

**THE EFFECT OF CAPITAL STRUCTURE ON AGENCY COSTS OF  
THE FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE**

**BY**

**ONGERI ERIC MARANGA**

**A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS,  
UNIVERSITY OF NAIROBI**

**OCTOBER 2015**

## **DECLARATION**

### **STUDENT'S DECLARATION**

I declare that this research project is my original work and has not been presented for an award of any degree in any other University.

**Signed:** ..... **Date:** .....

**ONGERI ERIC MARANGA**

**D61/63190/2010**

### **SUPERVISOR'S DECLARATION**

This research project has been submitted for examination with my approval as the candidate's university supervisor.

**Signed :**..... **Date :** .....

Dr. Duncan Elly Ochieng', PhD, CIFA

Lecturer,

Department of Finance and Accounting.

## ACKNOWLEDGEMENTS

I thank God Almighty for His love, protection and abundance blessings showered on me during my course of study. This research project has come forth with the support and guidance of a number of people to whom I am very grateful.

First, my gratitude goes out to my supervisor, Dr.Duncan Elly Ochieng', for the guidance, corrections, feedback and supervisory role in making this project a success. I am highly indebted for the time you spent going through this project with utmost diligence and your expertise in the field of finance helped me to shape my thinking in many ways. This greatly inspired me to put extra effort in writing a good research project. I am also equally grateful to all faculty members and staff in the Department of Finance and Accounting who have all contributed in their different ways to the completion of this project.

I am grateful to my employer International Aid Services (IAS) – Kenya led by Ms. Mary Githiomi, the Country Director and the entire staff who created such a conducive working environment which encouraged me to complete the project.

I lovingly appreciate my parents, Stephen Ongeru and Hellen Ongeru for their invaluable encouragement in accomplishing this research project. I am equally grateful to my sister, Fridah Ongeru and her husband David Chibeka who have sacrificed immensely to see me through this study both financially, materially and morally. I would also like to thank my siblings, Asenath, Damaris and Charlie for all the encouragement, sacrifice and support they offered. Their immense contribution to my successful completion of this study is unrivalled. I love you all and may God bless you abundantly.

## **DEDICATION**

This research project is dedicated to my parents, Stephen M. Ongeru and Hellen K. Ongeru for their continued love, support and guidance and for all the experiences that we have been through together. God bless you.

# TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>iv</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>vii</b>
<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>ABSTRACT.....</b>	<b>ix</b>
<b>CHAPTER ONE : INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.1.1 Capital Structure.....	2
1.1.2 Agency Costs.....	3
1.1.3 Effect of Capital Structure on Agency Costs .....	4
1.1.4 Firms Listed at Nairobi Securities Exchange.....	6
1.2 Research Problem.....	7
1.3 Objective of the Study.....	10
1.4 Value of the Study .....	10
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>12</b>
2.1 Introduction .....	12
2.2 Theoretical Review .....	12
2.2.1 Modigliani and Miller Theorem (1958) .....	12
2.2.2 Trade – off Theory .....	13
2.2.3 Pecking order Theory .....	14
2.2.4 Agency Theory.....	15
2.2.5 Free Cash Flow Theory.....	16
2.3 Determinants of Capital Structure.....	17
2.3.1 Firm Size .....	17
2.3.2 Profitability.....	18
2.3.3 Growth.....	18
2.4 Agency Costs.....	19
2.5 Empirical Review.....	20

2.6	Summary of Literature Review.....	25
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>		<b>27</b>
3.1	Introduction .....	27
3.2	Research design.....	27
3.3	Population of the Study .....	27
3.4	Data Collection.....	28
3.5	Data Analysis .....	28
3.5.1	Analytical Model.....	28
3.5.2	Operationalization of Study Variables .....	29
3.6	Test of Significance .....	30
<b>CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION .....</b>		<b>31</b>
4.1	Introduction .....	31
4.2	Descriptive Statistics .....	31
4.3	Diagnostic Tests .....	33
4.4	Correlation Analysis.....	36
4.5	Capital Structure and Agency Costs.....	37
<b>CHAPTER FIVE:SUMMARY,CONCLUSION AND RECOMMENDATIONS .</b>		<b>43</b>
5.1	Introduction .....	43
5.2	Summary of Findings .....	43
5.3	Conclusions .....	44
5.4	Recommendations .....	46
5.5	Limitations of the Study.....	46
5.6	Suggestions for Further Research .....	47
<b>REFERENCES: .....</b>		<b>49</b>
<b>APPENDICES .....</b>		<b>56</b>
APPENDIX I : NSE LISTED COMPANIES AS AT 31 DECEMBER 2014.....		56
APPENDIX II : DATA COLLECTION SHEET .....		57
APPENDIX III : SUMMARY OF ANNUAL AVERAGES OF VARIABLES .....		58
APPENDIX IV : AVERAGE DATA FOR YEAR 2009 -2014 .....		59

## **LIST OF ABBREVIATIONS**

AIMS	-	Alternative Investment Market Segment
CMA	-	Capital Markets Authority
CS	-	Capital Structure
DTMs	-	Deposit Taking Micro-Finance Institutions
EAT	-	Earnings after Interest and Tax
FCF	-	Free Cash Flows
FISMS	-	Fixed Income Securities Market Segment
FTSE	-	Financial Times Stock Exchange
GEMS	-	Growth and Enterprise Market Segment
MIMS	-	Main Investment Market Segment
MM	-	Modigliani and Miller
NSE	-	Nairobi Securities Exchange
ROA	-	Return on Assets
ROE	-	Return on Equity
SME	-	Small and Medium size Enterprises
SPSS	-	Statistical Package for Social Studies
UK	-	United Kingdom
US	-	United States of America

## LIST OF TABLES

Table 3.1 : Operationalization of Study Variables.....	29
Table 4.1 : Descriptive Statistics .....	31
Table 4.2a : Multicollinearity Test.....	33
Table 4.2b : Tests of Normality .....	34
Table 4.2c : Test of Independence .....	35
Table 4.3 : Correlation Matrix .....	36
Table 4.4a : Model Summary.....	38
Table 4.4b : ANOVA Results .....	39
Table 4.4c : Regression Coefficients .....	39



## ABSTRACT

The manager – shareholder agency conflicts and the resulting agency costs have received much attention in corporate finance by both industry and academic researchers. Corporate financial researchers posit that managers of firms have strong incentives to pursue sub-optimal risk strategies, either in pursuit of equity value maximization or in pursuit of narrow self interest. Furthermore, the agency theory postulates that firms will incur agency costs as a means of reducing agency conflicts between shareholders (principal) and managers (agents). Hence, to deal with this situation, various proposals have been advanced to address the agency problems. One such theory is the use of the firm's capital structure. The capital structure reveals information about the firm's way of financing its operations and growth. It is basically a mix of debt and equity which a firm deems appropriate to enhance its operations. Therefore, the capital structure is an important strategic financing decision that firms have to make, especially in public limited companies. Despite this importance, empirical studies on the effect of capital structure on agency costs remains inconclusive and contradictory. Some of the studies reveal that the capital structure has a negative relationship with agency costs, while others observed a positive or no relationship at all. Furthermore, several NSE listed companies have previously been delisted, liquidated or placed under receivership on account of agency problems. The purpose of this study was to establish the effect of capital structure on agency costs of the firms listed at the Nairobi Securities Exchange (NSE) in Kenya. Descriptive survey design was used for this study whereby the researcher used quantitative data to answer the research question. The population of interest comprised of all the 61 firms listed on the NSE in Kenya for the period 2009-2014, a period of six years. However, firms in the banking, Investment and Insurance companies were excluded. This study used secondary data from the published audited financial statements of the firms under study. The data was collected from the Nairobi Securities Exchange (NSE) handbook, Capital Markets Authority website, concerned listed companies website and other published information. The data collected was the total assets, total debt, total equity, annual sales, Net Income (Earnings after interest and tax), annual audit costs and board remuneration. The data obtained was analyzed using descriptive statistics. Statistical package for Social Sciences (SPSS) aided in data processing and analysis. Multivariate regression analysis was used to find out whether the capital structure had an effect on the agency costs of the firms. The study findings established that 61.4% of the variations in agency costs were accounted for by capital structure, profitability, size and growth of the firms. Further, it emerged that the model predicting this relationship was statistically significant at 5% level of significance. Additionally, the findings established that capital structure, profitability, growth and size of the firms have a positive relationship with agency costs. Hence, the study concludes that capital structure has a positive and significant effect on the agency costs for firms listed at the NSE. The researcher recommends that the firms' managers come up with, and implement financing strategies that ensures optimal proportion of debt and equity for their firm. Further, the researcher recommends that management of the firms make prudent decisions regarding their financial strategy and policy in a bid to maximize their firm's value. In addition, further research should be done to establish the effects of other factors that were not explained by the model on agency costs.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The separation of ownership and control in the firm may generate agency costs. These are the costs of monitoring the managers so that they act in the interest of the shareholders. Jensen and Mecklings (1976) posit that the higher the need to monitor the managers, the higher the agency costs will be. Furthermore, they argue that the conflict of interest between the owners and the managers will create agency costs that may be reduced by the choice of a capital structure. Jensen (1986) argues that the main issue for capital structure is how to resolve the conflict on the firms' resources between managers and owners.

Nowadays, corporate finance managers are more aware and cautious of capital structure decisions due to the increasing pressure on today's competitive environment .This encourages the managers to change the capital components of their firms' in order to maximize the firm's overall value and also meet the needs of its various stakeholders. Financial researchers have shown that capital structure decisions are important for any business because of their effect on the value of the firm and its cost of capital. Hence, various theories of capital structure try to guide the corporate finance managers in choosing the optimal proportion of debt and equity for their firm (Pandey, 2009).

Furthermore, it is widely acknowledged that capital structure remains a controversial area of corporate finance theory. The works of Modigliani and Miller (1958; 1963) about capital structure irrelevance and tax shield advantage, paved the way for the development

of alternative theories and a series of empirical research on capital structure. Therefore, the study of capital structure attempts to explain the mix of securities and financing sources used by corporations to finance real investment (Myers, 2001). Capital structure reflects the firm's financing strategy, for example, its overall target debt-equity ratio, and also financing tactics, for example, the design and timing of a particular debt issue. Myers (1984) argues that researchers do not know how firms choose debt, equity or hybrid securities they issue, since capital structure changes convey information to investors. Hence, it has remained a puzzle of how firms determine their capital structure.

