THE EFFECT OF CAPITAL STRUCTURE ON THE COST OF CAPITAL OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE.

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DECLARATION

The work presented in this paper is my original work and has not been presented before in the university or any other institution outside the university. The information collected from different sources is true and relevant and has not been manipulated in any way.

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As the supervisor, I declare that the work hereby presented is original, true and relevant.

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DEDICATION

This study is dedicated to my lovely parents, Gilbert and Isabella Ongere, who have always believed in me and have provided support in many ways throughout my studies, to my siblings Esther, Steve, Diana and Eliud for their encouragement and mentorship in becoming who I am today. I also dedicate this study to my friends who have been keeping track of my progress and for being so patient and understanding throughout the process of conducting my study.

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LIST OF ABBREVIATION

CAPM   Capital Asset Pricing Model

CBK   Central Bank of Kenya

COC   Cost of Capital

COD   Cost of Debt

COE   Cost of Equity

CMA   Capital Markets Authority

CS   Capital Structure

EAC   East African Community

IPO   Initial Public Offer

NASI   Nairobi Stock Exchange All Share Index

NSE   Nairobi Securities Exchange

WACC   Weighted Average Cost of Capital

ABSTRACT

Capital structure has been a subject of interest to many researchers over a long period of time because of its importance in financial decision making. As a matter fact, the amount of debt or equity a company holds significantly determines its survival in the long run. While keeping in mind that the overall objective of the firm is to maximize shareholder wealth and thus increase value, a firm is said to create value when it generates a return greater than its cost of capital. The cost of capital is therefore an important factor in determining a firm's value. According to Modigliani and Miller, a firm's cost of capital is said to be independent of its capital structure under the assumption of a perfect market which only exists in theory. To determine whether this theory holds true, this study sought to examine the effect of capital structure on the cost of capital of firms listed at the Nairobi Securities Exchange. The study reviewed literature on capital structure and determinants of a firm's cost of capital. The size of the firm was found to be a determinant of cost of capital and was measured as the value of total assets held by a firm. Capital structure was measured as the leverage ratio of total debt over total equity while the cost of capital was measured as the weighted average cost of capital. The relationship between capital structure and the cost of capital was explained using regression analysis. The study found that there existed a positive relationship between capital structure, the cost of capital and size of the firm such that an increase in capital structure and size of the firm resulted in an increase in the cost of capital at statistically significant levels. The study concluded that an increase in the leverage ratio will lead to an increase in the cost of capital, while a decrease in leverage will correspond to a decrease in the cost of capital of firms listed on the NSE.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financing decisions are among the most important decisions that financial managers are faced with because firms must determine the source of funds to finance their assets, operations and growth. These decisions form the firm's capital structure (CS). The overall objective of the firm is wealth maximization therefore the firm must determine the optimal CS that will maximize its value (Morris, 2001). The firm however creates value when it provides a return greater than its cost of capital (COC). As a result, an optimal CS will seek to minimize the firm's COC as a whole (Khadka, 2006). CS irrelevance has however been debated under the Modigliani-Miller (1958) theory which states that the COC is independent of the degree of leverage in a firm's CS. This irrelevance proposition assumes that there are no taxes, no bankruptcy costs, no transaction costs, information symmetry and other market imperfections which otherwise exist in the real world.

Several other theories on CS have emerged over the years. These include the trade-off theory and the pecking order theory which state that firms trade off the costs and benefits associated with debt and equity by finding an optimal CS after accounting for market imperfections and that firms will source for funds following a preference order of internal funds, debt and then equity (Myers & Majiluf, 1984). In as much as there has been numerous research on CS and COC as distinct areas in financial management, the effect of CS on the COC remains unclear. Research studies on the effect of CS on the COC have mostly been conducted in developed countries. In Kenya, there has been little research on the effect of CS on the COC of firms listed on the NSE. This forms the motivation for this research. The variables of this study are

CS and COC. This study will seek to measure the effect of CS on the COC of firms listed on the NSE. It will seek to establish whether the COC is dependent on the firm's CS.

1.1.1 Capital Structure

Capital structure (CS) is the combination of debt, equity or internal funds that a firm chooses to run its operations. The decision on whether to use debt, equity or a combination of both is determined by several factors such as business risk, tax exposure, market conditions, the firm's growth rate and the COC (Huang & Song, 2006). According to Modigliani and Miller (1958) under perfect markets, the value of the firm and COC are independent of CS and therefore whether the firm is highly leveraged or has a lower debt component, there is no bearing on the firm's market value or COC. This theories paved the way for alternative theories of CS and empirical analysis because once the assumption of perfect capital markets is relaxed, the choice of CS and the COC become important value-determining factors (Marietta, 2012).

According to the static trade-off theory by Myers & Majiluf (1984), optimal CS is reached when the tax advantage of borrowing is balanced by costs of financial distress. The optimal CS of the firm will therefore be obtained at the combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital (WACC). The pecking order theory of CS however assumes that there is no optimal CS rather firms choose capital according to the preference of internal finance, debt then equity (Chen, Jung, & Chen, 2011).

1.1.2 Cost of Capital

The cost of capital (COC) is the rate of return that suppliers of capital require as compensation for their contribution to capital. It can also be defined as the opportunity cost of using funds to invest in new projects because it is the rate of return on the firm's total investment which earns the required rates of return for all the sources of financing (Mirea, Asalos, & Ainur, 2007). The basic components of a company's CS include debt, retained earnings and equity. Each component of capital has an associated cost expressed by a discount rate which is determined by the market value of certain components of the capital (Dejan & Almir, 2013). COC can therefore be determined by calculating the cost of debt (COD), the cost of equity (COE) or a combination of both using the WACC.

The COD is the interest paid by a company on its current debt. According to Armadeep (2013), debt financing is cheaper than equity financing because interest on debt is tax deductible but it is a more risky source of funding because repayments have to be made regardless of whether the firm makes profits or losses. Debt financing becomes expensive to the firm at the point where a firm is highly leveraged because subsequent lenders will charge higher interest rates. The COE on the other hand is expensive to raise, time consuming and management loses control on decision making but its main advantage is that it has no fixed prepayments. WACC is the average rate of return that a company pays to its shareholders and creditors (Alihodzic & Eric, 2013). It is determined by weighting the cost of each specific type of capital by proportions of each type of capital used. The use of weights is based on the assumption that the firm's existing mix of funds is optimal and therefore should be maintained in the future .

COC is important in capital budgeting decisions because it forms the very basis of financial appraisal for new capital expenditure proposals (Armadeep, 2013). The COC is an important estimate in discounted cashflow techniques which are generally accepted in project appraisal (Garret, 2009). In the event that COC is wrongly determined, the financial manager's decision will be irrational. COC is also important in CS decisions because the firm must raise capital from different sources in a way that optimizes risk and cost factors (Armadeep, 2013). This study therefore seeks to use the COC as a measure of performance because it is undeniable that knowledge of COC and how it is influenced by financial leverage is useful in designing the firm's CS which affects the size and riskiness of the firm's earnings and consequently its value (Wanyonyi, 2010).

1.1.3 Capital Structure and Cost of Capital

According to Modigliani and Miller (1985) theory of CS, there exists no relationship between CS and COC because a firm's COC is independent of its degree of leverage. CS and COC are however related in that the CS that produces the highest firm value or the lowest COC is the one most beneficial to the firm (Ben-Shahar, 1968). An optimal CS is therefore one where the combination of debt and equity minimizes the COC. CS and COC have a direct relationship in terms of the financial well-being of a company. When in balance, both the CS and the specific type of COC employed can aid in selecting the right type of investments to make on behalf of the company (Tatum, 2015). Without relating the CS and COC to business activities in the most productive manner, the potential for failure of the operation is increased.

