1.264	0.230	0.919	0.006	1.655
Standard	6.390	1.672	2.025	0.120	0.623	0.013	4.354
TPS	1.490	1.653	0.609	0.028	0.683	0.549	1.244
Athi-River	5.780	2.872	0.682	0.091	0.782	0.259	3.018
Bamburi	1.880	0.601	0.981	0.205	0.561	0.019	2.939
B A T	5.580	2.353	1.792	0.322	0.840	0.028	2.511
BOC Kenya	1.570	2.459	0.612	0.181	0.938	0.045	2.648
Crown-Berger	1.680	2.160	1.146	0.055	0.906	0.030	2.776
East A Cables	6.860	1.549	1.104	0.279	0.903	0.214	4.222
East A Portland	2.420	4.977	0.695	0.141	0.858	0.037	3.422
E ABL	3.900	1.749	1.525	0.378	0.856	0.012	3.251

Sameer	0.490	0.845	1.048	0.092	0.566	0.012	5.427
Limuru	3.540	14.697	0.959	0.061	0.961	0.048	1.529
Williamson	0.460	4.086	1.034	0.071	0.922	0.210	0.870
kapchorua	0.670	1.192	1.330	0.023	0.925	0.002	0.819
Eaagads	1.910	4.458	1.202	0.221	0.934	0.091	1.712
Scan group	6.050	1.853	1.807	0.125	0.621	0.130	0.978
Hutchings	1.940	1.604	0.814	0.096	0.708	0.017	1.102
Uchumi	3.090	1.397	0.809	0.085	0.651	0.130	1.044
Express	6.940	2.383	0.829	0.188	0.877	0.026	1.808
City trust	1.520	2.361	1.611	0.286	0.837	0.005	1.483
Olympia	1.970	1.954	0.747	0.236	0.713	0.064	1.432
Centum	1.950	1.079	0.532	0.081	0.587	0.169	1.508
Carbacid	2.340	4.076	0.612	0.091	0.834	0.239	0.977
Mumias	2.690	2.632	0.903	0.202	0.904	0.072	2.286
Unga	1.130	3.581	1.629	0.225	0.871	0.066	1.264
Eveready	1.780	4.327	0.651	0.196	0.941	0.032	2.485
Orchard	2.930	6.438	1.101	0.052	0.923	0.070	1.598
A.Bauman	6.150	1.832	1.070	0.222	0.947	0.186	1.619
Kenol kobil	3.820	2.140	0.346	0.018	0.940	0.013	2.026
Kengen	1.980	21.620	0.963	0.094	0.974	0.006	1.523
KPLC	0.960	1.594	0.942	0.072	0.969	0.013	1.568
<b>Total</b>	<b>5.120</b>	<b>9.670</b>	<b>0.904</b>	<b>0.126</b>	<b>0.945</b>	<b>0.035</b>	<b>1.317</b>

**Table Year 2010**

<b>company</b>	<b>MBV</b>	<b>leverage</b>	<b>size</b>	<b>profitability</b>	<b>growth</b>	<b>non debt</b>	<b>liquidity</b>
Unilever	1.87	2.155	0.898	0.107	0.905	0.043	1.831
Kakuzi	0.59	1.766	0.664	0.043	0.954	0.002	0.642
Rea	0.78	1.178	0.849	0.173	0.626	0.071	1.580
Sasini	0.48	4.274	0.259	0.275	0.953	0.239	2.571
Car General	2.65	3.087	0.848	0.059	0.850	0.001	1.387
CMC	1.95	1.697	0.959	0.061	0.961	0.048	1.529
KQ	0.89	4.086	1.034	0.071	0.922	0.210	0.870
Marshalls	0.89	1.192	1.330	0.023	0.925	0.002	0.819
N M G	7.52	4.458	1.202	0.221	0.934	0.091	1.712
Standard	3.45	1.853	1.807	0.125	0.621	0.130	0.978
TPS	2.31	1.604	0.814	0.096	0.708	0.017	1.102
Athi-River	3.78	1.397	0.809	0.085	0.651	0.130	1.044
Bamburi	4.69	2.383	0.829	0.188	0.877	0.026	1.808
B A T	2.89	2.361	1.611	0.286	0.837	0.005	1.483
BOC Kenya	5.34	3.124	0.567	0.151	0.932	0.056	2.976
Crown-Berger	1.94	4.112	1.114	0.067	0.892	0.018	1.715
East A Cables	7.21	1.721	1.677	0.363	0.793	0.003	2.656
East A Portland	7.57	1.954	0.747	0.236	0.713	0.064	1.432
E ABL	6.15	1.079	0.532	0.081	0.587	0.169	1.508

