

**THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND THE
FINANCIAL PERFORMANCE OF DEPOSIT TAKING MICROFINANCE
INSTITUTIONS IN KENYA.**

**BY
DORCAS WANGARI MBUGUA**

**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN
PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
AWARD OF THE DEGREE OF MASTER OF SCIENCE (FINANCE)
SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI.**

OCTOBER 2016

DECLARATION

This Research Project is My Original Work and has not been presented for Examination in any Other University.

Signed.....

Date.....

DORCAS W. MBUGUA
REG NO.D63/64267/2013

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

Signed.....

Date.....

M. MWACHITI
Lecturer, Department of Finance and Accounting
School of Business, University of Nairobi

ACKNOWLEDGEMENT

I would like to thank my project supervisor, Mr. M. Mwachiti for his valuable guidance and advice. His motivation and professional guidance contributed tremendously to my project. Deepest gratitude is also due to the members of the school of Business. Finally, I thank God for the strength, good health that has enabled me to complete this project.

DEDICATION

I dedicate this project to my family members for the prayers, support and encouragement.

May the Lord, God Almighty bless them abundantly.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT	iii
DEDICATION	iv
LIST OF TABLES	vii
ABBREVIATION	viii
ABSTRACT	ix
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Capital Structure	1
1.1.2 Financial Performance	2
1.1.3 The Relationship between capital Structure and Financial Performance	3
1.1.4 Deposit Taking Microfinance Institutions in Kenya.....	4
1.2 Statement of the Problem	5
1.3 Objective of the Study.....	7
1.4 Value of the Study	7
CHAPTER TWO: LITERATURE REVIEW	8
2.1 Introduction	8
2.2 Capital Structure Theories	8
2.2.1 The Modigliani–Miller Theorem	8
2.2.2 Pecking Order Theory.....	9
2.2.3 Agency Cost Theory	10
2.3 Determinants of Financial Performance of DTMFIs	11
2.3.1 Macro-economic Indicators	11
2.3.2 Age of DTMFIs	11
2.3.3 Size of DTMFIs	12
2.3.4 Institutional Factors	12
2.3.5 Industry Effects	12
2.3.6 Marketing Expenditure	12
2.4 Conceptual framework	13

2.5 Empirical Studies	13
2.6 Conclusion	17
CHAPTER THREE: RESEARCH METHODOLOGY	18
3.1 Introduction	18
3.2 Study Design	18
3.3 Population of the Study	18
3.4 Data Collection.....	18
3.5 Data Analysis	18
CHAPTER FOUR : DATA ANALYSIS, RESULTS AND DISCUSSION	20
4.1 Introduction	20
4.2 Analysis Descriptive Statistics for 2013-2015	20
4.3 Correlation and Regression Analysis	21
CHAPTER FIVE : SUMMARY, CONCLUSION AND RECOMMENDATIONS	24
5.1: Introduction	24
5.2 Summary of Findings	24
5.3 Conclusions	25
5.4 Recommendations	25
5.5 Limitations of the Study	26
5.6. Suggestion for Further Research	26
REFERENCES	27
APPENDICES	31
Appendix I: Deposit Taking Microfinance Institutions in Kenya	31
Appendix II: DTMFI data 2013	32
Appendix III: DTMFI data 2014	33
Appendix IV: DTMFI data 2015	34

LIST OF TABLES

Table 4.1: Summary of the Descriptive Statistics of the Variables.	20
Table 4.2: Correlation Analysis	22
Table 4.3: Model Summary.....	22
Table 4.4: Analysis of Variance (ANOVA).....	23
Table 4.5: Regression Coefficients	23

ABBREVIATION

CS - Capital Structure

DMFIs -Deposit Taking Microfinance Institutions

FSS - Financial Self-Sufficiency

GMM - Generalized method of moments

MFIs - Microfinance Institutions

OER - Operating Expense Ratio

OLS – Ordinary Linear System

OSS - Operating Self-Sufficiency

ROE -Return on Equity

SMEs -Small and medium Enterprises

ROA -Return on Assets

OELP -Operating expenses per dollar lent

NGOs -Non Governmental Organizations

CBK -Central Bank of Kenya

PAT -Profit after Tax

ABSTRACT

This study examined the relationship between capital structure and the financial performance of deposit taking micro finance institutions (DTMFIs) in Kenya. The Microfinance Act of 2006 operationalized microfinance institutions which were purely focusing on micro lending activities to apply for licenses from Central Bank of Kenya to allow them to take deposits from customers. Today these micro banking businesses that receive saving deposits are known as Deposit taking microfinance institutions. According to Jensen (1986), the formation of a financial structure can control the structure of a firm which might control the capability of a firm to formulate planned choices. This study sought to investigate the relationship between capital structure and financial performance of Deposit taking microfinance institutions in Kenya. The study used a descriptive design to describe the characteristics of the six DTMFIS in Kenya as at 31st December 2015 and the study covered a three year period from 2013-2015. Secondary data was collected from the CBK and Association of Microfinance institutions of Kenya (AMFI) and the annual reports from the Deposit taking microfinance institutions. Capital structure was measured as total long term debt to equity ratio whereas financial performance was measured using return on assets (ROA) which is Net profits after taxes/Average assets. In addition, two controlled variables were used; Long term debt / Total Assets, Shareholders fund/Total Assets. Data was then analyzed using a regression analysis model with the help of statistical software Statistical Package (SPSS). The study used Multiple regression analysis determine the relationship between the variables under study. The data findings were presented using tables to show the relationships. The findings indicated that Capital structure (total long term debt to equity ratio) positively affects the financial performance of the Deposit taking microfinance institutions. Long term debt to assets also has a positive impact on ROA, but the relationship was not significant. Shareholders' fund to total assets also has a positive impact on financial performance. This study concludes by drawing some policy propositions geared towards capital structure to enhance financial performance of the DTMFIS. From the findings, the study recommends that strategies to ensure a financial structure that is suitable for achieving a good financial health and performance should be adopted by DTMFIS and the entire finance sector institutions as a whole.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Capital structure decisions are an important factor for firm's performance. Capital structure refers to the way in which an organization is financed by either a combination of long term capital i.e. ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and short term liabilities such as a bank overdraft and trade creditors. A firm's capital structure is then the composition or structure of firms' liabilities (Nirajini & Priya, 2013). Defining the optimal capital structure is a critical decision. This decision is important not only because of the impact such a decision has on firm's ability to deal with its competitive environment (Abor, 2005).

The importance of financing decisions cannot be over emphasized since many of the factors that contribute to business failure can be addressed using strategies and financial decisions that drive growth and the achievement of firm's objectives (Salazar, Soto & Mosqueda, 2012). A firm can issue a large amount of debt or a large amount of equity hence it's important for a firm to deploy the appropriate mix of debt and equity that can maximize its overall market value. Utilization of different levels of equity and debt by managers is one strategy used by firms to improve their financial performance (Gleason et al., 2000)

1.1.1 Capital Structure

Financing choice involves a tradeoff between risk and return to maximize shareholder wealth (Berger, Bonime, Covitz & Hancock, 2000). The objective of an optimal financing choice for any firm is therefore to have a mix of debt, preferred stock, and common equity that will maximize shareholders wealth, since changes in financial leverage affect firm value (Farrington & Abrams, 2002). In practice different financial institutions may pursue different goals but the core objective of any financial institution is to minimize its cost. In recent years, with the maturing of the microfinance industry, large numbers of Deposit taking microfinance institutions (DTMFIs) have greatly increased their outreach and sustainability. Furthermore, the formal market of microfinance is influenced by the process in which informal DTMFIs convert into formalized or regulated financial institutions which was referred to as "upscaling" before.