The connection between CS and COC helps to demonstrate how decisions on how to operate a firm have a direct impact on both the debt and equity that the business holds at any given point in time. When firms fail to recognise the relationship between CS and COC, the

potential for taking on additional debt without generating much income is increased (Khadka, 2006). The relationship between the COC and CS has been found to either be positive, negative or have no relationship at all as studied by Gapenski (1987), Singh & Nejadmalayeri (2004) and Khadka (2006) respectively.

1.1.4 Nairobi Securities Exchange

The Nairobi Stock Exchange (NSE) began operation in 1954 without a physical trading floor where business was transacted by telephone and prices determined through negotiation. Between 1963 and 1970, the NSE operated as a regional market in East Africa with listed securities from the governments of Kenya Uganda and Tanzania. After the collapse of the EAC and ultimate delisting of companies domiciled in Uganda and Tanzania, the CMA was formed to facilitate the development of an orderly and efficient capital market in Kenya. In 1994, the NSE set up a computerized delivery and settlement system and was rated by the International Finance Corporation as the best performing market in the world with a return of 179% in dollar terms. In 2001, the market at the NSE was split into the main investment market segment, alternate investment market segment and the fixed income securities market segment. In 2014 the NSE listed its shares through an IPO and also launched a new system for the trading of corporate and treasury bonds.

There are currently 64 firms listed on the NSE. Listed companies are classified into 11 broad categories namely agricultural companies, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, investment services, manufacturing and allied and telecommunication and technology. The NSE is important to the Kenyan economy because it provides a platform for the exchange of resources between lenders and borrowers and allows for the mobilization of savings for

investment resulting in productive enterprises. This paper has selected the NSE as an area of study because it trades in equity and debt securities which are publicly traded and therefore provides a practical example of companies faced with the dilemma of maximising shareholder wealth at minimum costs of capital.

Firms listed on the NSE are financed by a combination debt and equity which constitute the capital structure of individual firms. Equity securities comprise ordinary shares and preference shares. Most of the securities listed on the NSE are ordinary shares which account for most of the exchange's turnover. Other traded securities under the equity market are real estate investment trusts and exchange traded funds. Debt securities comprise government and treasury bonds. The COC for firms listed on the NSE is a combination of the COD and the COE since firms are financed by both debt and equity. The WACC is therefore a significant measure in determining the COC of firms listed on the NSE.

1.2 Research Problem

The issue of CS has been a subject of concern for many researchers over the past several years because it is linked to the firm's ability to meet the objectives of various stakeholders. CS is a critical decision for any business organisation because of the need to maximize stakeholder value (Morris, 2001). As a result, the choice of CS is of utmost importance in determining the value of the firm and consequently its survival (Ogebe & Kemi, 2013). The question financial managers should however be concerned with is what cost the firm is willing to incur in order to maximise value. This is because a firm creates value when it provides a return greater than its COC.

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Theories on CS have developed over time after the establishment of the Modigliani-Miller (1958) theorem of CS. This theory is an irrelevance proposition in which the first proposition establishes that under certain conditions, a firm's debt-equity ratio does not affect its market value. The second proposition establishes that a firm's leverage has no effect on its WACC and the third proposition establishes that firm market value is independent of its dividend policy. Following the work of Modigliani-Miller (1958), several theories have emerged with contradicting evidence showing the relevance of capital structure to the value of the firm. Myers & Majiluf (1984) developed the trade-off theory which assumes the potential benefit of debt as a result of interest on debt being tax deductible. The pecking order theory (Myers & Majiluf, 1984) also communicates the importance of CS to the firm by proposing the order in which firms prefer to finance their assets through internal resources, debt then equity. These divergent theories provide a gap for further investigation into the CS decisions of the firm. Studies on CS have been conducted both locally and internationally and have produced mixed results.

In the Kenyan context, many researchers have reviewed various aspects of CS on profitability, CS decision making and CS on performance. A study on the relationship between CS and performance of non-financial companies listed on the NSE (Mwangi, Makau, & Kosimbei , 2014) found that increased financial leverage had a negative effect on performance. A similar study on the effect of CS on profitability of banks listed on the NSE (Yegon, Cheruiyot , Sang, & Cheruiyot, 2014) found that short term debt had a positive relationship towards profitability. Sagala (2003) found that leverage had a varying effect on COC from company to company when conducting a study on the relationship between COC and leverage of companies quoted on the NSE. For some companies, the COC declined with

leverage while in others it was an increasing function. This was attributed to the differences in the debt contracts written by these companies.

Studies on the effect of CS on the COC have mostly been conducted in developed nations presenting findings that may not be applicable in the Kenyan context. Galindo (2011), Khadka (2006) and Dhaliwal (2005) when conducting studies on the relationship between leverage and the COC found that there exists a negative relationship between the two variables. On the contrary, Gapenski (1987) in his study on the relationship between financial leverage and COC for electric utility firms found there exists a positive relationship between the two variables. The findings of these studies produced mixed results because of the difference in measures of leverage. Where there existed a negative relationship, leverage was calculated as the ratio of total debt to total assets and where there existed a positive relationship, it was calculated as the ratio of debt to equity.

The lack of agreement by various scholars on the effect of CS on the COC constitutes reason for further investigation on the area of study. In as much as cost is an important factor in determining the choice of CS, research on the relationship between CS and COC remains inadequate in the Kenyan context. This forms the basis of this research. While it is important for firms to determine the best combination of debt and equity to finance their operations, they must bear in mind the costs associated with these sources of financing. This paper will seek to establish the effect of CS on the COC of firms listed on the NSE. It will attempt to answer the research question, what is the effect of CS on the COC of firms listed on the NSE

1.3 Research Objectives

The general objective of this study is to establish the effect of capital structure on the cost of capital of firms listed on the Nairobi Securities Exchange (NSE). The specific objectives of the study are:

i. To determine the effect of capital structure on the cost of debt of firms listed on the NSE.

ii. To determine the effect of capital structure on the cost of equity of firms listed on the NSE.

1.4 Value of the Study

This study is important to researchers and scholars with interest in CS as it will add value to existing research and provide recommendations for further study. It hopes to add information on the area of CS and the COC with reference to the NSE by providing quantitative data that constitutes a firm foundation for further research in the area of study. This study hopes to provide insight to management when designing their projects so as to achieve shareholder wealth maximization at minimum costs of capital while maintaining a competitive edge in the dynamic and complex business environment in which these firms operate.

This study will be useful to policy making institutions and the government in determining financial policies that are suitable for them in tandem with a CS that maximizes the overall value of the firm. It seeks to provide solutions and strategies that such institutions can adopt when laying down policies that relate to CS and the COC. This study will also aid firms in identifying factors that determine their financing choices so as to achieve an optimal CS that meets the needs of its diverse stakeholders by providing information on the advantages and disadvantages of using debt or equity as sources of financing. This study seeks to provide information which can be used by business analysts in evaluating the value of listed companies on the NSE. Furthermore, it will help investors increase their investment

opportunities by providing information that is useful in evaluating the value of firms listed on the NSE.