Sameer	0.78	4.076	0.612	0.091	0.834	0.239	0.977
Limuru	4.66	2.632	0.903	0.202	0.904	0.072	2.286
Williamson	0.46	3.581	1.629	0.225	0.871	0.066	1.264
kapchorua	0.64	4.327	0.651	0.196	0.941	0.032	2.485
Eaagads	1.36	6.438	1.101	0.052	0.923	0.070	1.598
Scan group	4.16	1.832	1.070	0.222	0.947	0.186	1.619
Hutchings	4.26	1.192	1.330	0.023	0.925	0.002	0.819
Uchumi	1.49	4.458	1.202	0.221	0.934	0.091	1.712
Express	2.65	1.853	1.807	0.125	0.621	0.130	0.978
City trust	4.21	1.604	0.814	0.096	0.708	0.017	1.102
Olympia	3.09	1.397	0.809	0.085	0.651	0.130	1.044
Centum	1.14	2.383	0.829	0.188	0.877	0.026	1.808
Carbacid	7.12	2.361	1.611	0.286	0.837	0.005	1.483
Mumias	1.17	1.954	0.747	0.236	0.713	0.064	1.432
Unga	1.45	1.079	0.532	0.081	0.587	0.169	1.508
Eveready	3.26	1.006	0.915	0.244	0.904	0.238	3.806
Orchard	1.58	16.539	0.966	0.065	0.966	0.017	2.520
A.Bauman	5.59	1.074	0.922	0.104	0.949	0.231	4.107
Kenol kobil	3.29	1.732	1.276	0.063	0.927	0.061	2.834
Kengen	1.39	1.672	2.025	0.120	0.623	0.013	4.635
KPLC	1.02	1.954	0.747	0.236	0.713	0.064	1.432
<b>Total</b>	<b>9.52</b>	<b>1.355</b>	<b>1.264</b>	<b>0.230</b>	<b>0.919</b>	<b>0.006</b>	<b>2.546</b>

**Table of Year 2011**

<b>company</b>	<b>MBV</b>	<b>leverage</b>	<b>size</b>	<b>Profitability</b>	<b>growth</b>	<b>Non-debt</b>	<b>Liquidity</b>
Unilever	2.34	0.972	0.972	0.127	0.492	0.106	1.368
Kakuzi	0.88	0.898	0.737	0.214	0.450	0.157	5.568
Rea	1.05	0.565	1.157	0.244	0.316	0.106	1.579
Sasini	0.63	0.464	1.157	0.367	0.207	0.002	4.216
Car General	1.78	1.311	1.004	0.326	0.588	0.135	1.344
CMC	1.56	1.296	1.263	0.194	0.594	0.016	1.533
KQ	1.11	2.571	1.261	0.177	1.421	0.413	1.309
Marshalls	2.81	1.263	1.128	0.134	0.560	0.135	1.217
N M G	2.65	0.658	1.503	0.272	0.482	0.134	1.807
Standard	1.68	2.553	1.483	0.207	0.799	0.355	1.425
TPS	1.45	0.843	0.841	0.101	0.558	0.045	1.152
Athi-River	1.59	1.569	0.962	0.148	0.693	0.023	1.119
Bamburi	1.76	0.397	1.167	0.273	0.413	0.236	1.199
B A T	8.38	1.256	1.801	0.231	0.627	0.215	1.227
BOC Kenya	7.4	0.395	1.309	0.235	0.474	0.028	2.688
Crown-Berger	4.48	1.355	1.264	0.230	0.919	0.006	2.546
East A Cables	6.93	0.901	1.570	0.102	0.582	0.045	1.875
East A Portland	7.72	2.580	1.298	0.063	0.836	0.210	1.040
E ABL	4.16	2.802	1.079	0.186	0.766	0.100	1.552

Sameer	0.87	1.478	0.716	0.124	0.596	0.022	2.209
Limuru	2.52	0.816	1.877	0.151	0.571	1.761	2.207
Williamson	0.73	4.086	1.034	0.071	0.922	0.210	0.870
kapchorua	0.83	1.192	1.330	0.023	0.925	0.002	0.819
Eaagads	1.82	4.458	1.202	0.221	0.934	0.091	1.712
Express	1.95	2.383	0.829	0.188	0.877	0.026	1.808
City trust	1.58	1.192	1.330	0.023	0.925	0.002	0.819
Olympia	4.89	4.458	1.202	0.221	0.934	0.091	1.712
Centum	6.05	1.853	1.807	0.125	0.621	0.130	0.978
Carbacid	4.21	1.604	0.814	0.096	0.708	0.017	1.102
Mumias	1.89	1.397	0.809	0.085	0.651	0.130	1.044
Unga	1.32	2.383	0.829	0.188	0.877	0.026	1.808
Eveready	1.71	2.361	1.611	0.286	0.837	0.005	1.483
Orchard	1.76	1.954	0.747	0.236	0.713	0.064	1.432
A.Bauman	5.04	1.079	0.532	0.081	0.587	0.169	1.508
Kenol kobil	4.16	3.581	1.629	0.225	0.871	0.066	1.264
Kengen	1.96	1.006	0.915	0.244	0.904	0.238	3.806
kPLC	1.31	1.604	0.814	0.096	0.708	0.017	1.102
<b>Total</b>	<b>3.13</b>	<b>4.327</b>	<b>0.651</b>	<b>0.196</b>	<b>0.941</b>	<b>0.032</b>	<b>2.485</b>