In some cases, DTMFIs receive grants and subsidized loans from development agencies to finance the transition into deposit-taking institutions. Funds from development agencies may also be deployed as financial instruments designed to improve access for newly regulated entities. These instruments, such as guarantees for capital market issuances or bank loans, have newly regulated DTMFIs to prove creditworthiness and borrow at cheaper rates (Counts, 2005). The importance of borrowing from public –sector institutions and donors is that it allows MFIs to enjoy interest rates and maturities that would be difficult to obtain from domestic or international commercial lenders (Jansson, 2003). DTMFIs in several Latin American countries have made progress in the transition to regulation and market funding using stock and bond issuance as source of funds (Conger, 2003). Stock issues by Latin American DTMFIs have essentially been limited to programs of reinvesting profits and the incorporation of new shareholders through the private placement of shares.

1.1.2 Financial Performance

The term ‘Financial Performance’ is used to describe a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Measures of financial performance include measures of liquidity, solvency, profitability and financial efficiency (Solomon, 1963)

Liquidity measures the firm’s ability to meet financial obligations as they come due in the short term, without disrupting the normal operations of the business. This is usually measured using the current ratio which indicates the extent to which current assets, when liquidated, will cover current obligations. Solvency gauges the firm’s ability to pay all financial obligations if all assets are sold and to continue viable operations after financial adversity. Solvency is measured by debt to asset ratio, debt to equity ratio and equity to asset ratio.

Financial efficiency measures the intensity with which a business uses its assets to generate gross revenues and the effectiveness of production, purchasing, product pricing and financing decisions and is measured by asset turnover ratio, operating expense ratio, interest expense ratio and net income ratio. Profitability measures the extent to which a

business generates a profit from the use of the available factors of production. Three profitability measures that are universally accepted for their value to management are return on assets, return on equity, and operating profit margin (Pandey, 2002).

All three measure the extent to which a business generates net income or profit from the use of its resources. Return on equity can best be communicated by earnings per share (EPS) which is the profit available for distribution to the ordinary shareholders after all other expenses including dividends attributable to preference shareholders have been deducted.

1.1.3 The Relationship between capital Structure and Financial Performance

Prior research examining the relationship between capital structure and firm performance has revealed that funding structure influences firm performance. The capital structure decision affects financial risk of a firm. While there is a considerable amount of literature with respect to the optimal capital structure of corporate firms, the application of the Modigliani-Miller (MM) theorem and other corporate finance theorems to lending institutions is less straight-forward. The basic MM principles are applicable to lending institutions, but only after accounting for the fundamental differences in how lenders and corporations operate (Cohen, 2003). With the application of MM to a corporate firm, one can point to an optimal capital structure in terms of the firm's value.

At the micro level, profitability is a prerequisite to a competitive microfinance industry and the cheapest source of capital, without which no firm would attract external capital (Gitman, 2007:65). Historically, MFIs were largely funded through donations/grants and government subsidies. In recent years, new sources of funds have emerged that are often described as having a focus on profitability (Ghosh and Tassel, 2011).

DTMFIs with access to donor funds may not operate efficiently or may deliberately choose outreach over profitability (Armendáriz and Morduch, 2010). Cheap external funding may attract an inefficient DTMFI, which relies on the implicit subsidy to cover its high operating costs (Ghosh and Tassel, 2011). Although Galema, and Spierdijk (2011), finds that investing in microfinance may be attractive to investors seeking a better risk–return

profile, their analysis suggests that investing in DTMFIs from Africa to a portfolio of international assets is not beneficial for a mean-variance investor. It might also be the case that firms located in economies with less developed financial markets will not only take different quantities of investment, but will also take different kinds of investment that are perhaps safer, short-term and potentially less profitable (Almeida, et al. 2011).

Various financial scholars have held different opinions regarding the relationship of capital structure and financial performance. Others have held that capital structure has a direct relationship with a firm's financial performance while others believe that the structure actually does not matter. In a perfect capital market where there are no transaction or bankruptcy costs and there exists perfect information, firms and individuals can borrow at the same interest rate; no taxes; and investment returns are not affected by financial uncertainty.

Modigliani and Miller (1958) analysis was extended to include the effect of taxes and risky debt. Under a classical tax system, the tax deductibility of interest makes debt financing valuable; that is, the cost of capital decreases as the proportion of debt in the capital structure increases. The optimal structure then would be to have virtually no equity at all, i.e. a funding structure consisting of 99.99% debt.

1.1.4 Deposit Taking Microfinance Institutions in Kenya

Microfinance industry in Kenya promotes small-scale investments that generates sufficient revenues from otherwise unrealized market activities while yielding a return on the investment. Agency costs may be particularly large in this industry because DMFIs hold private information on their loan clients. In addition, Deposit taking MFIs access to grant funding and other safety-net protections may increase incentives for risk shifting or lax risk management, potentially increasing the agency costs of outside debt (Counts, 2005). The enactment and endorsement of Deposit Taking Microfinance Institutions Act (The Microfinance Act 2006) by the parliament gave birth to Microfinance Deposit Taking Institutions which are allowed to mobilize and intermediate savings from the depositors (Mutua 2003). Microfinance institutions world over have been identified as critical

institutions to nations quest for solutions to the development challenge (CGAP, 2002). An effort to modernize and uplift operations of microfinance institutions gave rise to Deposit Taking Microfinance which is regulated under MFI Act 2006 by Central Bank of Kenya (CBK, 2006). According to ADB (2000) and Otero and Maria (2002), the implementation of the policy was deemed important for savings mobilization and proper management of public deposits by implementing basic minimum level of prudential regulations. Mutua, (2003) argues that, the Act provides prudential requirements that enable MFIs to manage resources properly which ultimately improves the efficiency and loan costs.

The Microfinance Act 2006 of Kenya, seeks to streamline the operation of the MFIs in Kenya, addresses licensing provisions, and sets minimum capital requirements and minimum liquid assets, submission of accounts to the Central Bank, supervision by the Central Bank, and limits on loan and credit facilities. The licensed deposit taking MFIs accepts public funds and contributes to poverty alleviation while in compliance with the required financial sector safety and soundness. The Deposit taking MFIs are regulated under the act to provide savings, credit, and other financial services to MSEs and to low-income households in both rural and urban areas. Currently, there are twelve Deposit Taking Microfinance Institutions in Kenya which include Faulu Kenya DTM Limited, Kenya Women Finance Trust DTM Limited (now Kenya Women finance bank Limited), Remu DTM Limited, Smepe DTMLimited, Uwezo DTMLimited, Century Deposit Taking Microfinance, Sumac DTM Limited and Rafiki DTMLimited Maisha Deposit Taking Microfinance Limited ,Caritas Deposit Taking Microfinance Limited,Daraja Deposit Taking Microfinance Limited and U&I Deposit Taking Microfinance Limited. All these DTMFIs have their Headquarters in Nairobi.