### **1.1.1 Capital Structure**

Capital structure is a concept defining the way in which a corporation finances its total assets using two main capital sources of equity and debt. In fact, Rajan and Zingales (1995) argue that the definition of capital structure would depend on the objective of the analysis. Myers (1984) refers to capital structure as the way in which a firm is financing its total assets, operations and growth through issuing equity, debt and hybrid securities. Van Horne and Wachowicz (2008) posit that capital structure is a mix of a firm's permanent long-term financing represented by debts, preferred stock and common stock. Brealey, Myers and Allen (2011) define capital structure as comprising of debt, equity or hybrid securities issued by the firm.

From the definitions given by previous researchers, capital structure of a firm describes the way in which a firm raises capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintains resulting from the firm's financing decisions. An appropriate capital structure is

important to a firm as it helps it deal with its competitive environment within which it operates. Thus, the capital structure affects the firm's decisions about employment, production and investment (Harris and Raviv, 1991).

There are various determinants of capital structure choice of a firm. Titman and Wessels (1988) suggest that asset structure, non-debt tax shields, growth, uniqueness, industry classification, size, earnings volatility, and profitability are factors that may affect leverage according to different theories of capital structure. These factors were also supported by Harris and Raviv (1991) in their research. Kaijage and Elly (2014) in their study finds that size and growth positively influence in a significant way capital structure of DTMs in Kenya. Furthermore, they find that liquidity, profitability and tangibility of assets negatively influence the capital structure. Even when there is no consensus in the literature, the most commonly cited factors by researchers are: asset structure (tangibility) , non-debt tax shield , the profitability , size , expected growth , uniqueness , operating risk, industry classification , managerial ownership and the age of the firm .

### **1.1.2 Agency Costs**

Agency theory refers to the principal-agent problem, and in the case of a company, to the relationship between owners (shareholders) and management. Jensen and Meckling (1976) point out that agency costs occur due to the incomplete alignment of the agent's and the owner's interests. Furthermore, they identify two types of agency costs: First, agency costs of equity, which are derived from conflicts between outside equity holders and owner managers. Secondly, agency costs of debts which are derived from conflicts between equity-holders and debt-holders.

Jensen and Meckling (1976) argue that managers on their own will prefer to have greater perquisites and lower effort levels. Therefore, to safeguard their interests, shareholders will incur monitoring costs, which they called agency costs of equity. Similarly, they argue that with debt, the managers or firm will engage in high risk investments which may lead to financial distress. Hence, to protect their interests, debt holders will provide for various covenants in their loan agreements to compensate for their increased risk, which they call the agency costs of debt. These expenses incurred by the shareholders together with the cost of inefficiencies (due to the covenants) are called agency costs.

Since the work by Jensen and Meckling (1976), substantial research has been devoted to demonstrate the interaction between agency costs and capital structure decisions. Hence, empirical results suggests that in choosing the debt to equity levels, firms should trade off between the agency costs of debt and agency costs of equity. Also, by appropriately allocating finance between equity and debt, capital structure can balance the conflicts between investors and management as well as between management and creditors.

### **1.1.3 Effect of Capital Structure on Agency Costs**

Harris and Raviv (1991) observe that there has been much research conducted concerning the agency problem in developed markets, but relatively few studies have been done in developing or emerging markets. Jensen (1986) argues that the existence of debt in the firm's capital structure acts as a bonding mechanism for the firm's managers. By issuing debt rather than paying dividends, managers contractually bind themselves to pay out future cash flows in a way unachievable through dividends.

Jensen and Meckling (1976) argue that it is expected the effect of leverage on agency costs to be negative overall. However, this effect may be reversed at the point where the expected costs of financial distress outweigh any gains achieved through the use of debt rather than equity in the firm's capital structure. Therefore, higher leverage is expected to lower agency costs, reduce inefficiency and thereby lead to an improvement in firm's performance.

Much empirical evidence collected by researchers, for example, Ang, et al. (2000) and Fleming, et al. (2005), shows that agency costs generated from the conflicts between outside equity holders and owner manager could be reduced by increasing the owner managers' proportion in equity, that is, agency costs vary inversely with the managers' ownership. Broadly, there are three general ways in which to reduce the conflicts of interest between managers and the shareholders. First, increasing management ownership as this will align the interests of management and shareholders (Jensen, 1986); monitoring management by large shareholders (Shleifer & Vishny, 1986) and finally, using debt financing to discipline managers (Stulz, 1990).

Theoretically, Jensen and Meckling (1976) argue that there should be an optimal capital structure, under which the lowest agency costs of a firm can be deduced from an independent variable, that is, the ratio of outside equity to the whole outside financing. Hence, they demonstrated that the locus of agency costs, which is equal to agency costs of outside equity and ones of debt, would be a convex curve. This implies that there is a point where the total agency costs is at a minimum. These findings are supportive of the theory put forth by Williams (1987) that additional debts decrease agency costs.

### **1.1.4 Firms Listed at Nairobi Securities Exchange**

NSE which was started in 1954 as a voluntary organization of stockbrokers is now one of the most active capital markets in Africa. During the past few years, Kenya has made important progress towards improving the NSE, including the dematerialization of securities, automated trading, the introduction of risk rating agencies and the introduction of new performance measurement indices, all of which have improved the investment environment in which the firms operate in. The NSE plays an important role in the process of economic development. It helps to mobilize domestic savings thereby bringing about the re-allocation of financial resources from dormant to active agents (NSE, 2014).

The NSE has both a primary and secondary market from which firms can seek additional capital. However, from empirical studies, many Kenyan firms largely depend on short-term debts for financing their operations due to the difficulty in accessing long term credit from financial institutions. Hence, companies at the NSE are financially leveraged with a large percentage of their total debts being short-term (Ondiek, 2010; Mwangi, et al., 2014). Furthermore, several firms listed at the NSE have experienced agency problems resulting in suspension or interim halt on the trading of their shares at the NSE. These firms include Uchumi Supermarkets, CMC Holdings, and East Africa Portland Cement among others. Some of the reasons for suspension ranged from fraud within the firm, conflicts of interests among board members and management and even weak corporate governance structures. Hence, this underlies the importance of research on the functioning of the financing decisions firms listed at the NSE.

Currently there are 64 companies listed on the NSE divided into four investment market segments namely; Main Investment Market Segment (MIMS), Alternative Investment Market Segment (AIMS), Fixed Income Securities Market Segment (FISMS) and Growth and Enterprise Market Segment (GEMS). The MIMS and AIMS companies are further classified into eleven sectors namely; Agricultural; Automobile and Accessories; Banking; Commercial and Services; Construction and Allied; Energy and Petroleum; Insurance; Investment; Investment services; Manufacturing and Allied firms; and Telecommunications & Technology (NSE, 2014).

## **1.2 Research Problem**

The capital structure of a firm is basically a mix of debt and equity which a firm deems as appropriate to enhance its operations. Therefore, the issue of capital structure is an important strategic financing decision that firms have to make. However, where managers have numerous opportunities to exercise discretion with respect to capital structure decisions, conflicts of interest with the resultant agency costs may arise. Starting with the seminal work of Jensen and Meckling (1976), corporate finance researchers have argued that for a variety of reasons, managers of firms have strong incentives to pursue suboptimal risk strategies, either in pursuit of equity value maximization or in pursuit of more narrow self interest. To deal with this situation and in the process mitigate against agency costs, several mechanisms have been proposed. One such theory is the use of the firm's capital structure (Margaritis & Psillaki, 2010).

Agency theory suggests that the choice of capital structure may help mitigate the agency costs. Hence, greater financial leverage may affect managers and reduce agency costs



through the threat of liquidation, which causes personal loss to the managers of salaries, perquisites among others. The theories have been developed to try to unearth the financing preferences managers may have in selecting a particular capital structure (Abor, 2007). In Kenya, which is an emerging market economy, corporate capital structure may be one of the main issues for corporate financial policy. Furthermore, existing theories of capital structure were traditionally tested in the contexts of firms in developed economies. Locally, there are several examples of NSE listed companies that have previously been delisted, liquidated or placed under receivership on account of agency problems. Therefore, it seems imperative that further studies be carried out on the applicability of capital structure on agency costs in the case of an emerging market economy with a less developed financial market like Kenya.

In a study of agency costs and ownership structure, Ang, Cole and Lin (2000) argue, that banks complement shareholders by monitoring of managers thus indirectly reducing agency costs of equity. Most researchers have concluded that the choice of capital structure may help mitigate these agency costs. Hence, they find a negative relationship between capital structure and agency costs. These studies include; Li and Cui (2003), Fleming, et al. (2005), Zhang and Li (2008), Rakesh and Lakshni (2013) among others. Thus, high leverage reduces agency costs by constraining or encouraging managers to act more in the interest of shareholders thus reducing cash flows available for spending by managers. However, on the contrary, other researchers find a positive or no significant relationship between capital structure and agency costs. For instance, Wang (2010) and Wellalage (2012) find that the use of debt increases agency costs. Zheng (2013) finds that there is no significant correlation between capital structure and agency costs.

Other local studies in this area in Kenya find mixed results. Nyaboga (2008) investigates the relationship between capital structure and agency costs for firms listed at the NSE in the period 2000-2007. The study used simple regression analysis to analyze the data and found no relationship between capital structure and agency costs. Kittony (2011) using data from the NSE for the period 2005-2009 and using multiple regression analysis and controlling for firm size and profitability, finds overall a weak relationship exists between capital structure and agency costs of firms listed in the NSE. Onsomu (2014) using long term debt to equity as a proxy for capital structure and efficiency cost ratio for agency costs finds a significant positive relationship. On the contrary, Mwangi, et al. (2014) in their study conclude that agency theory is not applicable to non-financial firms at the NSE. Hence, capital structure does not influence the agency costs.

The results from past empirical studies on the effect of capital structure on agency costs are contradictory which justifies further research. Furthermore, most of the reported studies on the effect of capital structure on agency costs have been conducted in developed countries where the capital markets are well developed. The Kenyan capital market is relatively underdeveloped and therefore the capital structure theories that have their origin in the developed countries need to be tested in the Kenyan context. Therefore, this study attempted to contribute to the limited empirical studies and on the debate on capital structure and agency costs from a developing country perspective by asking; what is the effect of capital structure on agency costs of firms listed at the Nairobi Securities Exchange (NSE) in Kenya?

### **1.3 Objective of the Study**

This study sought to establish the effect of capital structure on agency costs of the firms listed at the Nairobi Securities Exchange (NSE) in Kenya.

