

**THE EFFECT OF CREDIT RISK MANAGEMENT ON THE FINANCIAL
PERFORMANCE OF DEPOSIT TAKING MICRO-FINANCE INSTITUTIONS
IN KENYA**

BY

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DECLARATION

I, the undersigned, declare that this research project is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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This project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this work to my family for their moral support, encouragement and understanding. To the almighty God for his unceasing blessings without which it is impossible to accomplish anything.

ABSTRACT

Credit risk is an important factor that institutions offering services on credit should consider seriously and also invest on. A measure of future uncertainties in achieving, program performance goals within defined cost and schedule constraints. It has three components: a future root cause, a likelihood assessed at the present time of that future root cause occurring, and the consequence of that future occurrence. In general when borrowers' assets values are less than loan values, they do not repay. They exercised their option to default. To the lender, failure to manage risk, especially credit risk, can lead to insolvency. The objective of the study was to establish the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya. The study employed descriptive research design. The target population was the Nine Deposit taking Micro finance institutions members in Kenya (the official association of Deposit taking Micro finance institutions in Kenya, 2013) registered at end June 2013 at the Central Deposit taking Micro financial institutions of Kenya (CBK) which supervise the activities of Microfinance sector in Kenya. Secondary data was collected for this study, for the purpose of analyzing the effect of credit risk management on financial performance of the nine deposit taking Microfinance institutions. The dataset will be drawn from the Financial Statements of each of the deposit taking MFI under study throughout the period of study 2009 to 2013 and sourced from the Management of the institutions. Quantitative data collected was analyzed by the use of descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. From the findings, risk management by credit scoring positively impacts on the return on assets of micro-financial institutions. The adoption of credit scoring allows micro-financial institutions to make systematic different offers to loan applicants with different risk profiles. Effective credit risk leads to more balanced trade-off between risk and reward, to realize a better position in the contends that the deposit taking Micro financial institutions industry recognizes that an institution needs not do business in a manner that unnecessarily imposes risk upon it; nor should it absorb risk that can be efficiently transferred to other participants. Rather, it should only manage risks at the firm level that are more efficiently managed there than by the market itself or by their owners in their own portfolios. Risk diversification positively influences the financial performance (ROA) of the micro-financial institutions. The study recommends that deposit taking Micro financial institutions should devise modern risk measurement techniques such as value at risk, simulation techniques and risk-adjusted return on capital. Other than relying on credit reference bureau (CRB), the study recommends use of derivatives to mitigate financial risk as well as develop training on the guidelines to be used by the financial advisors.

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LIST OF ABBREVIATIONS

CBK	-	Central Bank of Kenya
CAPM	-	Capital Asset Pricing Model
CEO	-	Chief Executive Officer
CR	-	Credit Risk
CRM	-	Credit Risk Management
FIs	-	Financial Institutions
MFCs	-	Mortgage Finance Companies
NPLs	-	Non Performing Loans

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Credit risk is an important factor that institutions offering services on credit should consider seriously and also invest on. Credit risk refers to the risk that a borrower will default on any type of debt by failing to honor the period required to make the payments. In finance, risk is the chance or probability of incurring financial loss. A measure of future uncertainties in achieving, program performance goals within defined cost and schedule constraints. It has three components: a future root cause, a likelihood assessed at the present time of that future root cause occurring, and the consequence of that future occurrence. Credit risk is the risk due to a debtor's non-payment of their obligations to regularize their debt as per the stipulated period. According to Saunders and Cornet (2003) credit or default risk is the risk that the promised cash is paid partially and not in totality. In such a case, the Advance and interest expected are both risk.

According to Tapiero (2004), credit risk refers to the practice of creating economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. Similar to general risk management, credit risk requires identifying its sources, measuring it, and plans to address them (Conti and Mauri, 2008). Financial risk is often defined as the unexpected variability or volatility of returns and thus includes credit risks, liquidity risks and market risks (Holton, 2004). Therefore, credit risk practices are those activities and procedures that are employed by managers in an effort of safeguarding an organization from credit risks, liquidity risks and market risks. Credit risk practices fall into three major categories; credit risk practices, liquidity risk

management practice and market risks (Kithinji, 2010). Sinkey (2002) defines credit risk as the uncertainty associated with borrowers' loan repayment. In general when borrowers' assets values are less than loan values, they do not repay. They exercised their option to default. To the lender, failure to manage risk, especially credit risk, can lead to insolvency.