1.2 Statement of the Problem

The capital structure of a Microfinance industry is basically a mix of funds which it deems as appropriate to enhance its operations. Thus, theory point out that high leverage or low equity/asset ratio reduces agency cost of outside equity and thus increases firm value by compelling managers to act more in the interest of shareholders, (Berger and Bonaccorsi di Patti, 2006).Therefore capital structure is deemed to have an impact on a firm financial

performance against the position held by Modigliani and Miller in their seminal work of 1958. Modigliani and Miller (1958) argue on the basis of the following assumptions existence of perfect capital market; homogenous expectations; absence of taxes; and no transaction cost, that, capital structure is irrelevant to the value of a firm. Deposit Taking Microfinance institutions (DMFIs) have extended limits of formal finance and involved the Low income earners into formal commercial systems thus diversifying families' income bases, physical, human aid and social assets through decent money managing after economic tremors hence smoothening consumption (Cohen, 2003). Extraordinary operating costs and capital constrictions in the MFI industry have vetoed DMFIs from fulfilling the mammoth demand. Dehejia, Montgomery and Morduch (2005) exhibited that the demand for credit by the deprived is elastic.

Donor organizations and governments stress financial sustainability as means to exploit outreach breadth (Armendáriz de Aghion&Morduch, 2004). Therefore, DTMFIs capital structure is critical for their sustainability and performance. Studies on the effect of DTMFIs capital structure for developing countries on financial performance have been insufficient and scarce. A number of such studies have in most cases been done on developed economies. Plouffe (2001) identified young and promising MFIs and Mahjabeen (2010) compared provisions of micro loans between MFIs and traditional banks highlighting performances of Japan and United States.

The capital structure in deposit Taking Microfinance institution is crucial due to need of maximizing returns and also because of the impact such capital structure has on a DTMFIs's ability to deal with the competitive financial market in Kenya. DMFIs with a relatively high portfolio to asset ratio may be at greater risk of failure. Regulated DMFIs made choice on funding decision to increase portfolio asset ratio due to specialization in lending and benefits from informational advantages, which may reduce intermediation costs and enhance profitability (Freixas, 2005).DTMFIs in Kenya use equity and or donations as some of their main source finances in Kenya which accounted for by 72.42% and 27.58% in form of debt. Whether the capital structure in DTMFIs influence financial performance has not been empirically determine. Understanding the role of DMFIs' funding structure and its composition, whose knowledge largely misses in the literature,

constitutes a knowledge gap in Kenya, hence studying the field will be critical. Mainly this study seeks to ascertain implications of funding structure on DTMFI financial performance. Various studies have been carried out to ascertain various capital structure facets in Kenyan firms. Kiogora (2002) sought to find out whether capital structures of quoted companies were consistent over time and to ascertain whether companies quoted on the Nairobi stock Exchange in the same industry had similar capital structures. Mwendwa (2011) carried out a study on relationship between capital structure and profitability of Commercial Banks in Kenya. The studies have not determined the effects of Capital structure on financial performance of microfinance institutions in Kenya. This study seek to fill the existing knowledge gap by determining effects of capital Structure on financial performance in Deposit Taking Finance institutions in Kenya. The study seeks to answer the question, what is the relationship of capital structure on financial performance of DTMFIs in Kenya.

1.3 Objective of the Study

To establish the relationship between capital structure and the financial performance of deposit taking microfinance institutions in Kenya.

1.4 Value of the Study

The study will help DMFIs to know whether or not their operations and profitability is affected by Capital structure. This will help them in formulating the relevant policies to insulate themselves from adverse effects while taking advantage of the opportunities presented. This study will also help investors make informed decisions regarding investments in deposit taking microfinance institutions, among other investments in their portfolios, in a manner that is most beneficial in enhancing performance of DMFIs.

Managers of DMFIs may use the finding of this study to improve their performance of their institutions thereby contributing to financial sustainability of their institutions and ultimately wider and better outreach to the poor whom these institutions serve. This study will make a contribution to the debate on capital structure and its application to a sector, which has not been exhaustively visited and will also recommend any areas of further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review on micro finance institutions and the effects of capital structure on their financial performance. It summarizes the information from other studies that have carried out their study in the same field. The chapter presents theoretical orientation on capital structure and financial performance, empirical studies supporting the study and the key areas addressed to enlighten people on the area of study. In addition, the chapter critically presents the review of the literature related to the study variables which includes; the capital structure, financial performance and their effects in micro finance institutions.

2.2 Capital Structure Theories

In the following section the theoretical background necessary to understand the concept of capital structure is explained.

2.2.1 The Modigliani–Miller Theorem

The Modigliani–Miller theorem (of Franco Modigliani, Merton Miller) forms the basis for modern thinking on capital structure. The basic theorem states that, under a certain market price process (the classical random walk), in the absence of taxes, Bankruptcy costs, agency costs, and asymmetric information, and in an efficient market, the value of a firm is unaffected by how that firm is financed. It does not matter if the firm's capital is raised by issuing stock or selling debt.

It does not matter what the firm's dividend policy is. Therefore, the Modigliani–Miller theorem is also often called the capital structure irrelevance principle. Modigliani was awarded the 1985 Nobel Prize in Economics for this and other contributions. Miller was a professor at the University of Chicago when he was awarded the 1990 Nobel Prize in Economics, along with Harry Markowitz and William Sharpe, for their "work in the theory of financial economics," with Miller specifically cited for "fundamental contributions to the theory of corporate finance." One of the important financial decisions confronting a firm is the choice between debt and equity. In their seminal paper dealing with irrelevance of debt in capital structure for determining firm value, Modigliani-Miller (1958) included a

number of assumptions - one of which was absence of corporate tax. Subsequently, when Modigliani-Miller (1963) factored corporate tax in the model, it was found that theoretically the value of a firm should increase with debt because of higher interest tax shield. But monotonic increase of debt for higher tax shield increases bankruptcy cost especially when profitability of the firm is low and fluctuating.

This leads to 'trade off' theory of capital structure that postulates an optimum debt level or target level, where the marginal increase of present value of tax saving is just offset by the same amount of bankruptcy cost. Although we may not be able to determine the exact debt target level objectively in microfinance, because of MFIs industrial organization, trade off theory explains that there is a limit to debt financing and the target debt may vary from MFI to MFI depending on profitability, among a host of other factors. Consistently, profitable MFIs with lot of tangible asset that can be offered as collateral for debt may have a higher target debt ratio. Simply put high proportion of fixed interest capital to equity would imply that the MFI is highly indebted and therefore risks becoming insolvent. On the other hand highly leveraged MFIs may perform better by enjoying scale economies, enhancing their ability to boost profitability.

2.2.2 Pecking Order Theory

The alternative theory of finance known as 'pecking order' theory was developed by Myers (1984). It is based on the premise that in reality successful firms (zero' debt firms) with high and consistent profitability rarely goes for debt financing. The origin of pecking order theory is asymmetric information where managers know more about a firm's prospect than the outside investors. The theory suggests that if the firm issues equity shares to finance a project, it has to issue shares at less than the prevailing market price.

This signals that the shares are overvalued and the management is not confident to serve the debt if the project is financed by debt. Thus issue of shares is 'bad news. The pecking order theory suggests that firms have a particular preference order for capital used to finance their businesses (Myers, 1984). Owing to the presence of information asymmetries between the firm and potential financiers, the relative costs of finance vary between the financing choices. Where the funds provider is the firm's retained earnings, meaning more

information than new equity holders, the new equity holders will expect a higher rate of return on capital invested resulting in the new equity finance being more costly to the firm than using existing internal funds. A similar argument can be provided between the retained earnings and new debt-holders.

In addition, the greater the exposure to the risk associated with the information asymmetries for the various financing choices besides retained earnings, the higher the return of capital demanded by each source. Thus, the firm will prefer retained earnings financing to debt, short-term debt over long-term debt and debt over equity. On the contrary if external borrowing is used to finance the project, it sends a signal that the management is confident of the future prospect of serving debt. Hence debt is preferred over shares in financing decision. If debt is issued, pricing of debt Instrument remains a problem.