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

These study findings are beneficial to:

Management of the listed firms in Kenya: They would be enlightened on the impact of capital structure on agency costs so that they can make prudent decisions regarding their financial strategy and policy in a bid to maximize their firm's value.

Firm and Institutions not listed on the NSE: This study would assist the Finance managers make informed decisions on how to minimize the agency costs and thus improve their performance. A better understanding of the effect of capital structure on agency costs would enable them make decisions about their desired target optimal capital structure.

Current and Potential Investors: The study would also help current and potential investors gather more information as regards their investments and therefore make more informed decisions. Investors would be concerned about the agency costs as they affect the dividends they receive. Hence, they are more informed when it comes to choosing where to invest their funds based on the effects of capital structure on the agency costs and ultimately on firm's performance.

Academicians and Researchers: This study would also contribute to an increase in the general knowledge of the subject. There is limited research on issues relating to the effect

of capital structure choice on agency costs especially in the developing markets like Kenya. An insight in this area would aid in further understanding and conceptualization of the area of capital structure by academicians and researchers.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature relevant to this study. It embraces understanding the various theories advanced on capital structure as well as empirical studies conducted on the effect of capital structure on agency costs.

#### **2.2 Theoretical Review**

Since Modigliani and Miller's (M&M) article about the irrelevancy of capital structure in 1958, the capital structure challenges have evolved and become a popular subject of empirical testing. In fact, Myers (2001) contends that there exists no universal theory of capital structure and that researchers should not have a reason to expect one soon. Therefore, various conditional theories have been advanced in order to explain the capital structure puzzle. However, none of them have been able to fully explain all capital structure decisions. This includes MM (1958) theory, trade –off theory, pecking order theory, agency cost theory and free cash flow theory.

##### **2.2.1 Modigliani and Miller Theorem (1958)**

The theory of corporate finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance propositions. They argue that in a perfect capital market setting, capital structure has no effect on a firm's value. However, in a less than perfect market environment, where there are taxes, information asymmetry between insiders and outsiders and also principals and agents, these results do not hold. Though

their proposition theoretically sounds good it is only valid under perfect market conditions which are not actually possible in real world.

Subsequent research on capital structure decisions has focused on relaxing the MM assumptions in order to develop a more realistic theory of capital structure. The MM (1958) paper stimulated serious research devoted to disapproving irrelevance as a matter of theory or as an empirical matter. Research has shown that MM theorem fails under a variety of circumstances; most commonly used elements include taxes, transaction costs, bankruptcy costs and agency conflicts. Thus, Myers (2001) argues that the MM propositions are benchmarks, not end results. Therefore, in this study, by relaxing some of the assumptions, more specifically that there exists agency conflicts, the capital structure decisions is relevant to firm value.

### **2.2.2 Trade-off Theory**

The tradeoff theory suggests that firms can determine their optimal capital structure by striking a balance between the benefits and costs related with debt financing. Myers (1984) argues that a firm is viewed as setting a target debt-equity ratio and gradually moving towards it. The firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress. The theory predicts that firms with more tangible assets would mean more debt-servicing capacity and more taxable income to shield, thus a higher debt ratio will be anticipated. Further, the trade-off theory argues that larger firms are able to issue debt at a cheaper rate than small firms. Therefore, the trade-off between tax shield benefits and financial distress costs create in theory a crucial relationship with profitability. The expectation is that bankruptcy costs

are lower for more profitable firms. Further, the tax shields are more valuable for these firms since they are more profitable. In addition, the trade-off theory expects these firms to incur high debt ratios. However, empirical studies find a negative correlation between profitability and debt ratio, thus contradicting the trade-off theory. In fact, Myers (2001) criticizes the trade-off theory, arguing that most profitable firms on a given industry tend to borrow the least, thus the theory cannot explain the observed correlation between high profitability and low debt ratios. However, an important prediction of the trade-off theory is that firms target their capital structures.

### **2.2.3 Pecking order Theory**

Myers and Majluf (1984) develop the pecking order theory which postulates that firms follow a specific order of preferences in financing decisions and they prefer internal to external financing. Furthermore, they argue that in the absence of investment opportunities, firms retain profits and build up finance slack to avoid having to raise external finance in the future. Myers (1984) argues that if internal funding is not enough, the firm will issue the safest security first. They will start with debt, then hybrid securities and equity as a last resort. Chen (2004) posits that easy access to internal funds and lesser transaction costs are reasons for the utilization of internal funds just before debt financing.

An argument in favour of the pecking order theory is that it can explain the negative correlation between profitability and debt. In fact, Antzoulatos, et al. (2014) argue that highly profitable firms can finance their new investments with their own retained earnings simply because they earn more than less profitable firms. Furthermore, they

postulate that the least profitable firms are more obliged to use external funds, like debts, in order to make investments. Although the pecking order theory has been widely accepted, Ryen, et al. (1997) argue that this theory is inconsistent with many empirical observations. Despite these theoretical criticisms, it has been demonstrated that financing decisions are made in such a way that causes the least difficulty to the management (Myers, 1984).

#### **2.2.4 Agency Theory**

Jensen and Meckling (1976) develop this theory by arguing that a firm's capital structure is determined by agency costs, which includes the costs for both debt and equity issue. The costs related to equity issue may include: the monitoring expenses of the principal (the equity holders), the bonding expenses of the agent (the manager) and the reduced welfare for principal due to the divergence of agent's decisions from those which maximize the welfare of the principal. The agency costs of debt include the opportunity costs caused by the impact of debt on the investment decisions of the firm; the monitoring and bond expenditures by both the bondholders and the owner-manager; and the costs associated with bankruptcy and reorganization. Hunsaker (1999) argues that since both equity and debt incur agency costs, the optimal debt-equity ratio involves a trade-off between these two types of costs.

To mitigate the agency problems, various methods have been suggested. These mechanisms include increasing the ownership of the managers in the firm in order to align the interest of managers with that of the owners, compensation contracts, bonding and monitoring activities within the firm, which is, monitoring of management by large



shareholders, use of debt financing to discipline managers (Jensen 1986; Stulz 1990; Gul and Tsui, 1998). Similarly, Grossman and Hart (1982) suggest that the use of debt increases the chances of bankruptcy and job loss. Hence, it motivates managers to use the organizational resources efficiently and reduce their consumption on perks. However, researchers agree that perfect control is extremely costly. For this reason agency problems can never be perfectly solved and managers may not act totally in the best interests of the shareholders (Berger & Bannacorsi di Patti, 2006).

### **2.2.5 Free Cash Flow Theory**

Jensen (1986) defines free cash flow (FCF) as the amount of money left after the firm has invested in all projects with a positive net present value. It is important because it allows a firm to pursue opportunities that enhance shareholder value. Furthermore, Jensen (1986) suggests that, when a firm has generated surplus cash and there are no profitable investment opportunities available, management tends to abuse the free cash flows in their domain. Hence, Jensen (1986) explained that too much FCF would result in internal inefficiency and the waste of corporate resources, thus leading to agency costs as a burden of shareholder's wealth.

Jensen (1986) articulates that mitigation of FCF is by paying interest on debt and dividends to prevent a manager from abusing firm's income for personal purposes. Due to law requirements, paying the principal and interest of debt is preferred to paying dividends to diminish the level of free cash flow. Furthermore, Jensen (1986) argues that high growth firms face lower free cash flow problems which occur when firms have substantial cash reserves and a tendency to undertake risky and usually negative NPV

investment projects. In fact Mostaghimi, et al. (2014), in their study find a significant and negative relationship between growth opportunities (sales growth) with agency costs resulting from free cash flows. Hence, the study concludes that firms with high growth opportunity are managed better than firms with low growth opportunities.

## **2.3 Determinants of Capital Structure**

Following from the theoretical standpoint, a number of empirical studies have identified firm level characteristics that affect the capital structure of a firm. Among these characteristics are size of the firm, asset structure, profitability, growth, firm risk ,age of the firm and ownership structure .Thus, the results are interpreted on the basis that several theoretical effects are represented by each variable. Therefore, the firm level variables which are selected and discussed and used in this study are firm size, profitability and growth.

### **2.3.1 Firm Size**

The size of a firm plays an important role in the capital structure decisions. Kaijage and Elly (2014) finds a significant relationship between firm size measured as log of total assets and leverage. Furthermore, they posit that the positive sign of size may be that larger firms do have more easy access to debt markets from where they can raise substantial long-term funds at a true price due to their asset base as compared to firms of smaller size. In fact, Titman & Wessels (1988) posit that positive relationship is expected between a firm's size and its leverage.

Since, larger firms have an opportunity to have more retained earnings according to the pecking order theory, larger firms have lower leverage. Hence, pecking order theory

suggests the negative relationship between size and leverage. Rajan and Zingales (1995) and Booth, et al. (2001) find that leverage is positively correlated with firm size. Since most existing literatures show the size effect on leverage is nonlinear, natural logarithm of assets or sales are used to measure this variable (Huang and Song, 2006).

### **2.3.2 Profitability**

Profitability is a measure of earning power of a firm. The effect of profitability on leverage is explained by the pecking order theory that was suggested by Myers (1984). Profitable firms prefer internal funds rather than external due to asymmetric information or transaction costs. Firms which are profitable are seen to have more retained earnings and choose to have lower leverage. Hence, a negative relationship between profitability and leverage is expected.

Agency theories also predict that profitable firms would take more debt in their capital structure to control the activities of managers. Hence, the more profitable a firm is, the more debt it will have in its capital structure. Indicators of a firm's profitability include ratios of operating income over sales or total assets, return on assets, return on equity and ratios of average earnings after taxes over total assets.

### **2.3.3 Growth**

Literature provides mixed results in respect of the relationship between growth and leverage. The pecking order theory by Myer (1984) predicts that high growth firms, typically with large financing needs, will end up with high debt ratios due to their managers' unwillingness to issue equity. However, empirical studies have found that growth has negative effects on leverage. Firms generally choose equity to invest where

they see a growth opportunity exists rather than seeking borrowings in order to avoid a further increase in leverage, hence a negative relationship is noted between growth and leverage (Titman & Wessels, 1988; Baskins, 1989; Barclay, Smith and Morellec, 2006).

Jensen and Meckling (1976), argue that firms with high growth opportunities were more likely to have higher agency costs due to higher debt prices. Therefore, firms with good growth opportunities would maintain a lower leverage in order to minimize the constraints imposed by the creditors and maximize the potential gains. Hence, a negative relationship is expected between growth opportunities and leverage. Measures of growth include the ratio of research and development over sales, the percentage change in total assets or sales from the previous to current year (Titman and Wessels, 1988).