This study seeks to contribute to literature on CS and the COC through the investigation of the composition of CS that maximizes shareholder return while maintaining minimum costs of capital. Finally, this study seeks to capture changes that have occurred in the NSE over the past couple of years such as the recent de-listing of firms like CMC Holdings and Access Kenya from the stock exchange. It will therefore provide reliable financial analysis that is based on relevant data.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines literature on CS and the COC of firms listed on the NSE. The first section examines various theories that are relevant to this study. The second part will examine the determinants of CS and COC. The third section will discuss empirical literature by various scholars and the summary will explain the gap identified from empirical studies reviewed.

2.2 Theoretical Literature Review

The theories that are relevant to CS and the COC include the Modigliani-Miller theorem, the trade-off theory and the pecking order theory.

2.2.1 Modigliani-Miller Theory

The Modigliani-Miller theorem of CS as established by Modigliani and Miller is an irrelevant approach with three propositions. The first proposition states that under certain conditions, a firm's debt-equity ratio does not affect its market value (1958). The second proposition (1961) establishes that a firm's leverage has no effect on its WACC and the third proposition (1965) establishes that firm market value is independent of its dividend policy. This theory assumes that there exists a perfect market where there is information symmetry, no taxes, no bankruptcy costs and no transaction costs. The value of the firm is therefore not affected by its CS but rather dependent on the ability of the firm's assets to generate income.

Under the first proposition where there are no taxes, it is assumed that investors will value the firm based on its cash flows regardless of how the firm is financed. This is because there is no benefit of interest deductibility as a result of using debt as a source of financing. Firms

would therefore be indifferent to the source of capital they choose (Chen, Jung, & Chen, 2011). The second proposition where the firm's COC is independent of its financial leverage assumes that the cost of equity is a linear function of the firm's debt to equity ratio. The cost of debt is considered to be cheaper than the cost of equity because creditors have a preferential claim to the firm's income and assets compared to equity holders. As a result, the more debt a company uses the greater the cost of equity but the WACC remains the same. The third proposition where the value of the firm is independent of its CS concludes that given a firm's investment policy, the dividend pay-out it chooses to follow will neither affect the current price of its shares nor the total return to its shareholders (Luigi & Sorin, 2012).

In the real world, the assumptions made under the Modigliani-Miller theorem of CS do not exist. There exists information asymmetry, taxes, transaction costs as well as bankruptcy costs. This therefore means that the results of the Modigliani-Miller theorem of CS may not be practical and only exist in theory. In the presence of taxes and other market imperfections, this study seeks to establish the effect of CS on the COC of firms listed on the NSE.

2.2.2 Trade-off Theory

The trade-off theory as established by Myers (1984) states that the decision on the source of capital for a firm is evaluated based on the various costs and benefits associated with different sources of financing in their quest to obtain an optimal CS. The firm is exposed to bankruptcy costs, agency costs and the benefits associated with debt when evaluating the best source of financing. Bankruptcy costs are costs incurred by the firm when the probability of default on financing is greater than zero (Chen, Jung, & Chen, 2011). Agency costs are costs incurred by the firm as a result of the monitoring and controlling of managers where there exists a conflict of interest between shareholders and managers (Jensen & Meckling, 1976).

When taxes are introduced, specifically the tax deductibility of interest, the value of the firm increases because of the tax shield provided by interest. The tax shield lowers the cost of debt which in turn lowers the weighted average cost of capital as more debt is introduced into the firm. The optimal capital structure of the firm under this theory is therfore one with 100% debt. This study will seek to identify the costs and benefits associated with the use of debt or equity as a source of financing. It will seek to identify whether the tax deductibility advantage of using debt applies in calculating the COC of firms listed on the NSE.

2.2.3 Pecking Order Theory

The pecking order theory originated by Myers and Majiluf (1984) suggests that firms have a preference for internal funds before sourcing for external funds. The firm will prefer retained earnings to short-term debt, short-term debt to long-term debt and long-term debt to equity. This is because firms will look for ways to minimize additional costs of raising capital when sourcing for external finance.

Under this model, sources of funds are ranked following a hierarchy of internally generated funds first, followed by debt and then equity. According to Myers (1984) the cost of financing increases with asymmetric information. As a result, when issuing shares, it is assumed that managers have more information on the value of the firm over investors. Investors therefore assume that managers overvalue stock leading them to place a lower value on newly issued stock by factoring adverse selection costs. Adverse selection is when one party has more information over the other.

The pecking order theory is relevant to this study because it specifies the hierarchy that firms follow when sourcing for funds. This study will examine the portion of debt, equity or internal funds that form the CS of firms listed on the NSE.

2.3 Determinants of Cost of Capital

The determinants of COC are tangibility, amount of financing needed, taxes, size of the firm, profitability, growth, business risk, general economic conditions and amount of financing needed.

2.3.1 Tangibility and Amount of Financing Needed

Asset structure is an important determinant of COC. If a firm's tangible assets are high, its assets can be used as collateral thereby reducing the lender's risk of suffering agency costs of debt (Huang & Song, 2006). Hence, a high fraction of tangible assets is expected to be associated with high leverage. The pecking order theory predicts that firms holding more tangible assets will be less prone to asymmetric information problems and therefore reduce agency costs because agency costs of secured debt such as tangible assets are lower than those of unsecured debt. (Chen, Jung, & Chen, 2011). According to the trade-off theory, a higher fixed to total assets ratio ensures higher level of security, thus offering more value to liquidate assets in the case of bankruptcy (Amjad, Bilal, & Tufail, 2007). Tangibility has been found to have a direct relationship with the firm's CS when using the ratio of fixed assets over total assets as a measure of tangibility (Amidu, 2007).

The amount of financing needed by the firm affects both market price and floatation costs of a firm (Kumar, 2014). As the financing requirements of the firm become larger, the WACC increases because of additional costs incurred by the firm for issuing more securities. This is because as the size of the issue increases, there is greater difficulty in placing it in the market

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without reducing the price of the security leading to an increase in the firm's COC (Mirea, Asalos, & Ainur, 2007). Suppliers of capital also become hesitant to grant relatively large sums of money without evidence of management's capability to absorb this capital into the business leading to increases in costs of capital. Similarly, as more debt is issued the cost of debt increases and as more equity is issued, the cost of equity increases (Kumar, 2014).

2.3.2 Tax and Size of the Firm

Tax considerations have a major effect on the way a company determines its COC. This is because interest on debt is tax deductible making debt a cheaper source of financing when compared to equity since dividend payments are not tax deductible. According to Modigliani and Miller (1963), companies should aim towards entire debt financing due to tax deductions associated with interest payments on debt. This effect encourages the use of debt by firms as more debt increases the after-tax earnings to the owner. MacKie-Mason (1990) studied the tax impact on the choice between debt and equity and concluded that changes in the marginal tax rate for any firm should affect financing decisions.

There exists a relationship between leverage and firm size because of the different economies of scale and bargaining power that small firms and large firms possess (Huang & Song, 2006). Large firms have greater bargaining power and are likely to choose long-term debt while small firms are likely to choose short-term term debt as a source of financing. As a firm grows, it becomes more diversified, less risky, less prone to bankruptcy and therefore has a higher debt capacity (Wanyonyi, 2010). Moreover, it is easy for larger firms to approach the capital market and these firms have low monitoring cost which will reduce agency costs. The trade-off theory suggests that large firm should prefer debt financing to obtain target CS as they have lower financial distress costs than smaller firms (Amjad, Bilal, & Tufail, 2007).