1.1.1 Credit Risk Management Practices

Credit risk management is a structured approach to managing uncertainties through risk assessment, developing strategies to manage it, and mitigation of risk using managerial resource. The strategies include transferring to another party, avoiding the risk, reducing the negative effects of risk, and accepting some or all of the consequences of a particular risk. The Concept of credit risk management is a two-step process. The first is to identify the source of the risk, which is to identify the leading variables causing the risk. The second is to devise methods to quantify the risk using mathematical models, in order to understand the risk profile of the instrument. Once a general framework of risk identification and management is developed, the techniques can be applied to different situations, products, instruments and institutions. It is crucial for deposit taking microfinance institutions to have comprehensive risk management framework as there is growing realization among that sustainable growth critically depends on the development of a comprehensive risk management framework (Greuning and Iqbal, 2007).

Credit risk management framework is important for deposit taking micro financial. In conjunction with the underlying frameworks, basic risk management process that is generally accepted is the practice of identifying, analyzing, measuring, and defining the

desired risk level through risk control and risk transfer. BCBS (2001) defines credit risk as a sequence of four processes; the identification of events into one or more broad categories of market, credit, operational and other risks into specific sub-categories; the assessment of risks using data and risk model; the monitoring and reporting of the; risk assessments on a timely basis; and the control of these risks by senior management.

Credit risk management is defined as identification, measurement, monitoring and control of risk arising from the possibility of default in loan payment (Coyle, 2000). Credit services rendered to borrowers may be at risk of default whereas banking institutions extend credit on the understanding that they will they will honor their obligations, some borrowers do default as a result, banks income decrease due to the need to do provision on bad debts. Where banks do not have an indication of what proportion of their advances is at risk of default, earnings will vary thus exposing them the banks to an additional risk of variability of financial results.

Successful implementation of credit risk management practices relates to the adequacy of the provision and reserves which are in accordance with Basel standards which require deposit taking Micro financial institutions to have a capital adequacy ratio of 8%. The maintenance of capital adequacy is aiming at a moving target as the composition of risk-weighted assets gets changed every minute on account of fluctuation in the risk profile of a deposit taking Micro financial institutions. Capital adequacy is known as the core capital providing permanent and readily available support to the deposit taking Micro financial institutions to meet the unexpected losses (Medhat, 2006). Capital is also used as cushion to protect depositors in case of loss. Capital adequacy ratio is measured in terms of total capital as a percentage of total risk weighted assets which show the amount

of capital an institution holds relative to the risk profile of its assets. Capital adequacy is evaluated using the minimum core capital which is the absolute amount of capital that institutions are required to maintain at all times for deposit taking Micro financial institutions and mortgage finance companies as a requirement by the central deposit taking Micro financial institutions.

The ultimate objective of credit risk implementation is to maintain financial performance in the deposit taking Micro financial institutions sector as aspects of credit risk management promote early warning system of monitoring relevant indicators; as well as stimulating and making provisions for possible realistic strains on the system by conducting stress testing. This helps regulators to monitor the system and prepare for ways to avert potential or discovered stress on the system hence establishing financial performance (Bikker & Metzmakers, 2005).

1.1.2 Financial Performance

Financial performance is firm's ability to generate new resources, from day-to-day operations, over a given period of time and performance is gauged by net income and cash from operations. According to Henrique (2011), financial performance is a general measure of how well a deposit taking Micro financial institutions generates revenues from its capital. It also shows a deposit taking Micro financial institution's overall financial health over a period of time, and it helps to compare different deposit taking Micro financial institutions across the deposit taking Micro financial institutions industry at the same time. The deposit taking Micro financial institution's financial performance generally can be recognized as its stability and profitability. The stability refers to its risk factors and profitability refers to its financial return.