## **2.4 Agency Costs**

Jensen and Meckling (1976) defined agency costs as the sum of the monitoring expenditures by the principal, the bonding expenditures by the agent and the residual loss. Baker and Powell (2005) showed that there are two types of agency costs in a firm; direct and indirect costs. Shareholders incur direct costs in order to reduce potential conflicts with managers. These are bonus, stock option plans, audit fees, managerial incentives and infrastructure put in place to control the behaviour of managers. Indirect costs results from managers' failure to make a profitable investment due to their risk aversion, managers exerting insufficient work effort or even poor investment decisions.

Although abundant literature has reviewed the agency theory, yet the measurement of agency costs has still not been clearly defined. Thus, the measurement has depended on proxy variables. There are seven proxy variables that have been suggested to measure

agency costs in literature; they are total asset turnover (annual sales to total assets ratio), operating expense to sales ratio, administrative expense to sales ratio, earnings volatility, advertising and research and development expense to sales ratio, floatation cost. However, most commonly used measures in empirical studies are total asset turnover and operating expenses to sales ratio (Ang, et al., 2000; Singh & Davidson, 2003). Indeed, in practice, it is acknowledged that it is difficult or impossible to estimate the agency costs and that is why proxy variables are used.

## **2.5 Empirical Review**

This study reviews some past empirical studies in terms of the purpose of the studies, the methodology that was adopted and the findings of the studies as are related to this current study.

Ang, Cole, & Lin (2000) by using data of small business in US, studied the effect of ownership structure on agency costs. They find that agency costs (proxies by expense ratios) decline as managerial ownership increases. Furthermore, Ang, et al. (2000), find empirical support for the disciplinary role of debt. This supports the idea that better monitoring by banks reduces agency costs. They argue that this puts pressure on managers to run business profitably and report the real picture of business to such banks. Hence, they conclude that agency costs increases with the number of non-manager shareholders, and to a lesser extent, are lower with greater monitoring by banks.

Similarly, Singh and Davidson (2003) extended the research of Ang, et al. (2000) to larger US publicly traded corporations using data for the period 1992 and 1994. Using asset utilization and discretionary expense ratio as proxy measure for agency costs, their

results showed that inside ownership reduces agency costs when asset utilization is used but relationship is not significant when discretionary expense ratio is used. They demonstrate that outside large shareholders' ownership may only have a limited effect on reducing agency costs and find weak evidence that higher managerial ownership reduces agency costs. Hence, they conclude that at low level of leverage, further increase in leverage will reduce agency costs by reducing free cash flow available to managers, increased monitoring of managers by debt holders and increased threat of bankruptcy.

Fleming, et al. (2005) replicated the study of Ang, et al. (2000) by using sample data of Australian SMEs. They use asset utilization ratio and operating expense ratio as proxy for agency costs. They test the relationship between debt to equity ratio, used as proxy for banks' monitoring, and equity agency costs. The results show that leverage improves asset utilization but results show no significance impact on discretionary operating expenses. Hence, they show that capital structure has an effect on agency costs but the effect depends on the size of the firm and the choice of agency costs measures taken.

Zhang and Li (2008) explored the impact of leverage on agency costs for 323 UK firms listed in the FTSE in the year 2004 and 2005. They measure capital structure using debt to asset ratio, operating expenses to sales ratio as proxy for agency costs and control variables of performance (proxies as return on asset) firm size (proxied by log of sales and industry classification (industry dummies)). Using multivariate and univariate analysis, their results confirm that leverage is negatively related to agency costs. However, when capital structure is also composed of sufficient high level of leverage, results showed opposite (positive) but non-significant relationship between leverage and agency costs. They mentioned that increase in debt level reduces agency costs but

increases bankruptcy costs. They conclude that the general relationship between capital structure and agency costs is negative hence supporting the agency theory.

Nyaboga (2008) investigates the relationship between capital structure and agency costs of twenty firms listed at the NSE in Kenya between 2000 and 2007. The study applied gearing ratio as the measure of capital structure and agency costs measured as operating expenses to total sales as the dependent variable. The relationship was analyzed using simple regression analysis model with no control variables. The study finds that the use of debt decreases expenses in high growth firms but increases asset utilization in low growth firms. However, the study contradicts theoretical predictions because it was shown that there was no relationship between capital structure and agency costs. Thus, it was concluded that capital structure does not reduce agency costs.

Similarly, Kittony (2011) tests the relationship between capital structure and agency costs on twenty eight firms listed at the NSE between 2005 and 2009. The study used agency costs proxy of operating expenses to total assets. Further, the study used the capital structure measured by debt to asset and two control variables, log of total assets for size and return on assets for profitability. Using a multiple regression analysis model, the study found a weak relationship between capital structure and agency costs as the capital structure explained 24.3% of the variations in the agency costs during that period. Hence, it concludes that debt financing reduces agency costs between managers and shareholders by encouraging the managers to perform better in order to reduce the likelihood of bankruptcy, but there are other factors which were not explained by the model.

Rakesh and Lakshni (2013) provide empirical evidence for the agency theory by conducting multivariate tests based on twenty top listed companies in India for the years 2011 and 2012. Agency costs proxy was represented by operating expenses divided by sales (OETS) and the capital structure by debt to asset ratio, with log of sales and return on assets as control variables. In the multivariate tests, the negative relationship between leverage and agency costs is confirmed. The results suggest that the inverse relationship is significant. In addition, firm size is negatively related to agency costs significantly and firm performance is related to agency costs but insignificantly. Hence, the empirical results appear to support the agency costs hypothesis that higher leverage in the capital structure reduces agency costs.

Zheng (2013) finds that there is no significant influence between the capital structure and agency costs on 775 firms listed at the Shanghai and Shenzhen stock markets in China for period 2010 to 2012. Zheng (2013) used two econometrics methods, which are ordinary least squares (OLS) and panel data respectively to analyze the data. Capital structure is calculated by debt-to-asset ratio and long-term liability rate while agency costs are measured by overhead expenses rate and asset turnover rate. The result shows agency costs have a slightly negative correlation to debt-to-asset ratio and there is a positive and insignificant correlation relationship between long-term liability rate and agency costs. Hence, it concludes that the use of long-term debt does not influence agency costs and capital structure has no significant effect on agency costs of firms listed in China.

Maniagi, et.al (2013) in a study of the relationship between a firm's capital structure and performance among a sample of thirty firms listed at the NSE for the period 2007-2011, conclude that firms listed at the NSE have adopted pecking order theory hypothesis. They



argue, that this is due to the undeveloped capital market and the restrictive covenants associated with long-term debt, which make it more expensive hence making firms borrow less. Furthermore, they argue that most firms prefer to finance their activities using short term debts. The results of their study shows that total assets are significantly positively correlated to capital structure proxies. Hence, the study indicates that long term debt is utilized by large firms that have large assets which could be used as collaterals for securing the loans.

Onsomu (2014) carried out a study to investigate the relationship between capital structure and agency costs for firms listed at the NSE for the period 2009-2013. The study used efficiency cost ratio as a proxy for agency costs, and capital structure was measured as long term debt to equity. In addition, two other variables were used, this is information asymmetry measured as market value to book value per share and ownership concentration measured by corporate ownership to equity. Using a multiple regression analysis, the study finds that capital structure has a significant positive relationship with agency costs. Furthermore, the study shows that the use of long term debt in the process of the operational activities will lead to an improvement in a company's operating expenses. Hence, the study concludes that capital structure determines agency costs.

Mwangi, et al. (2014) in their study investigated the relationship between capital structure and financial performance of non-financial companies listed at the NSE, Kenya for the period 2006-2012. Performance was measured using return on equity (ROE) and return on assets (ROA). Capital structure was measured by long term debt to equity. Panel multiple regression analysis was applied to estimate the relationship between the financial leverage level and performance. The study finds that increased financial

leverage has a negative effect on the performance of the firms. The findings however, contradicts the agency theory postulated by Jensen and Meckling (1976), that the use of leverage (long term debt) in the capital structure can be used to mitigate the agency conflicts by forcing managers to invest in profitable ventures that benefit the shareholders. Hence, the study concludes that the agency theory is not applicable among non-financial firms listed at the NSE.

## **2.6 Summary of Literature Review**

Since Modigliani and Miller (1958) seminal paper on capital structure, research has been devoted to disapproving irrelevance as a matter of theory or as an empirical matter. In fact, Kaijage and Elly (2014) posit that in general, empirical studies have examined the validity of the various theories, but no consensus has emerged among researchers as regards the theory that best explains the capital structure choice.

Furthermore, the study of agency theory has been an important subject in corporate finance since Jensen and Meckling (1976) demonstrated that the self-interest motive of management could incur agency costs burdening the wealth of stockholders. In addition, a variety of studies have provided valuable insights into how capital structure choices can be used to mitigate various types of agency problems. However, not enough research has been done in emerging markets and especially in Kenya.

In addition, the findings from the past empirical studies in Kenya are at best mixed and inconclusive. Nyaboga (2008) finds no relationship between capital structure and agency costs by using a simple regression analysis. Kittony (2011) finds a relationship between capital structure and agency costs by including control variables. Onsomu (2014) finds

that capital structure as measured by long term debt to equity determines agency costs. On the contrary, Mwangi, et al. (2014) posits that agency theory of capital structure is not applicable to non-financial firms at the NSE. Hence, they conclude that capital structure has no effect on the agency costs. Moreover, not all the previous studies use the same parameters to measure either the capital structure or agency costs proxies.

From the foregoing discussions based on available empirical literature, it was clear that results from the studies into the effect of capital structure on agency costs are inconclusive. Therefore, there was a need for this study to be undertaken to improve on the empirical analysis conducted so far. Also, this study may prove useful in filling the research gap that exists in the literature and increase our understanding of the effects of the capital structure decisions taken by Kenyan firms.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the research methodology that was used in this study. It covers research design, population of the study, data collection methods, research procedures used as well as data analysis techniques applied.

#### **3.2 Research Design**

Cooper and Schindler (2011) posit that research design constitutes the blue print for collection, measurement and analysis of data. The researcher used quantitative data to answer the research question. Hence, a descriptive survey was more suitable for this study. According to Saunders, et al. (2012), a descriptive survey method allows one to collect quantitative data which can be analyzed quantitatively using descriptive and inferential statistics. Through this design, the study tested the effect of capital structure on agency costs of firms listed at the Nairobi Securities Exchange in Kenya for the period 2009-2014.