To avoid controversy the management may wish to finance project by internal Fund generation, i.e. by retained earnings. Thus, financing follows an order, first-retained earnings, then-debt and finally equity when debt capacity gets exhausted. This explains why the profitable firm uses less debt. These preferences exhibit transitivity. MFIs in Africa may represent an interesting scenario since retained earnings are zero and perhaps following the pecking order may opt for debt since quite a number are not regulated and therefore have no access to capital market. Should I find evidence that is consistent with the pecking order theory then my results should highlight a negative relation between capital structure and MFI profitability.

2.2.3 Agency Cost Theory

The agency cost theory is premised on the idea that the interests of the firm's managers and its shareholders are not perfectly aligned. In their seminal paper, Jensen and Meckling (1976) emphasized the importance of the agency costs of equity. They argue that agency costs of equity in corporate finance arise from the separation of ownership and control of firms whereby managers tend to maximize their own utility rather than the value of the firm.

Agency costs can also arise from conflicts between debt and equity investors. Stockholders, because of their rights, may take undue advantage over bond holders in an attempt to maximize their fortunes in a firm. Bond holders are therefore compelled to protect themselves from such contingencies. Such covenants adversely affect the corporate legitimate operations to some extent the costs of lost efficiency and other costs. Although Modigliani and Miller (1963) recommends that firms should maximize their debt financing opportunities, such a situation does not hold in the long run due to such agency problems between stake holders. Therefore costs related to protective covenants are substantial and rise with the increase in debt financing.

2.3 Determinants of Financial Performance of DTMFIs

Here we discuss other factors which may affect the financial performance of deposit taking Microfinance Institutions.

2.3.1 Macro-economic Indicators

Country's Level of Macro-economic indicators such as inflation and GDP. Bogan (2007) identified a relationship between a country's development level and financial performance of the MFIs within the economic jurisdiction. When Bogan broke down his statistics by region, he observed some interesting regional differences-Africa had the highest percentage of financially unsustainable MFIs at 37.70%. With this Bogan clearly proved that a country's level of macro-economic factors have a big role to play in the financial performance of the MFIs operating in the economy.

2.3.2 Age of DTMFIs

Several earlier studies (Batra, 1999) argued that firm age has an influence on its performance. Sorensen & Stuart (1999) argued that organizational inertia operating in old firms tend to make them inflexible and unable to appreciate changes in the environment. Newer and smaller firms, as a result, take away market share in spite of disadvantages like lack of capital, brand names and corporate reputation with older firms.

2.3.3 Size of DTMFIs

Size is expected to be an important determinant of firm performance. Size can have a positive effect on firm performance, since larger firms can leverage their size to obtain better deals in financial as well as product or other factor markets (Mathur & Kenyon, 1998). Large organizations often get access to cheaper financial resources, as well. These effects are more pervasive in institutional contexts of incomplete or imperfect markets that are more likely to be the case in developing economies such as India. On the other hand, Singh & Whittington (1968), and Banz (1981) argued that size had a negative effect on firm performance as firm size grows it becomes more difficult for it to sustain impressive financial performance.

2.3.4 Institutional Factors

Institutional factors such as corruption eradication, rule of law and accountability and political stability improve MFIs financial performance. (Adit et al. 2010). Politically stable economies which driven through the rule of law and with high level of accountability and transparency generally record higher ROA among it firms as compared to economies where corruption is rampant and is not governable due to political instability.

2.3.5 Industry Effects

Porter (1980) argued that the industry of operation of a firm has a significant effect on the financial performance of a firm. Empirical analysis of firm performance in other countries, particularly in United States, (Schmalensee, 1985) show that industry fixed effects exist and are important in determining firm performance. The primary industry in which a firm operates being its industry affiliation.

2.3.6 Marketing Expenditure

The intensity of marketing expenses often influences the financial performance of a firm. Marketing expenses allow a firm to create entry barriers for its competitors by building intangible assets (say, brands) leading to higher profitability for the firm (Aaker, 1984). Marketing expenses in building brands can also help firms get over difficult years and protect their market share and sales volume, and defy industry trends (Mathur & Kenyon, 1998).

2.4 Conceptual framework

According to Miles & Huberman (1994) Conceptual framework is an explanation of relationship between independent variable and dependent variable. A written presentation that explains either graphically, or in narrative form, the main things to be studied, the key factors, concepts or variables and the presumed relationship among them (Miles and Huberman, 1994). The study will employ Return on Assets (ROA) as the dependent variable, and as measures of financial performance of DTMFIs. ROA will be chosen because it is a widely accepted measurement of financial performance. The explanatory (independent) variables in this study will be deposits to asset ratio, Borrowings to assets ratio and Shareholders fund to assets ratio. These serve as a proxy for capital structure.

2.5 Empirical Studies

According to Jensen and meckling (1976) there existed 3 types of agency costs that explained the relevance of capital structure. Firstly, asset substitution effect which emphasized that as debt/equity ratio increased, management developed an increased incentive to undertake risky (even negative npv) projects because if the project was successful shareholders got all upside, whereas if it was unsuccessful debt holders get all the downside.

If the projects undertaken therefore, there was a chance of a firm's value is decreasing and a wealth being transferred from debt holders to shareholders. Secondly there was underinvestment problems where if a debt was risky (e.g. in a growth company) the gain from the project would accrue to debt holders rather than the shareholders hence management had an incentive to reject positive npv projects even if they had a potential to increase a firm's value.

Myers (1977), points out another agency costs of debt. He observes that when firms are likely to go bankrupt, in the near future, equity holders may have no incentive to contribute new capital even to invest in value increasing projects. The reason is that equity holders bear the entire cost of the investment, but the returns from the investment may be captured mainly by the debt holders. This large debt levels result in rejection of more value increasing projects. This agency cost of debt yields conclusions about capital structure similar to those of Jensen and meckling.

In Harris and Raviv (1990), urge that managers and investors disagree over an operating decision. In particular managers are assumed to want always to continue the firm's current operations even if liquidation of the firm is preferred by investors. Stulz (1990) argued that managers are assumed to want always to invest all available funds even if paying out cash is better for investors.

Another approach that involves manager investor conflicts is taken by Williamson (1988). In his view, the benefits of debts are the incentives provided to managers by the rules under which debt holders can take over the firm and liquidate the assets. The costs of debt are that the inflexibility of the rules can result in liquidation of the assets when they are more valuable in the firm. Thus, Williamson concludes that assets that are more deployable should be financed with debt. The negative relationship between the financial variable and the profit margin was in line with the results of Baker (1973), Hurdle (1974) and Oustapassidis (1998).

The relationship between investment and profit margin is positive and statistically significant. This meant that there is an effective use of capital. Kiogora (2002) sought to find out whether capital structures of quoted companies were consistent over time and to ascertain whether companies quoted on the Nairobi stock Exchange in the same industry had similar capital structures. He found out that there were differences in capital structure among industry groups: there was a negative relationship between returns of firms quoted on the Nairobi Stock Exchange and their level of leverage and that companies in the Agricultural sector had consistent levels of equity from year to year. Firms within a given sector tended to cluster towards some target Equity/Total Assets ratio implying that an optimal capital structure exists. He also found out that returns increased with increased leverage hence supporting the traditionalists' view of an optimal capital structure.