The Return on asset and the return on equity are used by various scholars to measure the financial returns of an organization. The return on assets is a ratio that measures company earnings before interest & taxes against its total net assets. The ratio is considered an indicator of how efficient a company is using its assets to generate before contractual obligation must be paid. It is calculated as: return on assets as a ratio of earnings before interest and taxes over total assets. Return on assets gives an indication of the capital intensity of the deposit taking micro financial institutions industry, which will depend on the industry; deposit taking micro financial institutions that require large initial investment will generally have lower return on assets (Apps, 1996). According to Pandey (1996), return on equity is calculated to see the profitability of owners' investments. It is calculated as annual net income after tax divided by shareholders equity as a measure of performance.

1.1.3 Effect of Credit risk management on Financial Performance

The main aim of credit risk management of deposit taking Micro financial institutions is to maximize expected profits taking into account its volatility (risk). This calls for an active management of the volatility (risk) in order to get the desired results. Credit risk therefore attempts to reduce the volatility of profit which has the potential of lowering the value of shareholders' wealth. Various authors including Stulz (1984), Smith *et al* (1990) and Froot *et al* (1993) have offered reasons why managers should concern themselves with the active management of risks in their organizations.

Credit risk also ensures the desire to shoulder lower tax burden to seek for reduced volatility of profits. With progressive tax schedules, the expected tax burden are reduced

when income smoothens therefore activities which reduce the volatility of reported taxable income are pursued as they help enhance shareholders' value. Perhaps the most compelling reason for managers to engage in risk management with the aim of reducing the variability of profits is the cost of possible financial distress. Significant loss of earnings can lead to stakeholders losing confidence in the firm's operations, loss of strategic position in the industry, withdrawal of license or charter and even deposit taking Micro financial institution. The costs associated with these will cause managers to avoid them by embarking on activities that will help avoid low realizations. Finally, risk management helps firms to avoid low profits which force them to seek external investment opportunities. When this happens, it results in suboptimal investments and hence lower shareholders' value since the cost of such external finance is higher than the internal funds due to capital market imperfections, (Smith,1990).

Fatemi and Fooladi (2006) notes that effective credit risk leads to more balanced trade-off between risk and reward, to realize a better position in the future. Shafiq and Nasr (2010) notes that the deposit taking Micro financial institutions industry recognizes that an institution needs not do business in a manner that unnecessarily imposes risk upon it; nor should it absorb risk that can be efficiently transferred to other participants. Rather, it should only manage risks at the firm level that are more efficiently managed there than by the market itself or by their owners in their own portfolios. In short, it should accept only those risks that are uniquely a part of the deposit taking Micro financial institution's array of services.

1.1.4 Deposit Taking Microfinance Sector in Kenya

The Microfinance Sector in Kenya has grown over the years and now consists of a large number of competing institutions. They vary in formality, commercial orientation, professionalism, visibility, size, geographical coverage as well as legal status. These institutions range from informal organizations such as the Rotating Savings and Credit Associations (ROSCAs), Financial Services Associations (FSAs), savings and Credit Cooperative (SACCOs), NGOs, to commercial deposit taking Micro financial institutions that are down saving (Aleke, 2003).

The Association of Microfinance Institutions of Kenya (AMFI-K) has 53 member institutions comprising of NGOs, Companies, Trusts, Societies and Commercial Deposit taking Micro financial institutions with 47 operating in Nairobi (AMFI, 2011). The AMFI is currently serving more than 6,500,000 poor and middle class families with financial services throughout Kenya. Twenty one of these are depositing taking microfinance institutions with 742 outlets, 2,494 staff and a loan portfolio of Ksh 29 Billion, 1.1 million institution savers and 250,000 borrowers. A wide range of financial services are provided by the microfinance institutions: ranging from savings and credit facilities, money transfer and micro insurance to the economically poor, low income households and owners of small micro scale enterprises in both rural and urban areas, using innovative delivery methodologies and channels. They ultimately contribute to poverty eradication (Mwatela, 2008).