#### **3.3 Population of the Study**

Cooper and Schindler (2011), defines a population as the total collection of elements about which the researcher wishes to make some inferences. The population of interest in this study comprised of all firms listed on the NSE in Kenya for the period 2009-2014, a period of six years. However, firms in the banking, Investment and Insurance companies

were excluded due to their peculiar nature of capital structure. There were sixty one firms listed at NSE as at end of year 2014.

### **3.4 Data Collection**

This study was based on secondary data. The data was collected from the Nairobi Securities Exchange (NSE) handbook, Capital Markets Authority website, concerned listed companies website, academic journals and other published information. The data for all the variables were extracted from the published annual reports and financial statements of the listed companies in the NSE covering the years 2009-2014. The specific financial statements from which the data was extracted included the Income Statement, Statement of Financial Position and notes to the financial statements. The data collected were the Total assets, Total debt, Total equity, Annual sales and Net Income (Earnings after interest and tax), annual audit costs and board remuneration.

### **3.5 Data Analysis**

The data obtained was analyzed using descriptive statistics to depict the characteristics of the population. In the analysis, use was made of SPSS software to aid in data processing and analysis. The analysis involved use of mean, median, standard deviation. A correlation analysis was carried out to establish whether there is any relationship between dependent and independent variables.

#### **3.5.1 Analytical Model**

For purposes of this study, multivariate regression analysis was used to find out whether the capital structure had an effect on the agency costs of the firms. The multivariate regression model was of the form:

$$Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 X_{i,t} + \beta_3 X_{i,t} + \beta_4 X_{i,t} + \varepsilon_{it}$$

Where;

$Y_{i,t}$  = Agency costs measured as Natural log of audit costs and directors remunerations.

$X_{i,t}$  = Capital Structure (CS) of firm is measured as Total Debt divided by Total assets.

$X_{i,t}$  = Profitability (PROF) is measured as Net Income after tax divided by Total equity.

$X_{i,t}$  = Size (SIZE) of the firm is measured as Natural log of Total assets.

$X_{i,t}$  = Growth (GROW) of firm is measured as natural log of sales growth in a year.

$\varepsilon_{it}$  = the Error terms

$\beta_0$  = Coefficient of Intercept (Constant)

$\beta_1, \beta_2, \beta_3, \beta_4$  = Regression Coefficient for each independent variables.

Hence the model specification was:

$$\text{Agency Cost } (Y_{i,t}) = \beta_0 + \beta_1 (CS_{i,t}) + \beta_2 (\text{Prof}_{i,t}) + \beta_3 (\text{Size}_{i,t}) + \beta_4 (\text{Grow}_{i,t}) + \varepsilon_{it}$$

### 3.5.2 Operationalization of Study Variables

**Table 3. 1: Operationalization of Study Variables**

Type of Variable	Variable	Measure	Adapted from
Dependent	Agency Costs	Natural log of Annual audit costs and directors remunerations	Ndeto (2010) ; Gichana ( 2012) Mustapha & Ahmed (2011);
Independent	Capital Structure	Total Debt/ Total Assets	Ang, et. al (2000); Zhang & Li (2008) Rakesh & Lakhshni (2013)
Control Variables	Profitability	Return on Equity = Net Income / Total Equity	Cui & Li (2003); Zeintun & Tian (2007) Mwangi, et al. (2014)
	Firm Size	Natural Log of Total Assets	Rajan & Zingales (1995); Kittony ( 2011) ; Kaijage & Elly (2014)
	Growth	Natural log of sales growth in a year	Titman & Wessels (1988); Chen (2004) Mostaghimi, et al. (2014)

### **3.6 Test of Significance**

This study used analysis of variance (ANOVA) to test for significance of the effect of the independent variables on the dependent variable in the regression analysis. ANOVA provides a statistical test of whether or not the means of several groups are equal. The results were set at 5% level of significance.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter presents a detailed discussion of the results of the study in an attempt to achieve the research objective. The objective of this study was to establish the effect of capital structure on agency costs of the firms listed at the Nairobi Securities Exchange in Kenya. Secondary data was analyzed and presented in the form of tables.

#### 4.2 Descriptive Statistics

This section examined the descriptive statistics for both the explanatory and dependent variables of interest. Each variable is examined based on the mean, standard deviation and normally distributed skewness and kurtosis values. Table 4.1 below displays the descriptive statistics for the study.

**Table 4.1: Descriptive Statistics**

<b>Variable</b>	<b>N</b>	<b>Mean Statistic</b>	<b>Std. Deviation Statistic</b>	<b>Skewness Statistic</b>	<b>Kurtosis Statistic</b>
Agency Costs	31	10.6651	1.15908	-1.158	2.694
Capital Structure	31	.4681	0.18111	-.006	-1.374
Profitability	31	.1164	0.13588	.895	2.819
Firm Size	31	16.0203	1.55692	.158	-.615
Growth	31	12.9903	2.16712	-.400	.315

**Source: Research Findings**



As shown in Table 4.1, the mean value for agency costs of the firms was 10.6651 with a standard deviation of 1.159. This shows that over the period of study, agency costs averaged 10.66. Further, agency cost had negative skewness as shown by skewness value of -1.158 and Kurtosis value of 2.694. Similarly, the mean value of the capital structure is 0.4681 units with a standard deviation of 0.181 between 2009 and 2014. This shows that the average debt ratio of the NSE is nearly 1:1 and the variance is low. This means that whereas 46.8% of the total assets of the firms are financed by debts, 53.2 % was generated from either equity finance or other internal sources. These indicate that on average, Kenyan firms used relatively high debt financing over the study period. Further, skewness value indicates that the data is negatively skewed with a kurtosis value is -1.374.

The average value of profitability was 0.1164 with a standard deviation of 0.13588. In addition, the skewness value and kurtosis value was 0.895 and 2.819 respectively. The mean value for size was 16.02 with a standard deviation of 1.557 .This indicates that most of firms are large companies having their total assets above average. Further, the size variable has a right tail distribution with a low peak value as shown by skewness value of 0.158 and kurtosis value of -0.615. Further, the average growth of firms over the study period was 12.9903. This implies that log of sales is around 12.99 normally each year. The standard deviation was 2.16712 over the period of study. It also shows that growth had a skewness value of -0.4 with a low peak value as indicated by the kurtosis value of 0.315.

From the above results, it emerged that agency costs, capital structure and growth of firms had negative skewness as shown by skewness statistics of -1.158, -0.006 and -0.400 respectively. However, profitability and firm size were positively skewed as shown by

skewness statistics of 0.895 and 0.158 respectively. Regarding kurtosis, the values obtained ranged between 2.819 and -1.374. From the descriptive statistics as a whole, the study concludes that the distribution of the variables was symmetrical hence normally distributed since the kurtosis values of the study variables were between -3 and +3 , they are considered acceptable in order to prove normal univariate distribution.

### 4.3 Diagnostic Tests

#### 4.3.1 Test for multicollinearity

The study tested for multicollinearity of the variables using tolerance and variance correlation analysis. The table 4.2a below presents the results obtained.

**Table 4.2a: Multicollinearity Test**

Model		Collinearity Statistics	
		Tolerance	VIF
1	Capital Structure	.549	1.822
	Profitability	.800	1.250
	Firm Size	.371	2.694
	Growth	.276	3.628

a. Dependent Variable: Agency costs

#### **Source: Research Findings**

From the findings as shown in table 4.2a above, the tolerance values obtained for capital structure, profitability, firm size and growth were 0.549, 0.800 and 0.371 respectively which is an indication that there was no perfect linear combination of the independent variables as the values were not close to 0. However, growth of firm had tolerance value of 0.276 which was slightly lower indicating a weak collinearity. The Variance Inflation Factor (VIF) measured the impact of collinearity among the variables in a regression model. Values of VIF that exceed 10 are often regarded as indicating multicollinearity. From the findings, capital structure, profitability and firm size had VIF of 1.822, 1.250

and 2.694 respectively. This is an implication of non collinearity. Hence it can be construed to imply that there was stability of the beta coefficients hence the beta weights were well estimated. However, growth of firms had slightly higher VIF of 3.628 which is an implication of weak collinearity.

### 4.3.2 Tests of Normality

The researcher tested for the normality of the variables using Shapiro-Wilk test. This is because Shapiro-Wilk test is more appropriate for small sample sizes of less than 50. Therefore, the conclusions were based on significance value obtained whereby Sig. values of the Shapiro-Wilk test greater than 0.05 implies that the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution. The findings are presented in table 4.2b below.

**Table 4.2b: Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Agency costs	.100	31	.200*	.927	31	.036
Capital Structure	.146	31	.091	.934	31	.058
Profitability	.176	31	.016	.910	31	.013
Firm Size	.078	31	.200*	.980	31	.812
Growth	.108	31	.200*	.963	31	.352

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Source: Research Findings

As shown in the table 4.2 b above, capital structure, firm size and growth of firms were normally distributed as the significance values obtained corresponding to their Shapiro-Wilk statistics were 0.058, 0.812 and 0.352 which were greater than 0.05, the significance level of the study. However, for the case of profitability and agency costs,

the data failed to pass the normality test since their significance values corresponding to their Shapiro-Wilk statistics were 0.013 and 0.036 which were less than 0.05.

### 4.3.3 Autocorrelation

The study tested for independence of variables using Durbin- Watson Test and the findings are as shown 4.2c below. The Durbin-Watson Statistic is used to test for the presence of serial correlation among the residuals.

**Table 4.2c: Test of independence**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.784 <sup>a</sup>	.614	.555	.77329	1.161

a. Predictors: (Constant), Growth , Profitability , Capital Structure, Firm Size  
b. Dependent Variable: Agency costs

### Source: Research Findings

As suggested by Kohler (1994), a value of four of the Durbin –Watson test indicates upper limit, while a value of zero indicates lower limit. Therefore, if the value equals two there is an absence of autocorrelation, but a value lesser or greater than two signifies the presence of positive or negative autocorrelation among the predictor variables. A value close to 0 indicates strong positive correlation, while a value of 4 indicates strong negative correlation. Therefore, the result obtained as shown in table 4.2c above of the analysis of Durbin-Watson value is 1.161, which suggests that the model does not have the problem of autocorrelation. Given that this value was less than two, it was concluded that there was weak positive autocorrelation between the variables.