Makau (2006) carried out a study on the relationship between capital structure and firm value: evidence from Nairobi stock exchange. From the study, the researcher concluded that there existed a regression equation that was relating the firm's leverage to its own growth, profitability, liquidity, size and non-debt ratio tax shields, the study also concludes that there was a general increase in leverages from year 2003 to years 2007, The researcher also concluded that in order for firm to increase its leverage it should increase its factors

that leads to increase in its size and growth. The study further concludes that the firm own capital structure affects its value. The study further concludes that profitability of the company affects leverage of the company.

Silva (2008) studied the relationship between capital structure on DTMFIs performance. The objective was to determine the relationship between capital structure and on DTMFIs performance in Kristiansand. This study found that total debt and short term debt ratio impacts positively and significantly on ROE while negatively and significantly on ROA. Long term debt ratio had a positively and significantly impact ROE but not significantly impact on ROA of MFIs. This shows that if MFIs use long term debt to finance their operations, there may not be a pressure on management of MFI. This further suggests that profitable DTMFIs depend more on long term debt financing. The study uses a data set which consists of 290 MFIs from 61 countries. This indicated that ROA and ROE was used as performance indicators, while debt to equity, long term debt to equity, short term debt to equity, debt to assets, long term debt to assets and short term debt to assets ratios are used as indicators of capital structure of MFIs. Hüttenrauch & Schneider, (2009) examine best practice liability management to control liquidity, rate and concentration risk, as well as to maximize profitability, also becomes a priority.

The search for any kind of capital will ultimately have to satisfy the interests of investors, as well as meet the needs of MFIs. This will involve more complex and calculated funding considerations as MFIs work to secure the lowest cost and most appropriate form of capital possible. Each of the main types of capital available requires strategic cost and management decisions. To take on savings, normally the least costly capital is a major decision that demands exceptionally strong product costing capacity, as well as a keen sense of market. Kibet (2009) carried out a study to establish whether there was a relationship between capital structure and profitability of MFIs in Kenya. This study used descriptive statistics. Descriptive statistics are used to describe the main features of a collection of data in quantitative terms. One important use of descriptive statistics is to summarize a collection of data in a clear and understandable way. The study found that the capital structure decision is crucial for any business organization. The decision is important because of the need to maximize returns to various organizational constituencies, and also

because of the impact such a decision has on an organization's ability to deal with its competitive environment. From the findings the study found that that most of MFIs in Kenya were using equity and or donations as their main source finances in Kenya which accounted for by 72.42% and 27.58% in form of debt. The study further found that there exist a positive relationship between capital structure and profitability of MFIs in Kenya.

Mahjabeen (2010) empirically examined influenced of funding on and financial stability in Europe. He compared provisions of micro loans between MFIs highlighting performances of Japan and United States. Thus, understanding the role of MFIs' funding structure and its composition, whose knowledge largely misses in the literature, constituted a knowledge gap in Uganda, hence studying the field was important. Mainly this study seeks to ascertain implications of funding structure on MFI performance proxied by sustainability, specifically characterizing indicators of MFI performance, identifying funding sources and then determining the influence of funding structure on MFI performance. Generally the study hypothesized that MFIs with better funding structure would be sustainable, but the question was what nature of such funding structure would render an MFI sustainable operationally and financially. Therefore the study deployed a hierarchal sampling research design of gathering all MFI data from the central governing body of all MFIs where authenticity was more expected and where if gaps existed, the individual MFIs would be approached. Because grants as a composition of funding structure were generated from donors on interest free schemes and given to farmers at a certain interest, this implied that MFIs hugely supported with grants would be more sustainable theoretically. The study concluded that the choice of funding structure influence returns on assets in MFIs.

Kar (2012) seeks to answer the question "Does capital and financing structure have any relevance to the performance of microfinance institutions?" from an agency theoretic standpoint. The results of the study confirm the agency theoretic claim that an increase in leverage raises profit-efficiency. It also finds that cost efficiency decreases with decreasing leverage. Leverage have a negative significant impact on debt of outreach, but the study finds that capital structure does not have any noticeable impact on breadth of outreach. Mohamad (1994) made a research on the relationship between capital structure and profitability of listed industrial firms on the main board of the Kuala Lumpur Stock

Exchange (KLSE). Mohamad used Ordinary Least Squares and Correlation Analysis to analyze the data which consisted of two sets. Profitability was measured by the Return on Investment, whereas capital structure had two indicators: debt to equity ratio and debt to total assets ratio. Once again, the M&M propositions were disputed as Mohamad made the following conclusions (p. 108):“The results showed that there were significant relationships between market imperfections changes in capital structure on firm’s profitability. “The study was also in agreement with the U.S. findings where debt and equity size were negatively related to firm’s profitability. Nikolaos (1996) in an attempt to investigate the relationship between debts-to equity ratio and firm’s profitability, taking into consideration the level of firms’ investment and the degree of market power found that there is negative and statistically significant relationship between debt-to-equity ratio and profit margin. The negative sign indicated that either the cost of borrowed capital is higher than its benefit from investment, or that firms financed by retained profits are more profitable than those financed by borrowed capital.

2.6 Conclusion

Capital structure theories, as explained above show on one hand that capital structure is relevant to firm value and on the other hand capital structure is irrelevant. Empirical studies on capital structure and performance of Non MFI sector mostly show that capital structure does affect firms performance but not in all cases. In MFIs sector the studies have mostly concentrated on SME’s, which are financed by MFIs. Elsewhere cost effectiveness, Sustainability have been found to influence performance of large MFIs in the developed world Studies emphasizing linkages between capital structure and performance, however, have been scanty and the few studies still have not been carried out in developing world particularly in Africa. This study will there give insight into how capital structure relates to performance of MFI in a developing country that is Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the study design adopted, study population, data collection and analysis techniques employed in the study.

3.2 Study Design

Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. Research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence on those relationships (Cooper & Schindler 2006). The study was based on secondary data obtained from CBK bank supervision annual Reports of six DTMFIs for three years from 2013 to 2015.

3.3 Population of the Study

The research population was 6 deposit taking microfinance institutions in Kenya which provides financial services to low income people in Kenya. The study analyzed financial statements of these DTMFIs to find out the relationship between capital structure variables and MFI performance variable which is ROA.

3.4 Data Collection

The data for the study was drawn from a database of audited financial statements of DTMFIs in Kenya. The data collected for the study from the financial statements include capital structure variables which include debt, equity and total assets. The data was captured by studying financial statements of DTMFIs from CBK bank supervision annual Reports. The data covered the years of 2013 to 2015. (See data collection chart in Appendix II)

3.5 Data Analysis

Using a multiple regression model the data collected was analyzed using regression analysis. The data mainly focus on capital structure in DTMFIs in order to come up with an appropriate analysis. Capital structure was measured using debt-equity ratio and this was independent variable. Debt to total assets, equity to total assets, was used as control variables. Statistical Package for Social Sciences (SPSS) software was used to analyze the data. The model that was used to regress these variables was as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y ROA of the DTMFIs which is a profitability measure-return on shareholders' funding

α - Constant term

β_1 - β_3 - Model coefficient parameters

X_1 - Long term debt to equity ratio.

X_2 - long term debt to assets ratio.

X_3 - Shareholders fund to assets ratio

ε - Error

Table 3.1 Operationalization of the study variables

Regression Statistics		
Variable	Notation	Measure
Return on assets	ROA	Net profits after taxes/av. Assets
Long term debt to equity ratio	DEq	Long term debt/Equity
Long term debt to Total Assets	DAssets	Long term debt / Total Assets
Shareholders fund to Assets	EqAssets	Equity/Total Assets

Source: Research Data

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This Chapter is a presentation of results and findings obtained from the collected data, analysis of the data and discussion of the results obtained. The objective of the study was to examine the relationship between capital structure and financial performance of DTMFIs in Kenya.