There are nine Deposit Taking Micro Finance Institutions in Kenya according to Central Deposit taking Micro financial institutions of Kenya report of March 2014 (See Appendix 1).Deposit taking Microfinance institutions grew rapidly from 2009 in all

Kenyan regions . Both assets and equity increased substantially. The 2009 study (Kurgat) identified a clear aggregate trend towards higher leverage, with total assets tripling while total equity only doubled. Currently, this trend seems to have abated with a nearly balanced 172 percent increase in assets and 162 percent increase in equity. With aggregated, weighted average information, however, the data are biased towards larger Micro-Finance Institutions.

1.2 Research Problem

The sole determining success factors are not the technical development but the ability to understand risk strategically and also the ability to handle and control risk organizationally. Lending has been, and still is, the mainstay of deposit taking Micro financial institutions business, and this is more true to emerging economies like Kenya where capital markets are not yet well developed. To most of the transition economies, however, lending activities have been controversial and a difficult matter. This is because business firms on one hand are complaining about lack of credits and the excessively high standards set by deposit taking Micro financial institutions, while financial institutions on the other hand have suffered large losses on bad loans (Richard, 2006). It has been found out that in order to minimize loan losses and so as the CR, it is essential for CBs to have an effective CRM system in place (Santomero, 1997 and Basel, 1999). Given the asymmetric information that exists between lenders and borrowers, deposit taking Micro financial institutions must have a mechanism to ensure that they not only evaluate default risk that is unknown to them ex ante in order to avoid adverse selection, but also that can evolve ex post in order to avoid moral hazards.

Kenya's experience with the financial reform process shows a widening loan defaults following financial sector liberalization. According to Kithinji and Waweru (2007), financial sector problems in Kenya is back-dated as early as 1986 culminating in major bank failures (37 failed banks as at 1998) following the crises of 1986 to 1989, 1993/1994 and 1998; they attributed these crises to loan defaults. In 2013, the aggregate non-performing loans among the DTMs stood at a staggering Ksh1.3 billion (Mugwe, 2013).

Related studies done in the past have focused on the various aspects of credit risk management in Kenyan Deposit taking Micro financial institutions. For instance Rajan (1994) notes that expanding lending in the short-term boosts earnings, thus the deposit taking Micro financial institutions have an incentive to ease their credit standards in times of rapid credit growth, and likewise to tighten standards when credit growth is slowing. Obiero (2002) researched on adequacy of the deposit taking Micro financial institutions sector regulatory framework in reducing deposit taking Micro financial institutions failures. The Basel committee (2000) and Hennie (2000) pointed out that the major cause of deposit taking Micro financial institutions problems and failures are directly related to lax credit standards for borrowers and counterparts; Kabiru (2002) examined how deposit taking Micro financial institutions assess credit risks in Kenya, while the Basel committee (2000) and Hennie (2000) pointed out that the major cause of deposit taking Micro financial institutions problems and failures are directly related to lax credit standards for borrowers and counterparts. This study will aim at providing answers to the following research question: What are the effects of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya?

1.3 Objective of the Study

To establish the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya.

1.4 Value of the Study

The findings of the study will be important to financial institutions because they will be able to understand general risk management practices and how they influence the financial performance of the deposit taking Micro financial institutions and how the same can be leveraged to achieve high financial performance.

The findings of the study will be important to the deposit taking Micro financial institutions operational staff and management who will be able to understand the risk management practices that contribute to financial performance of Deposit taking Micro financial institutions and ensure that they undertake acceptable deposit taking Micro financial institutions practices and procedures and will also facilitate deposit taking Micro financial institutions customers to understand and appreciate risk management practices instituted by deposit taking Micro financial institutions so as to adhere to prudential deposit taking Micro financial institutions practices.

The findings will provide insight in the most successful strategies deposit taking Micro financial institutions use to handle credit risk will assist Central Deposit taking Micro financial institutions of Kenya in formulating guidelines that will enhance Risk Management in the deposit taking Micro financial institutions sector. Academicians will benefit from the information of the study as the study will contribute to existing body of

knowledge. The study will further provide the background information to research organizations and scholars and identify gaps in the current research for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at the literature on risk management by specifically looking at the theoretical review on the topic of study and the specific determinants of financial performance in financial institutions and also stating some studies that have previously been studied on the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions. In summary this gives a theoretical foundation to the topic of study.