Psillaki & Daskalakis (2008) found that size was positively related to the firm's debt ratio which is consistent with the trade-off theory. The pecking order theory however suggests an inverse relationship between size of the firm and the debt ratio as large firms do not have the issue of information asymmetry and they can issue equity easily. Small firms are often managed by very few managers whose main objective is to minimize the intrusion in their business and that is why internal funds will be their preference of finance (Chen, Jung, & Chen, 2011). If internal funds are not enough, small firms will prefer debt to new equity mainly because debt means lower levels of intrusion and lower risks of losing control which is consistent with the pecking order theory.

2.3.3 Profitability and Growth

There exists a significant relationship between leverage ratios and profitability. The pecking order theory by Myers and Majiluf (1984) predicts a negative correlation between the profitability of a company and its total level of debt based on the idea that companies first turn towards internal financing resources (Khraiwesh, 2010) before seeking external resources. The trade-off theory however establishes a positive correlation between profitability and debt level given that a higher debt level implies higher profitability because of the tax deductibility function of debt (Serghiescu & Vaidean, 2014). In as much as the trade-off theory suggests a positive correlation, several research studies have found profitability to have a negative effect on the CS of a company. Kuczynski (2005) found that there was a significant negative relationship between leverage and profitability when EBIT over total assets was used as a measure of profitability. Similarly, Khraiwesh (2010) found a negative relationship between profitability and the leverage ratio when long-term debt over total debt was used as a measure of leverage. These findings were consistent with the pecking order theory.

The expected growth rate of a firm is considered to be a determinant of COC because a higher growth rate implies a higher demand for funds (Song, 2005). According to the pecking order theory (Myers & Majiluf, 1984), there exists a positive relationship between expected growth rate and debt levels of enterprises based on the fact that a higher growth rate implies a higher demand for funds and thus a greater reliance on external financing through the preferred source of debt (Baral, 2004). This however holds true for short-term debt because long-term financing is associated with higher agency costs leading to a negative relationship between expected growth and long term financing (Titman & Wessels, 1988).

2.3.4 Business Risk and General Economic Conditions

Business risk is the probability of a firm experiencing financial distress. Debt is considered to be a more risky source of financing when compared to equity because of the fixed interest prepayments. A firm's choice of whether to use debt or equity as a source of finance will therefore be dependent on how much risk the firm is willing to absorb (Huang & Song, 2006). According to Titman & Wessels (1988), a firm's optimal CS is obtained at lower levels of volatility of earnings. Bankruptcy costs cause firms to have less stable earnings thereby increasing their chances of business failure (Baral, 2004). As a result, as business risk increases, the debt level in CS decreases.

The variability of returns may arise from decisions made within the company. Risk resulting from these decisions may be business risk, financial risk or a combination of both (Mirea, Asalos, & Ainur, 2007). Business risk is the variability in returns on assets and is affected by the company's investment decisions. Financial risk is the increased variability in returns to common stockholders as a result of financing with debt or preferred stock. As business risk

and financial risk increases or decreases, the investor's required rate of return and the COC will move in the same direction (Mirea, Asalos, & Ainur, 2007). This is because suppliers of capital will increase the cost of funds when firms decide to undertake more risky projects to cover themselves from the high risk they are exposed to (Kumar, 2014). The opposite is true when firms decide to undertake less risky projects.

When an investor purchases a security with significant risk, an opportunity for additional returns is necessary because as risk increases, the investor requires a higher rate of return. When investors increase their required rate of return, the COC also increases (Mirea, Asalos, & Ainur, 2007). If the security is not readily marketable when the investor wants to sell, an investor will require a relatively high rate of return. Conversely, if a security is readily marketable and its price is reasonably stable, the investor will require a lower rate of return and the company's COC will be lower. Market conditions generally affect risk premiums. When market conditions are not favourable, the risk associated with projects increases and as a result, suppliers of capital will increase their COC to compensate for the risk they face.

General economic conditions determine the demand for and supply of capital within the economy as well as the level of expected inflation. This economic variable is reflected in the riskless rate of return which represents the rate of return on risk-free investments. As the demand for money in the economy changes relative to the supply, investors alter their required rate of return (Mirea, Asalos, & Ainur, 2007). At the same time, if inflation reduces the purchasing power of an economy's currency, investors require a higher rate of return to compensate for the anticipated loss (Mirea, Asalos, & Ainur, 2007). Economic conditions have greater impact on the operating profit of the firm such that when economic conditions

are unfavourable, the suppliers of the capital will increase the COC and when favourable they will reduce the COC (Kumar, 2014).

2.4 Empirical Literature Review

CS has been an area of interest for many scholars over a long period of time. It has sparked a lot of controversy since the publication of the Modigliani and Miller (1985) theory of CS. This study builds on their irrelevance proposition which states that the cost of capital is independent of the degree of leverage in a firm's CS (Modigliani & Miller, 1958). Numerous studies both local and international have been conducted to ascertain whether the Modigliani and Miller (1985) theory holds true or false. The results have been varying leading to the draw up of several conclusions. This can be attributed to the different measures used by scholars in determining the relationship between CS and COC.

Khadka (2006) conducted a study on the effect of leverage on the COC of Nepalese firms. A sample of 15 Nepalese firms were selected from the year 1999 to 2005. The study used simple regression to test the relationship between leverage and COC and found an insignificant negative effect of leverage on the firm's COC. This meant that leverage had no effect on the firm's COC which is in support of Modigliani and Miller's second proposition of CS.

A study on internationalization, CS and COC of French corporations found that internationally diversified firms supported higher levels of debt because of its effect on reducing the overall COC (Singh & Nejadmalayeri, 2004). 90 firms were sampled from 1996 to 1999 and the base model for relating leverage and COC to the degree of international diversification was estimated using the OLS technique. Leverage was measured using the

debt ratio of total debt to total assets. This study concluded that there exists a negative relationship between leverage and COC which is inconsistent with the Modigliani-Miller (1958) theory of CS.

Gapenski (1987) found that there was a strong positive relationship between leverage and costs of both debt and equity of public utility firms in Florida. The relationship between financial leverage and the COC was estimated using the regression model with both book value and market value measures of leverage. Leverage was calculated as the ratio of debt to equity of the firm. This study found that the relationship between leverage and the COC was higher when using market value measures as opposed to book value measures. The relationship between leverage and cost of equity was however much stronger than that of cost of debt.

Narayanasama (2014) found that the relationship between CS and the overall COC in both cooperative sugar and spinning industries is that the overall COC increases as the proportion of debt in the CS increases. This was attributed to the high cost of debt when compared to share capital and retained earnings. A sample of 32 firms were selected for study and simple correlation was used to measure the relationship between the two variables. The results of this study indicated that the use of debt in CS affects the overall COC and thus the COC is a function of leverage. Secondly, it also concluded that there exists a direct relationship between CS and COC which is inconsistent with the Modigliani and Miller (1958) theory of CS.

Similarly, studies on CS in Kenya have produced mixed results. Sagala (2003) when studying the relationship between COC and leverage for companies quoted on the NSE found that the

relationship between these two variables was unique to each firm. In some firms COC declined with leverage while in others it was an increasing function. This was attributed to the differences in the debt contracts written by these companies.

A study on the effect of CS on profitability of banks listed on the NSE (Yegon, Cheruiyot , Sang, & Cheruiyot, 2014) found that short term debt had a positive relationship towards profitability, long-term debt had a negative relationship while total debt had no relationship towards profitability. The study sampled 11 banks listed on the NSE between the years 2004 and 2012. Profitability was measured using the ROE while CS was measured using leverage ratios of short-term debt, long-term debt and total debt to assets ratio. Simple regression was used to determine the relationship between the variables. The positive relationship between short-term debt and profitability was consistent with the trade-off theory where short-term debt being a cheaper source of financing, contributed significantly to the profitability of the firm. The negative relationship between long-term debt and profitability was consistent with the pecking order theory where profitable firms prefer to use earnings for their financing needs rather than debt.