4.2 Analysis Descriptive Statistics for 2013-2015

Table 4.1: Summary of the Descriptive Statistics of the Variables.

	Mean	Standard deviation	Minimum	Median	Maximum	Skewness	Kurtosis	Jarque-Bera
ROA	0.3694	0.5186	-1.0433	0.2836	3.8300	0.453	2.045	6.754
Long term debt to equity ratio	0.4876	0.2296	0.0934	0.4547	1.1018	0.651	3.004	5.523
Long term debt to asset ratio	0.0985	0.1803	0.0000	0.0186	0.7665	0.045	2.034	4.582
Shareholders fund to asset ratio	0.3288	0.3457	-0.7500	0.2561	1.3597	0.829	3.223	13.311

Table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables for the sample of firms. This shows the average indicators of variables computed from the financial statements. The return rate measured by return on assets (ROA) reveals an average of 36.94 percent with median 28.4 percent. This picture

suggests a good performance during the period under study. The ROA measures the contribution of net income per KSH invested by the firms' stockholders; a measure of the efficiency of the owners invested capital. The variable long term debt to equity ratio measures the ratio of long term debt to total capital. The average value of this variable is 0.4876 with median 0.4547. The value 0.4547 indicates that approximately 45 percent of total assets are represented by long-term debts, attesting to the fact that the deposit taking microfinance institutions largely depend on short-term debt for financing their operations due to the difficulty in accessing long-term credit from financial institutions. Another reason is due to the under-developed nature of the Kenyan long-term debt market. The ratio of total long-term debt to total assets (LDA) also stands on average at 0.0985. This suggests that about 9.85% percent of total assets are financed by debt capital. The above position reveals that the companies are financially leveraged with a large percentage of total debt being short-term. Also noted from the analysis is that the shareholder fund to asset ratio stands at .3288 with the standard deviation being .3457 indicating little variation from the mean mark.

Analysis of Skewness shows that all the variables are asymmetrical to the right around its mean. Jarque-Bera is a test statistic for testing whether the series is normally distributed. It measures the difference of the skewness and kurtosis of the series with those from the normal distribution using the null hypothesis of a normal distribution. A small probability value leads to the rejection of the null hypothesis of a normal distribution. Jarque-Bera test for normality shows that all variables are normally distributed.

4.3 Correlation and Regression Analysis

The study sought to establish the relationship between DEq, DAssets, EqAssets and the profitability of the DTMFIs. Pearson Correlation analysis was used to achieve this end at 99% and 95% confidence levels. The correlation analysis enabled the testing of study's hypothesis that the independent variables have a significant effect on Return on assets. Table 4.2 shows significant, positive but good linear relationships between ROA and: DEq (long term debt to equity ratio) ($R = .901$, $p < .001$), DAssets (long term debt to total assets) ($R = .808$, $p = .049$) and Shareholder funds to equity (EqAssets) ($R = .749$, $p = .002$)

Table 4.2: Correlation Analysis

		DEq	DAssets	EqAssets	ROA
DEq	Pearson Correlation	1			
	Sig. (2-tailed)				
DAssets	Pearson Correlation	-.311	1		
	Sig. (2-tailed)	.033			
EqAssets	Pearson Correlation	.772	-.975	1	
	Sig. (2-tailed)	.049	.091		
ROA	Pearson Correlation	.901*	.808*	.749**	1
	Sig. (2-tailed)	.001	.000	.002	
	N	6	6	6	6

*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed);

Multiple regression analysis was used to measure the relationship between (DEq, DAssets, and EqAssets) and profitability which was measured by the return on assets. The regression model's goodness of fit was determined using overall correlation and the coefficient of determination between the independent variables and ROA; that is, the strength of the relationship.

Table 4.3 presents a correlation coefficient of 0.889 and determination coefficients of 0.790. This depicts a strong relationship between the model variables and ROA. Thus, DEq, DAssets, and EqAssets account for 79% of the fluctuations in profitability as measured by the ROA.

Durbin Watson (DW) test which check if the residuals of the models were not autocorrelated in order to determine the independence of the residuals produced a value of 2.011. It can, thus, be concluded that there was no autocorrelation.

Table 4.3: Model Summary

R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
.889 ^a	.790	.732		.000445318	2.011

a. Predictors: (Constant), DEq, DAssets, and EqAssets

b. Dependent Variable: ROA

The ANOVA results presented in Table 4.4 shows that the regression model has a margin of error of $p < .001$. This indicates that the model has a probability of less than 0.1 of giving false prediction; this point to the significance of the model.

Table 4.4: Analysis of Variance (ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.3996	3	.1332	66.600	.001b
Residual	.004	2	.002		
Total	.4036	5			

a. Dependent Variable: ROA

b. Predictors: (Constant), DEq, DAssets, and EqAssets

Table 4.5 shows that the regression coefficients of independent variables. The following regression model was established:

$$\text{ROA} = .314 + .217 * \text{DEq} + .465 * \text{DAssets} + 0.468 * \text{EqAssets}$$

From the equation, the study found that holding DEq, DAssets, and EqAssets at zero Returns on assets is approximated at .314. Additionally, when DAssets and EqAssets are constant, a unit increase in DEq would lead to a .217 unit increase in ROA.

When DEq and EqAssets are constant, a unit increase in DAssets would lead to a 0.465 increase in the ROA. Holding DEq and DAssets constant, a unit increase in EqAssets would lead to a 0.468 increase in the ROA.

Table 4.5: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.314	.051		.535	.544
DEq	.217	.000	.020	3.797	.014
DAssets	.465	.003	.044	3.895	.011
EqAssets	.468	.001	.084	42.865	.000

a. Dependent Variable: ROA

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1: Introduction

This chapter presents summary of the research findings, conclusions drawn and recommendations. The study attempted to determine the relationship between capital structure and financial performance.

5.2 Summary of Findings

The Deposit Taking Microfinance Institutions in Kenya adjust actual level of debt towards target debt ratio, corroborating what is forecast by the trade-off theory. The findings reveal that DTMFIs look for a target debt ratio. However, adjustment is not particularly great, when compared with the debt adjustment found in DTMFIs in developed economies such as the USA and some European countries such as Germany, Spain and the UK. The fact of not finding great adjustment of actual debt towards optimal level of debt indicates the relevance of transaction costs borne by the DTMFIs. The capital structure decision is crucial for any business organization. The decision is important because of the need to maximize returns to various organizational constituencies, and also because of the impact such a decision has on an organization's ability to deal with its competitive environment.

This study evaluated the relationship between capital structure and performance of DTMFIs in Kenya. The results revealed significantly positive relation between long-term debt and Return on Equity, suggesting that profitable firms use more long-term debt to finance their operation. Long-term debt is an important component or source of financing for the 6 firms, representing 85 percent of total debt financing. Also, the results showed a positive relationship between Long term debt and Return on Equity. With regard to the relationship between the long term debt to asset ratio and profitability, the regression results showed a significantly positive association between the independent variables and Return on Assets. The model thus established that the study variables accounted for 79% of the fluctuations in return on assets in the DTMFIs

5.3 Conclusions

The findings obtained in this study conclude that the greater possibility to diversify, less probability of bankruptcy and greater level of collateral are seen to be fundamental aspects for the companies making greater adjustment of debt towards optimal level. Profitability and Market to book ratio are seen not to be determinants of greater adjustment of debt towards optimal level in listed companies.