#### 4.4 Correlation Analysis

Pearson’s correlation analysis was run at 5% significance level aimed at establishing how capital structure was correlated with agency costs of the firms. The correlation matrix is presented in Table 4.3 below

**Table 4.3: Correlation matrix**

		Agency costs	Capital Structure	Profitability	Firm Size	Growth
Agency costs	Pearson Correlation	1				
Capital Structure	Pearson Correlation	.425*	1			
Profitability	Pearson Correlation	.414**	-.156	1		
Firm Size	Pearson Correlation	.677**	.426*	.250	1	
Growth	Pearson Correlation	.719**	.596**	.239	.790**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

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

**Source: Research Findings**

The results from table 4.3 showed that a positive correlation existed between agency costs and the independent variables. However, the strength of the relationships differed with each dimension. For capital structure, the Pearson correlation value was 0.425. This indicated that there was moderate correlation between agency cost and capital structure. Similarly, the Pearson Correlation values for profitability, firm size and growth of firms were quite higher at 0.414, 0.677 and 0.719 respectively. This is an indication that

moderate positive correlation exist between profitability and agency costs while a strong positive correlation exists between firm size and growth and agency costs. Further the correlation values imply that increase in capital structure, profitability, firm size and growth of firms increase agency costs of firms.

Further, the significant values (P-value) obtained corresponding to the obtained Pearson Correlation values were 0.017, 0.021, 0.000 and 0.000. Comparing the obtained significant values with the significance level of the study, that is. 0.05, it can be concluded that the Pearson correlations between capital structure, profitability, firm size and growth of firms and agency costs were statistically significant. Hence, it can be deduced that independent variables reliably predicted agency costs of firms listed at the NSE.

In addition , the study established that profitability had a weak negative correlation with capital structure. Interestingly, this correlation emerged to be insignificant as p value was greater than 0.05. Further, there were weak positive and insignificant correlations between firm size and profitability, and growth and profitability. However, the correlations between firm size and capital structure, growth and capital structure and firm size and growth were positive, strong and significant as shown by correlation coefficients of 0.426, 0.596 and 0.790.

#### **4.5 Capital Structure and Agency Costs**

To find out whether the capital structure had an effect on the agency costs of the firms, multivariate regression analysis was used. Of concern, the study sought to determine the variation in the agency costs of the firms accounted for by the capital structure. This was

determined by use of coefficient of determination ( $R^2$ ) obtained in the model summary table. Coefficient of determination ( $R^2$ ) is the percent of the variance in the dependent variable explained uniquely or jointly by the independent variables. The findings are presented in table 4.4a below.

**Table 4.4a: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.784 <sup>a</sup>	.614	.555	.77329

a. Predictors: (Constant), Growth, Profitability, Capital Structure, Size

**Source: Research Findings**

As shown in table 4.4a above, the model had coefficient of determination ( $R^2$ ) of 0.614 and an adjusted ( $R^2$ ) of 0.555. This means that 61.4% of the variations in agency costs were accounted for by capital structure, profitability, growth and size of the firms. The adjusted ( $R^2$ ) means that the estimated model is able to explain about 55.5% of the variations in the agency costs. As the ( $R^2$ ) is 61.4 % it means that there are other factors that account for the remaining variance of 38.6%. This indicates that a larger portion of agency costs relate to capital structure, profitability, growth and size of the firms.

From the findings, it emerged that the effect of capital structure on agency costs is significant. Hence, the findings imply that indeed the independent variables under study determine the agency costs of firms. The findings are contrary to the findings by Zheng (2013) that there is no significant correlation between capital structure and agency costs. The findings further contradict with Nyaboga (2008) who investigates the relationship between capital structure and agency costs for firms listed at the NSE in the period 2000-2007 and found no relationship between capital structure and agency costs.

Furthermore, analysis of variance (ANOVA) was used to test for significance of the effect of the independent variables on the dependent variable in the regression analysis.

The findings are presented in table 4.4b below.

**Table 4.4b: ANOVA Results**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.757	4	6.189	10.350	.000 <sup>b</sup>
	Residual	15.547	26	.598		
	Total	40.304	30			

a. Dependent Variable: Agency Costs

b. Predictors: (Constant), Growth, Profitability, Capital Structure, Size

**Source: Research Findings**

As shown in table 4.4b above, the model predicting the relationship between capital structure, profitability, growth and size of firms and agency costs was statistically significant. The study established a significant value of  $p=0.000$  showing a statistical significance relationship.

Finally, the coefficients of the regression model and the findings are presented in table 4.4c below.

**Table 4.4c: Regression Coefficients**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	4.345	1.562		2.782	.010
Capital Structure	.925	0.352	.145	2.628	.017
1 Profitability	2.438	1.161	.286	2.099	.046
Size	.194	.083	.261	2.337	.023
Growth	.192	.124	.359	1.545	.134

a. Dependent Variable: Agency Costs

**Source: Research Findings**



The resulting regression model was:

$$Y = 4.345 + 0.925X_1 + 2.438X_2 + 0.194X_3 + 0.192X_4$$

Where Y= Agency Costs, X<sub>1</sub>= Capital Structure, X<sub>2</sub>= Profitability, X<sub>3</sub>= Size of the firms and X<sub>4</sub>= Growth of the firms. The findings as shown in table 4.4c indicate that when all the factors are held constant, agency costs would be 4.345 units. Further, holding other factors constant, one unit change in capital structure would change agency costs by 0.925 units. When all the other factors are held constant, a unit increase in profitability of firms increases agency costs by 2.438 units. Similarly, a unit increase in size of firms holding other factors constant increases agency costs by 0.194 units. Finally, a unit change in growth of the firms holding the rest of the factors constant changes agency costs by 0.192. Hence, the findings revealed that capital structure (p=0.017), profitability (p=0.046) and size of the firms (p=0.023) were significant in predicting agency costs since all the p values were less than 0.05. However, growth of the firms (p=0.134) turned out to be insignificant.

The standardized beta coefficient indicates the strength and the direction of the independent variables on the dependent variable. When the standardized beta coefficient is positive, then the relationship of the independent variables with the dependent variable is positive. If it is negative, then the relationship of this variable with the dependent variable is negative. From the table 4.4c, the findings show that the capital structure, profitability, size and growth have values of 0.145, 0.286, 0.261 and 0.359 respectively. This indicates that a unit increase in capital structure will have an impact of 0.145 increases in agency costs. Similarly, a unit increase in profitability and firm size will mean that agency costs increase by 0.286 and 0.261. Finally , a unit increase in growth

will result to an increase in agency costs by 0.359. However, since the t-value of growth is relatively low at 1.545 and the significance level is more than p value of 0.05 ( $p=0.134$ ), then growth is statistically insignificant.

Furthermore, the study revealed that capital structure determined agency costs based on the obtained regression coefficient of 0.925. The findings seem to agree with Pandey (2009) who argue that corporate finance managers should put emphasis in choosing the optimal proportion of debt and equity for their firm. This argument is further echoed by Ang, Cole and Lin (2000), Li and Cui (2003), Fleming, et al. (2005), Zhang and Li (2008) and Rakesh and Lakshni (2013).

The study established that increase in firm size leads to increased agency costs. The findings seems to concur with Jensen and Meckling (1976) who posit that the higher the need to monitor the managers, the higher the agency costs will be. However, this contradicts Kittony (2011) study, where using the 2005-2009 data, finds that a weak relationship exists between capital structure and agency costs of firms listed in the NSE while controlling for firm size and profitability. The findings further show that size of a firm plays an important role in capital structure decisions.

The findings further established that capital structure, profitability, size and growth of the firms have a positive relationship with agency costs. The findings are supported by the argument by Wang (2010) and Wellalage (2012) that the use of debt increases agency costs. It was deduced that profitability had a positive impact on the agency costs contrary to the anticipated expectations. This could be as a result of the fluctuations in the profitability of firms over the study period. Hence, the findings suggest that firms could

have been forced to increase external funding rather than use internal funds. Hence, a positive relationship between profitability and agency costs arises. The findings are in agreement with agency theories prediction that profitable firms would take more debt in their capital structure in order to control the activities of the managers.

Additionally, the study established that growth of firms results to increase in agency costs. The findings are in line with Jensen and Meckling (1976) who argue that firms with high growth opportunities are more likely to have higher agency costs due to higher debt prices. The findings further agree with the pecking order theory by Myer (1984) that predicts that high growth firms, typically with large financing needs, will end up with high debt ratios due to their managers' unwillingness to issue equity.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter of the research project aims to succinctly summarize some of main findings of the study. In addition, conclusions are drawn and recommendations for policy are made. Further, some of limitations of the study are highlighted. Finally, this chapter concludes with suggestions for further research.

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

Capital structure research still lacks a singular predominant theory with both good explanatory and predictive power. It is probably this shortcoming that has led researchers like Myers (1984) and Kaijage and Elly (2014) to conclude that no consensus has emerged among researchers as regards the theory that best explains the capital structure choice. The study sought to establish the effect of capital structure on agency costs for firms listed at the Nairobi Securities Exchange in Kenya. Secondary data was collected on thirty one (31) firms for the period 2009-2014. The data on agency costs (audit fees and directors remuneration), capital structure, profitability, size and growth of firms was sourced from the annual audited financial statements available from the NSE hand book, CMA database and the respective individual company's website.

The study found the average agency costs to be 10.66 with a standard deviation of 1.159. While the skewness value of agency costs is -1.158, the kurtosis value was 2.694. Capital structure (debt ratio) obtained an average of 0.4681 and standard deviation of 0.1811. While the value of skewness is -0.006, the kurtosis value was -1.374. Profitability obtained an

average of 0.1164 and standard deviation of 0.13588. While the skewness value of profitability is 0.895 with a kurtosis value of 2.819. Firm size obtained an average of 16.02 and standard deviation of 1.5569. The skewness value and kurtosis value of firm size is 0.158 and -0.615 respectively. Finally, the average growth of the firms was 12.99 with a standard deviation of 2.16712 over the study period. The skewness value was -0.4 with a kurtosis value of 0.315 for the growth of the firms.

The regression analysis results show that 61.4% of the variations in agency costs were accounted for by capital structure, profitability, size and growth of the firms. Further, the model predicting the association between the agency costs and the independent variables was significant. Lastly the obtained regression model implied that capital structure, profitability, size of the firms and growth of the firms had positive relationship with agency costs as shown by coefficients of 0.925, 2.438, 0.194 and 0.192 respectively. This result are similar with the research carried out by Wang (2010) and Wellalage (2012) who found that there was a significant positive relationship between capital structure and agency costs. This is due to the increased use of debt in order to finance the firm's operations or expand their operations. These findings are also supported by Li and Cui (2003) study who found that leverage is associated positively and has a significant impact on agency costs.