2.2 Theoretical Review

This section explains some of the specific theories that can be related to the topic of study on risk management and the effect it has on the financial performance of organizations.

2.2.1 Portfolio Theory

Portfolio theory of investment which tries to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. Although Portfolio Theory is widely used in practice in the financial industry and several of its creators won a Nobel Prize for the theory, in recent years the basic Portfolio Theory have been widely challenged by fields such as behavioral economics, (Markowitz 1952).

Portfolio Theory is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively

lower risk than any individual asset. That this is possible can be seen intuitively because different types of assets often change in value in opposite ways. For example, when prices in the stock market fall, prices in the bond market often increase, and vice versa. A collection of both types of assets can therefore have lower overall risk than either individually. But diversification lowers risk even if assets' returns are not negatively correlated indeed, even if they are positively correlated, (Markowitz, 1952).

More technically, portfolio theory models assets return as a normally distributed (or more generally as an elliptically distributed random variable), define risk as the standard deviation of return, and model a portfolio as a weighted combination of assets so that the return of a portfolio is the weighted combination of the assets' returns. By combining different assets whose returns are not perfectly positively correlated, portfolio theory seeks to reduce the total variance of the portfolio return. Portfolio theory also assumes that investors are rational and markets are efficient,(Sharpe, 1964) .

Portfolio Theory was developed in the 1950s through the early 1970s and was considered an important advance in the mathematical modelling of finance. Since then, many theoretical and practical criticisms have been levelled against it. These include the fact that financial returns do not follow a Gaussian distribution or indeed any symmetric distribution, and those correlations between asset classes, (Micheal, 1998).

2.2.2 Capital Asset Pricing Model Theory

Sharpe (1964) published the capital asset pricing model theory (CAPM). Parallel work was also performed by Treynor (1961) and Lintner (1965). CAPM extended Markowitz's

portfolio theory to introduce the notions of systematic and specific risk. For his work on CAPM, Sharpe shared the 1990 Nobel Prize in Economics with Markowitz and Miller.

In such a simple world, Tobin's (1958) super-efficient portfolio must be the market portfolio. All investors will hold the market portfolio, leveraging or de-leveraging it with positions in the risk-free asset in order to achieve a desired level of risk. CAPM decomposes a portfolio's risk into systematic and specific risk. Systematic risk is the risk of holding the market portfolio. As the market moves, each individual asset is more or less affected. To the extent that any asset participates in such general market moves, that asset entails systematic risk. Specific risk is the risk which is unique to an individual asset. It represents the component of an asset's return which is uncorrelated with general market moves (Lintner, 1965).

No matter how much firms diversify their investments, it's impossible to get rid of all the risk. As investors, we deserve a rate of return that compensates us for taking on risk. The capital asset pricing model (CAPM) helps us to calculate investment risk and what return on investment we should expect. Here we look at the formula behind the model, the evidence for and against the accuracy of CAPM, and what CAPM means to the average investor (Sharpe, 1964).

When the CAPM was first introduced, the investment community viewed the new model with suspicion, since it seemed to indicate that professional investment management was largely a waste of time. It was nearly a decade before investment professionals began to view the CAPM as an important tool in helping investors understand risk. The key element of the model is that it separates the risk affecting an asset's return into two

categories. The first type is called unsystematic, or company-specific, risk. The long-term average returns for this kind of risk should be zero. The second kind of risk, called systematic risk, is due to general economic uncertainty. The CAPM states that the return on assets should, on average, equal the yield on a risk-free bond held over that time plus a premium proportional to the amount of systematic risk the stock possesses, (Markowitz 1952).