The results show that the capital structure of DTMFIs is influenced by long term debt to equity ratio, long term debt to total assets and Shareholder funds to equity. The results suggest that the capital structure decisions of DTMFIs can be explained in the light of trade-off and pecking order theories, but not according to what is forecast by the market timing theory.

The study concludes that benefits of debts are the incentives provided to managers by the rules under which debt holders can take over the firm and liquidate the assets. The costs of debt are that the inflexibility of the rules can result in liquidation of the assets when they are more valuable in the firm. In conclusion assets that are more deployable should be financed with debt.

5.4 Recommendations

Since the actively trading firms in Kenya are exposed to a high degree of systematic risk, it is recommended that the DTMFIs' management take into account the factors that follow: Changes in debt financing have to take into account the implied effects on DTMFIs' systematic risk. The increases (or decreases) in short-term (or long-term) debt that lower systematic risk is a desirable change. This will support the firm's claim for future equity financing. DTMFIs' management has to differentiate between the short- and long-term debt in terms of the source of financing and the use of financing as well. The adjustment of either or both types of debt to the industry target debt ratio is an acceptable practice that causes a great deal of consistency in debt financing decisions. The choice of the right timing for borrowing (in terms of timing the interest rate) is a critical factor for making sound debt financing decisions. DTMFIs management has to take into account the

expected profitability when making the borrowing decision. Profitability turned out to be a critical factor that determines the extent to which a firm may seek external financing.

5.5 Limitations of the Study

Major limitation of the research concerns the implicit assumption of debt homogeneity in the capital structure model. This assumption is not accurate since debt instruments may, in practice, differ in several important aspects. For example, debt with varying maturity dates may not possess the same attributes. Similarly, the characteristics of bank borrowing may not be the same as that of debt raised through public issues. Capital structure management, therefore, goes beyond simply determining the right mix of debt and equity in a firm's capital structure

5.6. Suggestion for Further Research

Further research should examine the relationship between maturity structure of the firm's debt, its decisions and performance; determine the joint impact of both capital structure and ownership structure on firms' performance; and investigate effects of systematic risks of changing debt financing.

Further research should also be done to differentiate between the short- and long-term debt in terms of the source of financing and the use of financing as well and evaluate the adjustment of either or both types of debt to the industry target debt ratio. It would also seem appropriate that further research focus on the role played by the institutional framework, such as the impact of taxation and that of the relative importance of the various sources of credit (securitized debt vs. bank debt).

REFERENCES

- Abor, J. (2005).The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana, *The Journal of Risk Finance*, 6(5), 438-47.
- Anthony, K. C. (2007). The impact of capital structure on the performance of microfinance institutions.*The Journal of Risk Finance*, 8(1), 56-71.
- Armendariz de Aghion and Morduch (2005, Chap. 10).Armendariz De Aghion B. and Morduch J., 2005, *The Economics of Microfinance*, Cambridge MA: MIT Press
- Aryeetey, E. (1995).Credit for enterprise development, in Aryeetey, E. (Ed.), *Small Enterprise Credit in West Africa*, a joint British Council/ISSER publication, British Council/ISSER, Accra.
- Banerjee, A and Duflo, E (2007a). The Economic Lives of the Poor, *Journal*
- Barclay, M. J., Smith, C. W., & Watts, R. L. (1995).The determinants of corporate leverage and dividend policy. *Journal of Applied Corporate Finance*, 7(4), 4-19.
- Barton, S.L., Ned, C.H. and Sundaram, S. (1989).An empirical test of stakeholder theory predictions of capital, *Financial Management*, 18(1), 36-44.
- Basu, A.,Blavy, R. and Yulek, M. (2004).*Microfinance in Africa: experience and lessons from selected African countries*, working paper no. WP/04/174, IMF, Washington, DC.
- Berger, A.N. and Bonaccorsi 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 and Finance*, 30(4), 1065-102.
- Boateng, A. (2004).*Determinants of capital structure: evidence from international joint ventures in Ghana*, *International Journal of Social Economics*, 31(1/2), 5666.
- Bos, T. and Fetherston, T.A. (1993).Capital structure practices on the specific firm,*Research in International Business and Finance*,10, 53-66.
- Brealey, M., & Marcus, (2002).*Fundamentals of corporate finance*. New York: McGraw Hill
- Cassar, G. and Holmes, S. (2003), *Capital structure and financing of SMEs: Australian evidence*, *Accounting & Finance*, 43 (2), 123-47.
- CBK bank supervision annual Reports 2011/2012,2012/2013
- CGAP. 2006. *Microfinance Consensus Guidelines: Good Practice Guidelines for Funders of Microfinance*. 2nd edition. Washington, D.C.: CGAP. <http://www.cgap.org/docs/donorquidelines>

- Chiang, Y.A., Chang, P.C.A. and Hui, C.M.E. (2002), Capital structure and profitability of the property and construction sectors in Hong Kong, *Journal of Property Investment & Finance*, 20 (6), 434-53.
- Chittenden, F., Hall, G. and Hutchinson, P. (1996), *Small firm growth, access to capital markets and financial structure: review of issues and an empirical investigation*, *Small Business Economics*, 8, 59-67.
- Cole, R.A. and Mehran, H. (1998), The effect of changes in ownership structure on performance: evidence from the thrift industry, *Journal of Banking and Finance*, 21, 895-947.
- Demstz, H. and Lehn, K. (1985), The structure of corporate ownership: causes and consequences, *Journal of Political Economy*, 93, 1155-77.
- Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The Interrelationship between Culture, Capital Structure, and Performance. Evidence from European Retailers. [Article]. *Journal of Business Research*, 50, 185-191. doi: 10.1016/s0148-2963(99)00031-4
- Gorton, G. and Rosen, R. (1995), Corporate control, portfolio choice, and the decline of banking, *Journal of Finance*, 50, 1377-420.
- Grameen Bank, (2005). *Grameen – Banking for the Poor.*, <http://www.grameen-info.org>. (accessed 25 July 2009).
- Grossman, S.J. and Hart, O. (1982). “*Corporate financial structure and managerial incentives*”, in McCall, J. (Ed.), *The Economics of Information and Uncertainty*, University of Chicago Press, Chicago, IL.
- Hall, G.C., Hutchinson, P.J. and Michaelas, N. (2004). Determinants of capital structures of European SMEs, *Journal of Business Finance and Accounting*, 31 (5/6), 711-28.
- Hamada, R. (1969). Portfolio analysis, market equilibrium and corporate finance, *Journal of Finance*, 24, 13-31.
- Harris, M. and Raviv, A. (1990), “Capital structure and the informational role of debt”, *Journal of Finance*, 45, 321-45.
- HartarskaValentina, and Denis Nadolnyak. (2008). “*An Impact Analysis of Microfinance in Bosnia and Herzegovina*,” *World Development*, 36, 2605–19.
- Hausman, J. (1978). “*Specification tests in econometrics*”, *Econometrica*, 46, 1251-71.
- Himmelberg, C.P., Hubbard, R.G. and Palia, D. (1999). “Understanding the determinants of managerial ownership and the link between ownership and performance”, *Journal of Financial Economics*, 53, 353-84. *Microfinance institutions*
- Ishola Rufus Akintoye (2008). Sensitivity of Performance to Capital Structure Africa *European Journal of Social Sciences – Volume 7, Number 1*