### **5.3 Conclusions**

Since the introduction of Modigliani and Miller's capital structure irrelevance proposition, the subject of how and why firms choose a specific capital structure have remained a controversial topic (Myers ,1984) There has been much research conducted concerning agency costs in developed markets. However, not enough attention has been

paid to emerging markets. This study has provided empirical evidence on the effect of the firm's capital structure on agency costs.

The study findings indicate that firms with a higher debt ratio have a higher ratio of agency costs and the relationship is statistically significant at 5% level. This findings are supportive of the theory put forth by Jensen and Meckling (1976) and Jensen (1986) that the higher the debts the more the need to monitor the managers. Based on the findings, the study concludes that capital structure has a positive influence on agency costs for firms listed at the Nairobi Securities Exchange in Kenya. This affirms to the theory that managers do not always behave in the best interest of the shareholders.

Further, the study finds a significant and positive relationship between profitability and agency costs. It is argued that profitable firms always save more cash and it is probable the firms' managers make sub-optimal investment and use it for non-value adding activities that do not maximize shareholders wealth. This result is supported by the findings of the research by Khan, et al (2012) who finds a significant relationship between profitability and agency costs.

The study further examined the effect of size of the firms on the agency costs. The results showed that size of the firms had a positive and significant effect on the agency costs. This is because increase in firm size results to additional costs being needed to monitor the entire organization including managers and as such leading to increased agency costs. That is, with an increase in size of the firm, agency costs increases which is supported by the findings of Fleming, et al (2005) who find a significant positive relationship between firm size and agency costs. Finally, the study finds an insignificant and positive

relationship between growth and agency costs. This can be concluded that a firm with a higher growth increases agency costs and vice versa.

## **5.4 Recommendations**

The study established that capital structure was relatively high and had a positive impact on agency costs. Given that increased capital structure transpires to increased agency costs, the researcher recommends that the firms' managers come up with, and implement financing strategies that ensures optimal proportion of debt and equity for their firm.

Further, size has been found to significantly affect the firm's agency costs. Larger firms seem to have relatively higher agency costs than smaller firms. Given that size is an important consideration in determining the ease with which firms can access funding in the capital market, and given that small firms are disadvantaged than larger ones, it is recommended that government should consider increasing the offer of financial products that target firms in small and medium segments so that they can compete favorably with the bigger ones.

## **5.5 Limitations of the Study**

The study made use of quantitative data in an effort to establish the effect of capital structure on agency costs over the study period. Hence, it did not consider other primary data or other qualitative data that could significantly influence the study variables.

Findings of the study are limited to companies that have traded consistently at the NSE for the six-year period that the study covered ,i.e., 2009-2014. These firms were thirty one. This was due to some of the firms not having complete data. In addition, some

business models of some of the key sectors such as banking and insurance have a regulated capital structure. It thus follows that the results of the study is not necessarily representative of the entire population of listed firms.

Further, given that size has been found to significantly influence agency costs, the use of listed firms leads to sample selection bias. This is a relatively small number since there are many more other firms operating in Kenya though they are not listed on the bourse. This limits generalization of the findings to other sectors and companies that were not included in the study.

In addition, the period for annual closing of accounts was different among the companies in the study. Different accounting periods for annual closing of accounts influenced the accuracy and limited comparison of the results.

## **5.6 Suggestions for Further Research**

This study has focused on secondary data. Future research could be undertaken to find out the managers behavior to capital structure choice via primary data. This could be done by interviewing the Finance Managers in the firms with respect to corporate financing and the real factors that they consider in making capital structure decisions. Hence, future research studies should consider including qualitative data so as to evaluate the qualitative aspects of the variables under study.

This study focused only on non-financial institutions listed at the Nairobi Securities Exchange. It is recommended that further research should therefore be taken to include



all non-financial companies in Kenya, both listed and unlisted at the Nairobi Securities Exchange to see if the same relationship applies.

The data collected indicated that the firms selected in the study had different accounting periods. Future research should be undertaken to ensure that the model takes into consideration the accounting periods. Therefore, effort should be made to harmonize the accounting periods so as to have the same period for annual closing of accounts to enable more accurate results to be obtained.

Finally, the model accounts for nearly 61.4% of the variance of agency costs. Therefore, the study established that there are other factors that account for the remaining variance of 38.6% in agency costs. As a result, the researcher recommends for further studies aimed at establishing the key factors that constitute the residuals in this study.

## REFERENCES

- Abor, J. (2007). Debt policy and performance of SMEs, *Journal of Risk Finance*, 8(4), 1364- 1379.
- Ang, J.S., Cole, R.A., & Lin, J.W. (2000). Agency costs and ownership structure. *Journal of Finance*, 5, 81-106.
- Altman, E. (1984). A further empirical investigation of bankruptcy costs question. *The Journal of Finance*, 39(4), 1067-1089.
- Antzoulatos, A., Koufopoulos, K., Lambrinouidakis, C., & Tsiritakis, E. (2014). Capital structure convergence: The role of financial development, *Midwest Finance Association 2012*, Annual meetings paper.
- Barclay, M. J., Morellec, E., & Clifford W. S. Jr. (2006). On the debt capacity of growth options. *Journal of Business*, 79, 37-59.
- Baskin, J. (1989). An empirical investigation to the pecking order hypothesis. *Financial Management*, 5, 26 - 35.
- Baxter, N. (1967). Leverage, risk of ruin and the cost of capital. *Journal of Finance*, 22(4), 395-403.
- Baker, H.K., & Powell, G.E. (2005). Understanding financial management. *Journal of Business and Economics*, 14(1), 4.
- Berger S., & Banaccorsi di Patti, E. (2006). Capital structure and firm performance: A New approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance*, 30, 1065-1102.
- Booth, L., Aivazian, V.A., Demirgüç-Kunt, A., & Maksimoviç, V. (2001). Capital structure in developing countries. *Journal of Finance*, 56, 87-130.

- Brealey, R.A., Myers, C., & Allen, F. (2011). *Principles of Corporate Finance*, 10th Edition: The McGraw-Hill Companies Inc.
- Brigham, E. F., & Houston, J. F. (2007). *Fundamentals of Financial Management*, 11th Edition. : Thomson South-Western.
- Chen, J.J. (2004). Determinants of capital structure of Chinese-listed companies, *Journal of Business Research*, 57(12), 1341-1351.
- Cooper, D.R., & Schindler, P.S. (2011). *Business Research Methods*, 11th Edition, McGraw-Hill, Irwin.
- Cui, L., & Li, H. (2003). Empirical study of capital structure and agency costs in Chinese listed firms. *Nature and Science*, 1, 12-20.
- DeAngelo, H., & Masulis, R. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, 3, 3-29.
- Fleming, G. A., Heaney, R.A., & McCosker, R. (2005). Agency costs and ownership structure in Australia. *Pacific-Basin Finance Journal*, 13(1), 29-52.
- Frank, M., & Goyal, V.K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67, 217-48.
- Gichana, O.E. (2012). Relationship between managerial ownership and agency cost of listed companies at the Nairobi Securities Exchange. *Unpublished MBA Project*, University of Nairobi.
- Grossman, S.J., & Hart, O. (1982). Corporate financial structure and managerial Incentives. *The Economics of Information and Uncertainty*, University of Chicago Press, 128-146.

- Gul, F.A., & Tsui S.L J. (1998). A Test of the free cash flow and debt monitoring hypotheses: Evidence from audit pricing. *Journal of Accounting and Economics*, 24 (2), 219-237.
- Harris, M., & Raviv A. (1991). The theory of capital structure. *Journal of Finance*, 46 (1), 297- 355.
- Huang, G., & Song, F. (2006). The determinants of capital structure: Evidence from China. *China Economic Review*, 17(1), 14-36.
- Hunsaker, J. (1999). The role of debt and bankruptcy statutes in facilitating tacit collusion. *Managerial and Decision Economics*, 20 (1), 9-24.
- Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, 76 (2), 323-39.
- Jensen, M.C. (1989). Eclipse of the public corporation. *Harvard Business Review*, 5, 61-74.
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-60.
- Kaijage, E.S, & Elly, D. (2014). Effects of corporate characteristics on capital structure decisions of SMEs. A case of DTMs in Kenya. *In the 14<sup>th</sup> International Conference on African Business and Small Business (ICAESB)*. The University of Dar es Salaam Business School.
- Khan , M.K. (2012). Impact of firm capital structure decisions on debt agency problems. Evidence for Pakistan, *Journal of Basic and Applied Scientific Research*, 2(8) 7897- 7905.

- Kittony, J. (2011). A test of relationship between capital structure and agency costs: Evidence from the NSE. *Unpublished MBA Project*, University of Nairobi.
- Kohler, H. (1994). *Statistics for business and economics* (3<sup>rd</sup> Ed.). New York : Harper Collins College Publishers.
- Maniagi, G.M., Mwaleti, S., Alala, B.O., Musiega, D., & Ruto, R. (2013). Capital structure and performance: Evidence from listed non-financial firms on Nairobi Securities Exchange, Kenya. *International Journal for Management Science and Technology*.
- Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance*, 34(3), 621-632.
- Miller, M. (1977), Debt and taxes. *Journal of Finance*, 32, 261-275.
- Modigliani, F., & Miller, M. (1958). The cost of capital, corporate finance, and the theory of investment. *American Economic Review*, 2, 61-97.
- Modigliani, F., & Miller, M. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review*, 53, 433-443.
- Mostaghimi, M., Ramezanpour, E., Nozari, A.H., (2014). Studying the effect of financial leverage on agency costs resulting from free cash flows of manufacturing companies accepted in Tehran Stock Exchange. *Singaporean Journal of Business Economics, and Management Studies*, 3 (3).
- Mustapha, M. & Ahmed C.A. (2011). Agency theory and managerial ownership: Evidence from Malaysia . *Managerial Auditing Journal*, 24, 419- 436.