Another study on CS, profitability and firm value of listed firms on the NSE found that CS had a significant negative effect on financial performance when profitability was used as a measure of performance (Kodongo, Mokoaleli-Mokoteli, & Maina, 2014). 29 firms were sampled between 2002 and 2011 and the restricted F test was used to test the hypothesis. Tobin Q was used to determine the effect of leverage on firm value and was found to have no effect. The findings were applicable to both small and large firms.

Mwangi, Makau, & Kosimbei (2014) found that increased financial leverage had a negative effect on performance when conducting a study on the relationship between CS and performance of non-financial companies listed on the NSE when using ROA and ROE as measures of performance. A sample of 44 firms was selected between the years 2006 and 2012. Data was tested using correlation analysis and multiple regression analysis. The study concluded that the agency theory which states that financial leverage mitigates against the agency problem was not applicable among non-financial companies listed on the NSE.

Okiro , Aduda, & Omoro (2015) found that there was a positive significant relationship between CS and firm performance when conducting a study on corporate governance, CS, regulatory compliance and performance of firms listed on the East African Community Securities Exchange. The study was conducted on 56 firms listed on exchanges of countries belonging to the East African Community. COC was measured using the WACC where the COE was determined using the Ohlson and Juettner model. CS was measured using leverage while performance was measured using ROA. The hypothesis tested was that there was no significant relationship between CS and firm performance among listed companies at the EAC securities exchange. Regression was used to test the hypothesis. The findings of the study did not confirm the hypothesis.

2.5 Summary of Literature Review

In summary, studies on the effect of CS on the firm's COC have produced mixed results. Studies by Khadka (2006) have found there to be no relationship between CS and COC which is consistent with Modigliani-Miller theory of CS. On the contrary, other studies by Singh & Nejadmalayeri (2004) have found there to be a negative relationship while others have found there exists a positive relationship as studied by Gapenski (2007) and

Narayanasama (2014). In Kenya, a study by Sagala (2003) on the effect of leverage on the COC indicated that the relationship was unique to each firm as in some there existed a positive relationship while in others there existed a negative relationship.

The divergent views by different researchers creates a knowledge gap in determining the effect of CS on the COC more so in the context of the Kenyan market. The COC has been found to be an important factor in determining the value of the firm because the firm creates value when it provides a return greater than its COC. As a result, this study seeks to fill the gap that exists in research by determining the effect of CS on the COC of firms listed on the NSE.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter examines the methodology used in carrying out the study. The aspects covered include discussions on research design, population, sampling, data collection, data analysis and test of significance. The objective of this study is to investigate the effect of CS on the COC of firms listed on the NSE.

3.2 Research Design

Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose (Kothari, 1990). It is the conceptual structure within which research is conducted and constitutes the collection, measurement and analysis of data. The research design to be used is a descriptive research design which is used to describe the characteristics of a population or phenomenon being studied. This study seeks to determine the effect of CS on the COC of firms listed on the NSE and will therefore employ a descriptive research design whose aim is to test associations of relationships. It will examine how change in a firm's CS affects its COC.

3.3 Population and Sampling

A population is the total collection of measurements, items, or individuals that make up the total of all possible measurements within the scope of study. The target population for this study is all listed companies on the NSE except commercial banks due to their unique CS requirements which are controlled by the Central Bank of Kenya (CBK). The population under study will therefore be 53 firms listed on the NSE. There will be no sampling since the target population will be covered wholly.

3.4 Data Collection

This study will use secondary data which will be obtained from past financial reports as published by the respective companies. Data on CS to calculate leverage as well as data to calculate the COC will be obtained from these financial statements. The period under consideration will be the years between 2010 and 2014.

3.5 Data Analysis

To study the effect of CS on the COC the independent variable will be CS, the dependent variable will be COC and control variables will include corporate governance guidelines and regulation from the government and the size of the firm. Data on CS and COC will be analysed using descriptive statistics such as mean, percentages, standard deviation and variance through Statistical Package for Social Science (SPSS). To determine the effect of CS on the COC of firms listed on the NSE, regression analysis will be used represented by the equation:

$$Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where: Y= Cost of Capital, β0=Intercept, β1=Coefficient, β2=Coefficient, X_1= Capital structure, X_2= Size of the firm, ε =Error term

Capital Structure (CS) will be measured by the leverage ratio of total debt to total equity.

$$CS = \frac{\text{Total debt}}{\text{Total equity}}$$

Size of the firm will be measured by total assets.

Cost of Capital (COC) will be measured by the WACC.

$$WACC = \left(\frac{D}{D+E} \times Kd(1-t) + \frac{E}{D+E} \times Ke \right)$$

Where D= Debt, E= Equity, Kd= Cost of debt, t=Tax rate, Ke= Cost of equity

COD (Kd) will be calculated using the interest expense on the firm's debt.

$$\mathbf{Kd} = \frac{Interest\ expense}{Total\ debt}$$

COE (Ke) will be calculated using the Capital Asset Pricing Model (CAPM).

$$\mathbf{Ke} = R_f + \beta(R_m - R_f)$$

Where:

R_f = Risk free rate, β = Coefficient beta, $R_m = Market\ return,\ R_m - R_f = Risk\ premium$

The risk free rate will be measured by the average return on 364 day treasury bills over a five year period as provided by the Central Bank of Kenya. The return on the market will be measured by the average return on the market over a five year period using the NSE all share index (NASI). Beta is a factor which indicates how specific stock price changes in relation to the market in which it trades. It will be calculated by regressing market return and stock returns as in the equation:

Market return = α + βStock return + ε

3.6 Test of Significance

Tests for statistical significance address the probability that a relationship between variables exist and in the event they do, how strong the relationship is. The objective of this study is to examine the effect of CS on the COC of firms listed on the NSE. The relationship will be tested by regressing CS, COC and size of the firm using the equation:

$Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Where: Y= Cost of Capital, β0=Intercept, β1=Coefficient, β2=Coefficient, X_1= Capital structure, X_2= Size of the firm, ε =Error term

To test the level of significance, t-tests will be carried out at a desired significance level of 5%. The null hypothesis will be rejected when β1 is less than 0.05 and therefore statistically significant.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

4.1 Introduction

This chapter presents data analysis and findings in line with the objectives of the study. It examines, categorizes, and tabulates the evidence so as to address the study's objective. The general objective of the study was to determine the effect of CS on the COC of firms listed on the NSE. Commercial banks were excluded due to the unique requirements of their capital structure as regulated by the Central Bank of Kenya. Data was analysed over a five year period between 2010 and 2014.

4.2 Response Rate

The target population under study was 53 firms listed on the NSE. Companies with complete data were 30 giving a response rate of 56%. This response rate was adequate for research as stated by Mugenda (2003) where a response rate of 50% is said to be adequate for research and analysis.

4.3 Data Validity

Data was obtained from audited financial statements and reports as published by the Capital Markets Authority (CMA) and the Central Bank of Kenya (CBK). As a result, data for this study was deemed to be valid as financial statements were reviewed by external auditors and published by regulatory bodies such as the CMA and the CBK.

4.4 Descriptive Statistics

Descriptive statistics were used to explain the variables under study. The findings presented in Table 4.1 indicate the mean, median, standard deviation, kurtosis and skewness for each variable under study.