- Jensen, F.E. and Langemeier, N. (1996). Optimal leverage with risk aversion: empirical Evidence, *Agricultural Finance Review*, 56, 85-97.
- Jensen, M. and Meckling, W. (1976). Theory of the firm: managerial behaviour, agency cost and ownership structure, *Journal of Financial Economics*, 43, 271-81.
- Jensen, M.C. (1986). Agency cost of free cash flow, corporate finance and takeovers, *American Economic Review*, 76, 323-39.
- Kilonzo Benjamin Mbithi, (2003). 'The Relationship between Financial Structure and Performance of Micro and Small Enterprises in Nairobi.' Unpublished MBA project, University of Nairobi.
- Kitaka Peter Nthiwa, (2001). *A survey of use of Financial Performance Indicators By Microfinance Institutions in Kenya*, Unpublished MBA project, University of Nairobi.
- Labia, M (1999). *La microfinance en questions: Limites et choix*
- Ledgerwood J., (1998). *Microfinance Handbook: an Institutional and Financial Perspective*, Washington DC: World Bank.
- Long, M.S. and Malitz, I.B. (1985). "Investment patterns and financial leverage", in Friedman, B.M. (Ed.), *Corporate Capital Structures in the United States*, University of Chicago Press, Chicago, IL, 325-51.
- Majumdar, S. K., & Chhibber, P. (1999). *Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance*. *Public Choice*, 98, 287-305
- Mehran, H. (1995). Executive compensation structure, ownership, and firm performance, *Journal of Financial Economics*, 38, 163-84.
- Michaelas, N., Chittenden, F. and Poutziouris, P. (1999). Financial policy and capital structure choice in UK SMEs: empirical evidence from company panel data", *Small Business Economics*, 12, 113-30.
- Miller, M.H. and Modigliani, F. (1966). Some estimates of the cost of capital to the electric utility industry, 1954-57, *American Economic Review*, 56 (3), 333-91.
- Miyajima, H., Omi, Y. and Saito, N. (2003). Corporate governance and performance in twentieth century Japan, *Business and Economic History*, 1, 1-36.
- Modigliani, F. and Miller, M. (1958), *The cost of capital, corporate finance and the theory of investment*, *American Economic Review*, 48, 261-97.
- Morduch, Jonathan. (1999a). The Microfinance Promise. *Journal of Economic Literature*, 37, 1569-1614.

- Mwaka Christine Ngela (2006).''*Financial structure and growth of small and micro enterprises in Nairobi*'' Unpublished MBA project, University of Nairobi.
- Myers, S.C. (1977). The determinants of corporate borrowing, *Journal of Financial Economics*, 5, 147-75.
- Nirajini, A. & Priya K. B. (2013). *Impact of Capital Structure On Financial Performance Of The Listed Trading Companies In Sri Lanka*, *International Journal of Scientific and Research Publications*, Volume 3, Issue 5, 1 ISSN 2250-3153.
- Pandey I.M (2002). *Financial Management*, Vikas publishing House, New Delhi, India.
- Salazar, L.A., Soto, C.R. & Mosqueda, E.R (2012). The Impact of Financing Decisions and Strategy on Small Business Competitiveness. *Global Journal of Business Research*, 6(2), 93-103.
- Shyam-Sunder, L. and Myers, S.C. (1999). Testing static trade-off against pecking order models of capital structure, *Journal of Financial Economics*, 51, 219-
- Solomon, E (1963). *The Theory of Financial Management*, Columbia University Press, New York
- Stiglitz, J. (1974). On irrelevance of corporate financial policy, *American Economic Review*, 64(6), 851-66.
- Stulz, R. (1990). Managerial discretion and optimal financing policies, *Journal of Financial Economics*, 20, 3-26.
- Titman, S. and Wessels, R. (1988). The determinants of capital structure choice'', *The Journal of Economic Theory*, 42, 209-43.
- Van de Wijst, N. and Thurik, R. (1993). ''*Determinants of small firm debt ratios: an analysis of retail panel data*'', *Small Business Economics*, 5 (1), 55-65.
- Vicki Bogan Willene Johnson and Nomathemba Mhlanga (2008). ''*Microcapital paper wrap up: Microfinance institutions: Does capital structure matter?*'' CGAP occasional paper No. 8
- Williams, J. (1988). BPerquisites, risk and capital structure, *Journal of Finance*, 42, 29-49.
- Zhou, X. (2001). Understanding the determinants of managerial ownership and the link between ownership and performance: comment, *Journal of Financial Economics*, 62, 559-71.

APPENDICES

APPENDIX I: Deposit Taking Microfinance Institutions in Kenya

1. Faulu Kenya DTM Limited
2. Kenya Women Finance Trust DTM Limited.
3. Remu DTM Limited.
4. Smep Deposit Taking Microfinance Limited
5. Uwezo Deposit Taking Microfinance Limited
6. Rafiki Deposit Taking Microfinance Limited.

Appendix II: DTMFI data 2013

	Long term debt	Equity	Total assets
FAULU	11,636	798	12,434
RAFIKI	3,213	466	3,679
UWEZO	40	107	107
KWFT	18,855	2,897	21,752
REMU	205	132	337
SMEP	1,838	652	2,490

Source: CBK bank supervision annual Reports 2013/2014, 2014/2015

Appendix II: Ratios: 2013

	Debt/equity ratio	Debt/total assets ratio	Equity/total assets	ROA
FAULU	14.6	0.94	0.06	0.82%
RAFIKI	6.9	0.87	0.13	0.16%
UWEZO	0.37	0.37	0	-1.081%
KWFT	6.5	0.86	0.13	0.93%
REMU	1.55	0.61	0.39	-1.15%
SMEP	2.81	0.73	0.26	-0.13%

Appendix III: DTMFI data 2014

	Long term debt	Equity	Total assets
FAULU	16,533	3,787	20,320
RAFIKI	4,962	1,013	5,975
UWEZO	78	82	160
KWFT	22,379	4,606	26,985
REMU	186	208	395
SMEP	1,823	555	2,378

Source: CBK bank supervision annual Reports 2013/2014, 2014/2015

Appendix III: Ratios: 2014

	Debt/equity ratio	Debt/total assets ratio	Equity/total assets	ROA
FAULU	4.36	0.81	0.18	0.91%
RAFIKI	4.89	0.83	0.16	0.22%
UWEZO	0.95	0.48	0.51	0.37%
KWFT	4.85	0.82	0.17	0.97%
REMU	0.89	0.47	0.52	0.41%
SMEP	3.2	0.76	0.23	-2%

Source: CBK bank supervision annual Reports 2013/2014, 2014/2015

Appendix IV: DTMFI data 2015

	Long term debt	Equity	Total assets
FAULU	21,024	4,299	12,434
RAFIKI	6,686	1,043	7,729
UWEZO	400	180	226
KWFT	27,169	4,692	31,861
REMU	202	195	397
SMEP	1,947	645	2,592

Source: CBK bank supervision annual Reports 2013/2014, 2014/2015

Appendix IV: Ratios: 2015

	Debt/equity ratio	Debt/total assets ratio	Equity/total assets	ROA
FAULU	4.89	1.45	0.34	0.28%
RAFIKI	6.41	0.86	0.13	0.21%
UWEZO	2.22	1.76	0.79	0.05%
KWFT	5.78	0.85	0.15	0.67%
REMU	1.05	0.51	0.49	-1.9%
SMEP	3.01	0.75	0.24	-0.02%

Source: CBK bank supervision annual Reports 2013/2014, 2014/2015