- Mwangi, L.M., Makau, S.M., Kosimbi, G. (2014). Relationship between capital structure and the performance of non-financial companies listed in the NSE, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics (GJCRA)*, 1(2).
- Myers, S. C. (1984). The Capital structure puzzle. *Journal of Finance*, 39, 575–592.
- Myers, S. C. (2001). Capital structure. *The Journal of Economic Perspectives*, 15,81-102.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13, 187–221
- Ndeto, L. (2010). Relationship between agency costs and corporate governance mechanisms: Evidence from listed companies at the NSE. *Unpublished MBA Project*, University of Nairobi.
- NSE, (2014). *Nairobi Securities Exchange Handbook*. Nairobi, Kenya
- Nyaboga, E.K. (2008). The Relationship between capital structure and agency costs for firms listed at the NSE. *Unpublished MBA Project*, University of Nairobi.
- Ondiek, B. (2010). Relationship between Capital structure and financial performance of firms listed at the NSE . *Unpublished MBA Project*, University of Nairobi.
- Onsomu, G.P. (2014). Relationship between capital Structure and agency costs of firms listed at the NSE. *Unpublished MBA Project*, University of Nairobi.
- Pandey, I.M. (2009). Financial Management: *Capital Structure Planning and Policy*.
- Rajan, R.G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 50, 1421-1460.

- Rakesh, H.M., & Lakshni, P. (2013). Capital structure on agency costs: Evidence from Indian companies. *Journal of Business and Management*, 15 (1), 50-53.
- Ryen, G., Vasconcellos, T., & Geraldo, M. (1997). Capital structure decisions: What have we learned? *Business Horizons*, 40 (5), 41 -50.
- Saunders, M., Lewis, P., & Thornbill, A. (2012). *Research Methods for Business Students*, 6<sup>th</sup> Edition, Harlow: Pearson Professional Ltd.
- Shleifer, A., & Vishny, R.W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 4,461- 488.
- Singh, M., & Davidson, W. N. (2003) . Agency costs, ownership structure and corporate governance mechanisms. *Journal of Banking and Finance*, 27, 793-816.
- Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics*, 26, 3-27.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *Journal of Finance*, 43 (1), 1-19.
- Van-Horne, J.C., & Wachowicz, J.M. (2008). *Fundamental of Financial Management*, 12th Edition. New York: Prentice Hall Publishers.
- Wang, G.Y. (2010). The impact of free cash flows and agency costs on firm performance. *Journal of Service Science and Management*, 3,408-418.
- Wellalage, N.H. (2012). An empirical investigation of the agency cost and ownership structure in unlisted small businesses, New Zealand. *Journal of Applied Business Research*, 10 (2).
- Williams, J. (1987). Perquisites, risk and capital structure. *Journal of Finance*, 42, 29-49.
- Zeitun, R. & Tian, G.G. (2007).Capital structure and corporate performance. Evidence from Jordan. *Australasian Accounting, Business and Finance Journal*, 10,233-243

- Zhang, H. & Li, S. (2008). The Impact of capital Structure on agency costs: Evidence from UK public companies. *Proceedings of the 16th Annual Conference on Pacific Basin Finance Economics Accounting Management PBFEM Conference.*
- Zheng, M. (2013). Empirical research of the impact of capital structure on agency cost of Chinese listed companies. *International Journal of Economics and Finance*, 5 (10), 1916-28.



## APPENDICES

### APPENDIX I: NSE LISTED COMPANIES AS AT 31 DECEMBER 2014

<b>AGRICULTURAL</b>		<b>CONSTRUCTION AND ALLIED</b>	
1.	Eaagads Ltd	32.	ARM Cement Ltd.
2.	Kakuzi Ltd	33.	Bamburi Cement Ltd
3.	Kapchorua Tea Co.Ltd	34.	Crown Paints Kenya Ltd
4.	The Limuru Tea Co.Ltd	35.	E.A. Cables Ltd
5.	Rea Vipingo Plantations Ltd	36.	E.A Portland Cement Co.Ltd.
6.	Sasini Ltd		
7.	Williamson Tea Kenya Ltd	<b>ENERGY AND PETROLEUM</b>	
		37.	KenGen Co. Ltd.
<b>AUTOMOBILES &amp; ACCESSORIES</b>		38.	KenolKobil Ltd.
8.	Car & General (K) Ltd	39.	Kenya Power & Lighting Co. Ltd
9.	CMC Holdings Ltd.	40.	Total Kenya Ltd.
10.	Marshalls (E.A) Ltd	41.	Umeme Ltd.
11.	Sameer Africa Ltd		
		<b>INSURANCE</b>	
<b>BANKING</b>		42.	British American Investments Co.(K)Ltd
12.	Barclays Bank of Kenya Ltd	43.	CIC Insurance Group Ltd.
13.	CFC Stanbic of Kenya Holdings	44.	Jubilee Holdings Ltd
14.	Diamond Trust Bank Kenya Ltd	45.	Kenya Re Insurance Corporation Ltd.
15.	Equity Bank Ltd	46.	Liberty Kenya Holdings Ltd.
16.	Housing Finance Co. Kenya Ltd.	47.	Pan-African Insurance Ltd.
17.	I&M Holdings Ltd		
18.	Kenya Commercial Bank Ltd.	<b>INVESTMENT</b>	
19.	National Bank of Kenya Ltd.	48.	Centum Investment Co.Ltd
20.	NIC Bank Ltd	49.	Olympia Capital Holdings Ltd.
21.	Standard Chartered Bank Kenya	50.	Trans-Century Ltd
22.	Co-operative Bank of Kenya Ltd		
		<b>MANUFACTURING &amp; ALLIED</b>	
<b>COMMERCIAL AND SERVICES</b>		51.	A. Baumann & Co Ltd
23.	Express Kenya Ltd	52.	B.O.C Kenya Ltd
24.	Hutchings Biemer Ltd	53.	British American Tobacco Kenya Ltd.
25.	Kenya Airways Ltd	54.	Carbacid Investment Ltd
26.	Longhorn Kenya Ltd	55.	East African Breweries Ltd
27.	Nation Media Group Ltd	56.	Eveready East Africa Ltd.
28.	Scan group Ltd.	57.	Kenya Orchards Ltd.
29.	Standard Group Ltd	58.	Mumias Sugar Co.Ltd
30.	TPS Eastern Africa Ltd.	59.	Unga Group Ltd
31.	Uchumi Supermarket Ltd.		
		<b>TELECOMMUNICATIONS &amp; TECHNOLOGY</b>	
		60.	Safaricom Ltd.
<b>GROWTH ENTERPRISE MARKET SEGMENT (GEMS)</b>			
61.	Home Afrika Ltd		

## APPENDIX II : DATA COLLECTION SHEET

Company Name	Year	Sales Ksh'000	Audit Fees ( External) Ksh '000	Board Remuneration Kshs,000	Net Income Ksh '000	Total assets Ksh'000	Total debts Ksh'000	Total equity Ksh '000
A	2009							
	2010							
	2011							
	2012							
	2013							
	2014							
B	2009							
	2010							
	2011							
	2012							
	2013							
	2014							
C	2009							
	2010							
	2011							
	2012							
	2013							
	2014							
D	2009							
	2010							
	2011							
	2013							
	2014							

### **APPENDIX III: Summary of Annual Averages of Study Variables**

<b>Year</b>	<b>Agency costs</b>	<b>Capital Structure</b>	<b>Profitability</b>	<b>Size of firms</b>	<b>Growth of firms</b>
2009	10.937	0.4527	0.140	15.696	13.108
2010	11.076	0.4726	0.142	15.456	13.718
2011	11.185	0.4698	0.095	15.972	14.030
2012	11.148	0.4704	0.130	16.039	13.842
2013	11.290	0.4653	0.132	16.152	13.677
2014	11.183	0.4698	0.063	16.207	13.799

## APPENDIX IV: AVERAGE DATA FOR YEAR 2009 - 2014

S.No	Company  Name	Dependent	Independent	Control Variables		
		Agency Costs	Capital Structure	Profitability	Size	Growth
		Y AC	X1 CS	X2 Prof	X3 Size	X4 Grow
1	Eaagads	6.816	0.201	0.002	12.964	8.507
2	Kakuzi Ltd	8.874	0.262	0.139	15.071	9.542
3	Kapchorua Tea Co.Ltd	9.172	0.384	0.124	14.347	11.542
4	Rea Vipingo Plantations Ltd	10.862	0.294	0.190	14.651	12.319
5	Sasini Ltd	9.813	0.262	0.045	16.109	12.284
6	Williamsom Tea Kenya Ltd	9.973	0.284	0.114	15.641	12.906
7	Car and General (K) Ltd	10.342	0.633	0.129	15.532	13.692
8	Sameer Africa Ltd	10.302	0.293	0.059	15.027	11.737
9	Express Kenya Ltd	9.777	0.679	-0.196	13.607	11.562
10	Kenya Airways	11.526	0.752	-0.057	18.381	15.842
11	Nation Media Group Ltd	11.652	0.293	0.280	16.074	13.653
12	Scan Group Ltd	11.510	0.417	0.131	16.025	11.615
13	Standard Group Ltd	11.113	0.512	0.122	15.096	12.699
14	TPS Eastern Africa Ltd	11.315	0.377	0.056	16.379	13.153
15	ARM Cement Ltd	11.793	0.720	0.174	16.985	14.235
16	Bamburi Cement Ltd	11.839	0.300	0.193	17.444	14.171
17	Crown Paints Kenya Ltd	11.423	0.558	0.101	14.739	13.318
18	E. A Cables Ltd	10.080	0.551	0.135	15.550	12.180
19	E.A. Portland Cement Co. Ltd	9.931	0.567	0.059	16.449	12.640
20	KenGen Co. Ltd	10.715	0.585	0.043	18.953	13.795
21	KenolKobil Ltd	11.482	0.721	0.035	17.273	15.790
22	Kenya Power	10.933	0.707	0.107	18.730	16.177
23	Total Kenya Ltd	11.406	0.636	0.052	17.335	16.632
24	B.O.C. Kenya Ltd	10.449	0.242	0.105	14.569	7.669
25	British American Tobacco (K) Ltd	11.698	0.545	0.451	16.475	14.399
26	Carbacid Investment Ltd	9.511	0.151	0.230	14.456	11.201
27	East African Breweries Ltd.	12.375	0.670	0.517	17.718	15.384
28	Eveready East Africa Ltd	10.252	0.672	-0.073	13.853	11.441
29	Mumias Sugar Co. Ltd	10.997	0.452	0.037	16.945	12.124
30	Unga Group Ltd	10.168	0.403	0.087	15.684	14.045
31	Safaricom Ltd	12.519	0.389	0.217	18.568	16.446