Table 4.1 Descriptive statistics of key variables

|	N	Mean	Std. Deviation	Variance	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
CS	150	.4720	.59781	.357	1.881	3.633
WACC	150	.3307	.64553	.417	10.202	114.038
Size	150	6.9354	.67686	.458	.166	-.733
Valid N (listwise)	150					

Source: Research Findings

The descriptive statistics show that over the period under study, capital structure (CS) averaged 47.2%, the cost of capital as measured by the weighted average cost of capital (WACC) was 33.07%, while size of the firm was 6.9354. Standard deviation for CS was 59.78%, WACC was 64.55% and size of the firm was 67.69%. Skewness measures the degree and direction of asymmetry where a normal distribution has a skewness of 0. Based on research data, size of the firm had a skewness of 0.166 which is a nearly normal distribution. CS and WACC with skewness of 1.881 and 10.202 respectively, are all positively skewed with a distribution that is aligned to the left but are however asymmetric as they are far from 0. Kurtosis measures the heaviness of the tails of a distribution where a normal distribution has a kurtosis of 0. Research findings indicated that size of the firm had a negative kurtosis of -0.733 while CS and WACC had positive kurtosis of 3.663 and 114.03 respectively resulting in a non-normal distribution.

4.4.1 Capital Structure

The leverage ratio for firms under study was an average of 0.472 meaning that most firms financed their assets and operations with equity more than they did with debt. However, there were firms that had more debt in their capital structure than equity such as Kenya Airways with a leverage ratio of 1.22, Crown Berger 1.05, KenolKobil 1.82 and Kengen 1.05. The higher debt levels in Kenya Airways can be attributed to large capital expenditures incurred by the company during its 2014 financial year where the company acquired new aircraft.

The P-Plot used to describe normal distribution for CS is as shown below.

Normal P-P Plot of CS

Transforms: natural logarithm
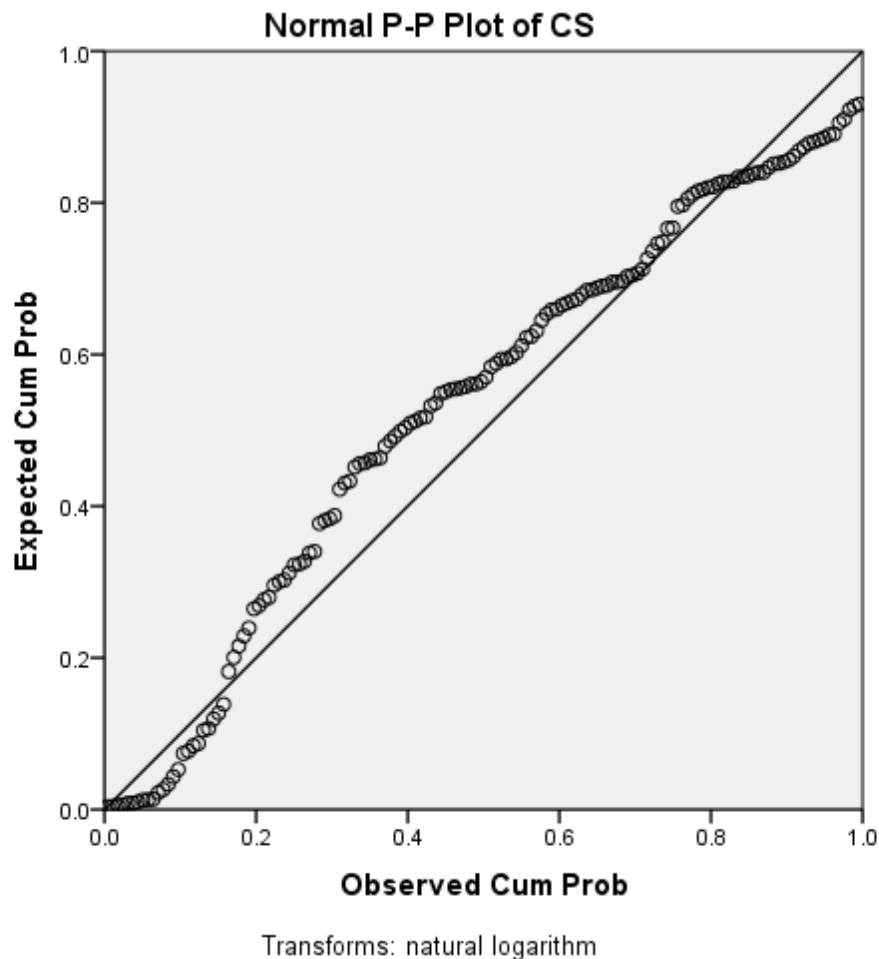
The above graph shows a non-normal distribution as data lies far from the line of normal distribution.

4.4.2 Weighted Average Cost of Capital

The weighted average cost of capital for firms under study was 33.07%. This meant that on average, for firms to create value they must invest in projects that will generate returns greater than 33.07%. Firms that were financed by debt more than they were by equity had a lower WACC such as KenolKobil with a WACC of 36%, Kenya Power 39%, Kenya Airways 9%, Crown Berger 8% and KenGen 10%. The lower WACC as represented by Kenya Airways, Crown Berger and KenGen could be attributed to the higher levels of debt present in these firms as long-term debt is considered to be a cheaper source of financing when compared to equity.

The P-Plot describing normal distribution for WACC is as below

Transforms: natural logarithm
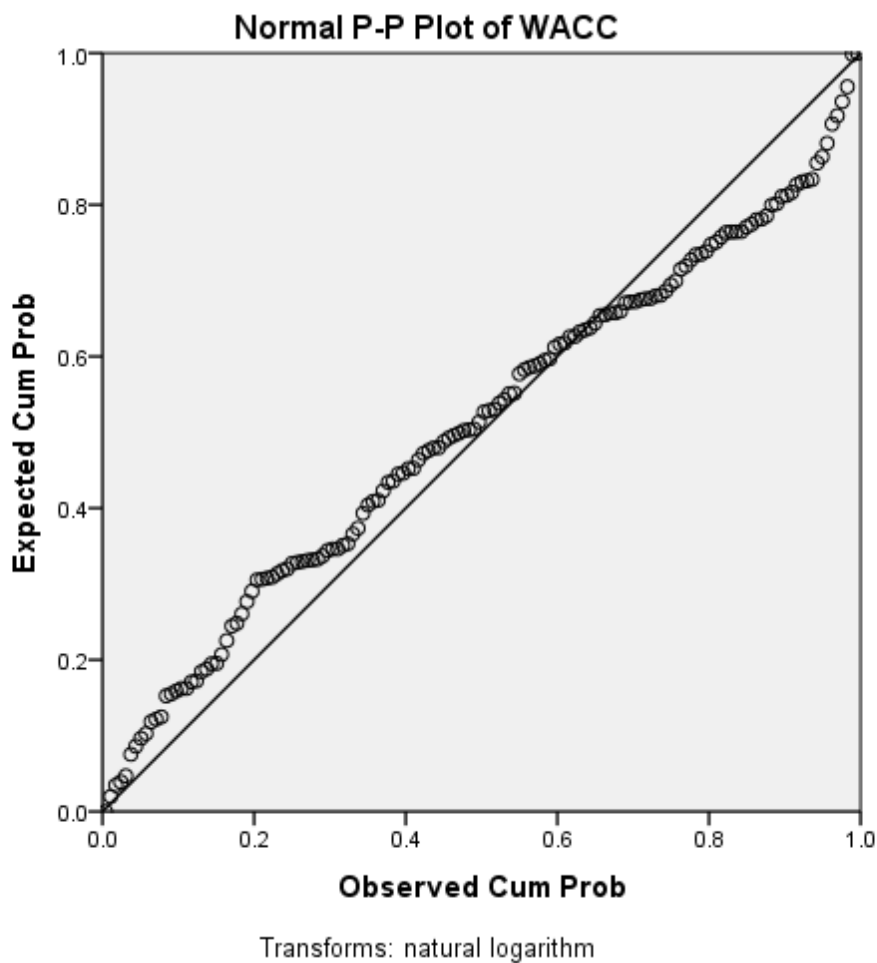
4.4.3 Size of the Firm

Size of the firm as measured by the value of total assets held by the firm had a nearly normal

distribution where data lies close to the distribution line.

Transforms: natural logarithm
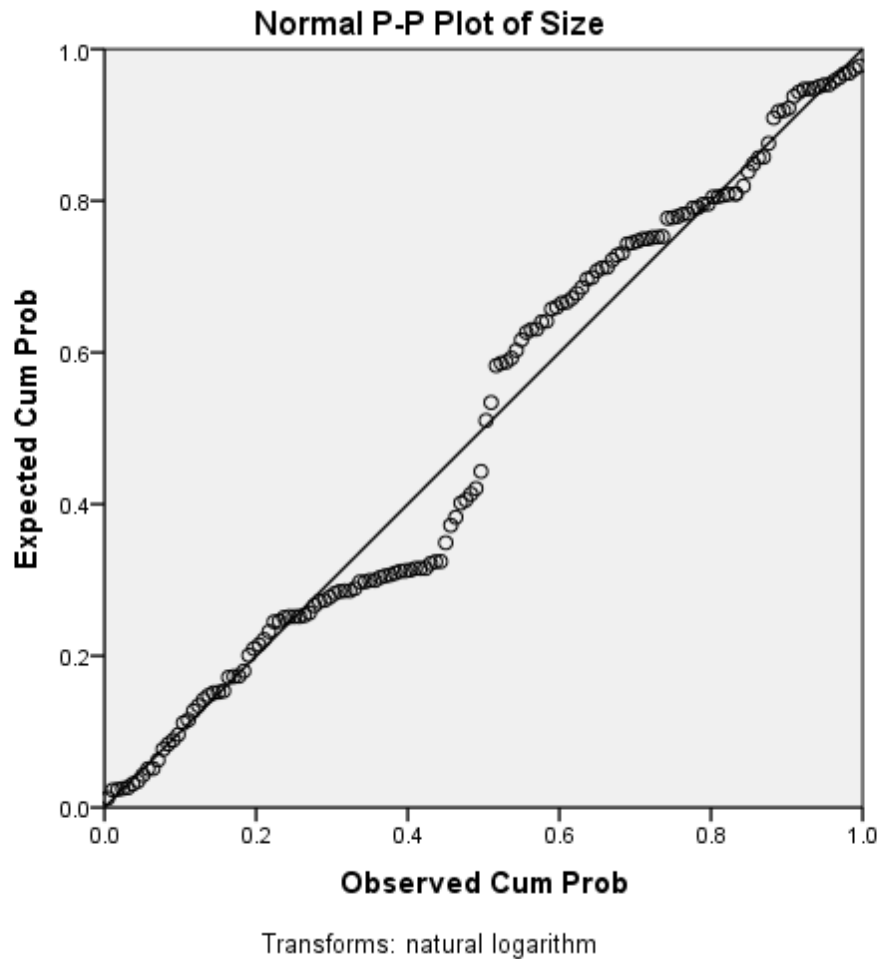
4.5 Correlation Analysis

A correlation analysis determines the relationship between two or more variables within a

data set. Correlation was measured using the Statistical Package for Social Science (SPSS)

using 2-tailed version which measures the strength of association between variables as

presented in table 4.2 below.

Table 4.2 Correlation of CS, WACC and Size of the firm

		CS	WACC	Size
CS				
	Sig. (2-tailed)		.018	.011
	N	150	150	150
WACC				
	Sig. (2-tailed)	.018		.028
	N	150	150	150
Size				
	Sig. (2-tailed)	.011	.028	
	N	150	150	150

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

Source: Research Findings

In the 2-tailed version, correlation is significant when the r value is less than or equal to 0.05. Correlation between CS and WACC is 0.018, CS and the size of the firm is 0.011 while WACC and size of the firm is 0.028. R values are below the 0.05 level meaning that all variables are significantly correlated.

4.6 Regression Analysis

The study sought to investigate the effect of capital structure on the cost of capital of firms listed on the NSE as calculated by the WACC. Regression analysis was conducted to determine the effect of CS on the COC. SPSS was used to code and compute the measurements of regression for the study. To predict how well the regression model fit the data, the coefficient of determination, R^2, was used as a statistical measure. R^2 measured the extent to which changes in the dependent variable were explained by a change in the independent variables while the adjusted R^2 was used to predict an unbiased estimate of the population as shown on table 4.3.

Similarly, the study sought to investigate the effect of CS on the COD as well as its effect on the COE. To determine the relationship between variables, simple regression was used as indicated on table 4.4 and 4.5 respectively.

Table 4.3 Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.240[a]	.057	.045	.63095

a. Predictors: (Constant), Size, CS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.568	2	1.784	4.482	.013[b]
	Residual	58.521	147	.398		
	Total	62.089	149			

a. Dependent Variable: WACC

b. Predictors: (Constant), Size, CS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-.719	.537		-1.340	.182	-1.780	.342
	CS	.175	.088	.162	1.980	.050	.000	.350
	Size	.139	.078	.146	1.787	.076	-.015	.294

 Source: Research Findings

Research findings indicated a positive relationship between CS, COC and size of the firm where (R=.24). The coefficient of determination, R^2, measured the proportion of variance in the dependent variable as explained by the independent variables. As such, the relationship was found to be weak because the independent variables (CS, Size of the firm) explained

5.7% of COC ($R^2 = .057$). The significance level is 0.013 which is below the desired significance level of 0.05 and therefore statistically significant.

The regression equation becomes:

COC = -0.719 + 0.175CS + 0.139Size

Unstandardized coefficients indicate how the dependent variable varies with the independent variables when all other factors are held constant. From the regression equation, when all other factors are held constant, a unit increase in CS will lead to a 0.175 increase in the COC while a unit increase in the size of the firm will lead to a 0.139 increase in the COC.

Table 4.4 Effect of Capital Structure on COD

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.170[a]	.029	.022	.20394

a. Predictors: (Constant), CS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.183	1	.183	4.409	.037[b]
	Residual	6.156	148	.042		
	Total	6.339	149			

a. Dependent Variable: COD
b. Predictors: (Constant), CS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.204	.021		9.602	.000	.162	.246
	CS	.059	.028	.170	2.100	.037	.003	.114

a. Dependent Variable: COD

Research findings indicated a positive relationship between CS and COD (R=0.17). The relationship was however very weak because CS explained 2.9 % of COD ($R^2 = .029$). The significance level was 0.037 which is below the desired significance level of 0.05 and therefore statistically significant.

Table 4.5 Effect of Capital Structure on COE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.082[a]	.007	.000	.02289

a. Predictors: (Constant), CS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	.996	.320[b]
	Residual	.078	148	.001		
	Total	.078	149			

a. Dependent Variable: COE
b. Predictors: (Constant), CS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.160	.002		66.994	.000	.155	.164
	CS	.003	.003	.082	.998	.320	-.003	.009

a. Dependent Variable: COE

Source: Research Findings

CS and COE were found to have a positive relationship (R=0.082). The relationship was however weak because CS explained 0.7 % of COE ($R^2 = .007$). The significance level is 0.32 which is above the desired significance level of 0.05 and therefore statistically insignificant.

4.7 Discussion of Research Findings

Data analysis revealed that CS and size of the firm had a positive relationship towards COC at statistically significant levels however the relationship between the variables was weak. This implied that as a firm's CS increases, its COC also increases. The findings contradict the Modigliani and Miller (1985) theory of CS in which COC is independent of a firm's degree of leverage. It can be attributed to the fact that when calculating the COC taxes were taken into consideration contrary to the assumption made by Modigliani and Miller (1985). Similarly, Singh and Nejadmalayeri (2004) found there to be a negative relationship between CS and COC when conducting a study on French corporations. The variation in findings can be attributed to the fact that the study among French corporations was on internationally diversified firms which supported higher levels of debt while firms listed on the NSE are not necessarily internationally diversified.

The findings also implied that as the size of the firm increases, its COC increases. These findings contradict Huang & Song (2006) where large firms were found to have a lower cost of capital because they were more reliant on debt than they were on equity. The variation in findings can be attributed to the fact that research findings indicated a higher cost of debt as compared to equity for firms listed on the NSE. This meant that large firms which would be more reliant on debt as suggested by Huang & Song (2006) would experience higher costs of capital due to the high cost of debt.

CS and WACC were found to have a positive relationship where r= 0.018 meaning that an increase in CS leads to an increase in the WACC. The relationship between size of the firm and WACC was also found to be positive where r=0.028 and that between CS and size of the

firm was r=0.011. It can be attributed to the fact that the capital structure and the size of the firm are important factors in calculating the WACC.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations derived from the findings of the study. The chapter presents a brief summary of the study; conclusions; limitations of the study; and suggestions for further research.

5.2 Summary of Findings

The objective of the study was to determine the effect of capital structure on the cost of capital of firms listed on the NSE. The population consisted of 53 listed firms excluding commercial banks due to their unique capital structure requirement as regulated by the Central Bank of Kenya (CBK). Data was complete and fully available for 30 firms out of the 53 listed companies resulting in a response rate of 56%. Audited financial statements and reports from the Capital Markets Authority provided secondary data which was used for analysis. The research was quantitative in nature where descriptive statistics were used to analyse data. Regression analysis was applied to determine the relationship between the dependent and independent variables.

The study found that there existed a positive relationship between capital structure, size of the firm and the cost of capital such that an increase in capital structure or size of the firm resulted in an increase in the cost of capital at statistically significant levels. The study further revealed a positive relationship between capital structure and cost of debt and cost of equity where an increase in leverage resulted in an increase in the cost of debt and equity.

5.3 Conclusion

In conclusion, the objective of the study has been met which was to determine the effect of capital structure on the cost of capital of firms listed on the NSE. Based on research findings, an increase in capital structure as determined by the leverage ratio will lead to an increase in the cost of capital, while a decrease in leverage will correspond to a decrease in the cost of capital of firms listed on the NSE. Additionally, CS has a positive effect on the COD and COE of firms listed on the NSE.

5.4 Recommendations

Financing decisions are among the most important decisions faced by managers because firms must determine ways of financing their assets, operation and growth. It is important for firms to determine the best combination of debt and equity to finance their operations while bearing in mind the costs associated with these sources of financing because there exists a relationship between a firm's capital structure and its cost of capital. As such, it is recommended that firms recognise the relationship between capital structure and cost of capital because failure to do so increases the potential for taking on additional debt without generating much income.

The study further recommends that the cost of capital should be used as a benchmark by the firm when undertaking investment decisions such that an investment will be said to add value to the firm when it generates income that is greater than its cost of capital. In so doing, firms are able to predict the viability of future projects and therefore select those that add the greatest value to the firm.

5.5 Limitations of the Study

Financial statements for all the firms of the population under study were not fully available. As a result, instead of the 53 firms which were intended for study, only 30 firms had complete data reducing the response rate to 56%.

Time constraints posed a major limitation to the study as data was collected over a short period of time and University deadlines had to be adhered to. The researcher would have liked to further investigate other variables that affected the COC of firms listed on the NSE which was not possible. Inadequate financial resources also posed a limitation to the study as the process of gathering data was strenuous and expensive as not all information was readily available.

5.6 Suggestions for Further Research

The study mainly focused on the effect of capital structure on the cost of capital of firms listed on the NSE. Further research can be conducted to determine other variables that affect the firm's cost of capital other than capital structure and size of the firm. Research can be conducted to determine whether profitability and liquidity affect the firm's cost of capital. Similarly, research should be conducted on the effect of a firm's cost of capital on its capital structure as cost of capital is an important factor in capital budgeting decisions and discounted cash flow techniques.

The study focused on all firms listed on the NSE as opposed to particular market segments. Future research should replicate the study with a focus on the different market segments as this would give a clearer indication of how a particular segment reacts to changes in firms' capital structure. This would aid in cross-sectional analysis of firms listed on the NSE.

Further study should be conducted on the effect of dividend policy on firm value to test Modigliani and Miller's third proposition where it is suggested that firm value is independent of its dividend policy

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APPENDIX I

Listed Companies at NSE as at 31st December 2014

1. Eaagads Ltd.

2. Kapchorua Tea Co. Ltd.

3. Kakuzi

4. Limuru Tea Co. Ltd.

5. Rea Vipingo Plantations Ltd.

6. Sasini Ltd.

7. Williamson Tea Kenya Ltd.

8. Car and General (K) Ltd.

9. Sameer Africa Ltd.

10. Marshalls (E.A.) Ltd.

11. Express Ltd.

12. Kenya Airways Ltd.

13. Nation Media Group.

14. Standard Group.

15. TPS East African (Serena) Ltd.

16. Scangroup Ltd.

17. Uchumi Supermarket Ltd.

18. Hutchings Biemer Ltd.

19. Longhorn Kenya Ltd.

20. Atlas Development and Support Services

21. Athi River Mining

22. Bamburi Cement Ltd.

23. Crown Berger Ltd.

24. E.A. Cables Ltd.

25. E.A. Portland Cement Ltd.

26. KenolKobil Ltd.

27. Total Kenya Ltd.

28. KenGen Ltd.

29. Kenya Power & Lighting Co Ltd.

30. Umeme Ltd.

31. Jubilee Holdings Ltd.

32. Pan Africa Insurance Holdings Ltd.

33. Kenya Re-Insurance Corporation Ltd.

34. Liberty Kenya Holdings Ltd.

35. British-American Investments Company (Kenya) Ltd.

36. CIC Insurance Group Ltd.

37. Olympia Capital Holdings Ltd.

38. Centum Investment Co Ltd.

39. Trans-Century Ltd.

40. Home Africa Ltd.

41. Kurwitu ventures

42. Nairobi Securities Exchange Ltd.

43. B.O.C Kenya Ltd.

44. British American Tobacco Kenya Ltd.

45. Carbacid investments Ltd.

46. East African Breweries Ltd.

47. Mumias Sugar Co. Ltd.

48. Unga Group Ltd.

49. Eveready East Africa Ltd.

50. Kenya Orchards Ltd.

51. A.Baumann CO Ltd.

52. Flame Tree Group Holdings Ltd.

53. Safaricom Ltd.