The treatment of risk in the CAPM refines the notions of systematic and unsystematic risk developed by Markowitz (1950s). Unsystematic risk is the risk to an asset's value caused by factors that are specific to an organization, such as changes in senior management or product lines. For example, specific senior employees may make good or bad decisions or the same type of manufacturing equipment utilized may have different reliabilities at two different sites. In general, unsystematic risk is present due to the fact that every company is endowed with a unique collection of assets, ideas and personnel whose aggregate productivity may vary.

A fundamental principle of modern portfolio theory is that unsystematic risk can be mitigated through diversification. That is, by holding many different assets, random fluctuations in the value of one will be offset by opposite fluctuations in another. For example, if one fast food company makes a bad policy decision, its lost customers will go to a different fast food establishment. The investor in both companies will find that the losses in the former investment are balanced by gains in the latter (Markowitz, 1952)

Systematic risk is risk that cannot be removed by diversification. This risk represents the variation in an asset's value caused by unpredictable economic movements. This type of

risk represents the necessary risk that owners of a firm must accept when launching an enterprise. Regardless of product quality or executive ability, a firm's profitability will be influenced by economic trends. In the capital asset pricing model, the risk associated with an asset is measured in relationship to the risk of the market as a whole. (Sharpe, 1964)

Kabiru (2002) indicated that the principles of portfolio analysis play a great hand in the management of credit risk. The effect of credit risk management practices adopted by financial institutions has led to diversifying their exposure limits across the borrowers and among various types of debt facilities. Capital asset pricing model (CAPM) developed by William Sharp is well applicable in investment decisions. It describes the identification of an investment's return and diversification of risk on the investments at hand.

Financial institutions can lend money with rate of interest or buy bond. The market return describes the market which contains the asset and financial institutions can establish limits on the amount of credit to advance to a borrower or firm, diversifying the portfolio composition eventually reducing the risk of credit loss hence achieving higher financial performance. In this regards, management of the financial institutions including SACCOs needs to seek ways of managing credit risks they are exposed to minimise on the credit loss and maximise on financial returns (Kabiru, 2002).

2.2.3 Arbitrage Pricing Theory

The Arbitrage Pricing Theory (APT) was developed primarily by Ross (1976). It is a one-period model in which every investor believes that the stochastic properties of returns of capital assets are consistent with a factor structure. The Arbitrage Pricing Theory (APT)

describes the price where a mispriced asset is expected to be. It is often viewed as an alternative to the capital asset pricing model (CAPM), since the APT has more flexible assumption requirements. Whereas the CAPM formula requires the market's expected return, APT uses the risky asset's expected return and the risk premium of a number of micro-economic factors. Arbitrageurs use the APT model to profit by taking advantage of mispriced securities. A mispriced security will have a price that differs from the theoretical price predicted by the model. By going short an overpriced security, while concurrently going long the portfolio the APT calculations were based on, the arbitrageur is in a position to make a theoretically risk-free profit. (Ross, 1976)

The basis of arbitrage pricing theory is the idea that the price of a security is driven by a number of factors. These can be divided into two groups: micro factors, and company specific factors. Ross' formal proof shows that the linear pricing relation is a necessary condition for equilibrium in a market where agents maximize certain types of utility. The subsequent work, which is surveyed below, derives either from the assumption of the preclusion of arbitrage or the equilibrium of utility-maximization. A linear relation between the expected returns and the betas is tantamount to an identification of the stochastic discount factor (SDF). Sections 3 and 4, respectively, review this literature. The APT is a substitute for the Capital Asset Pricing Model (CAPM) in that both assert a linear relation between assets' expected returns and their covariance with other random variables. (Ross, 1976). The difference between CAPM and arbitrage pricing theory is that CAPM has a single non-company factor and a single beta, whereas arbitrage pricing theory separates out non-company factors into as many as proves necessary. Each of

these requires a separate beta. The beta of each factor is the sensitivity of the price of the security to that factor.

Arbitrage pricing theory does not rely on measuring the performance of the market. Instead, APT directly relates the price of the security to the fundamental factors driving it. The problem with this is that the theory in itself provides no indication of what these factors are, so they need to be empirically determined. Obvious factors include economic growth and interest rates. For companies in some sectors other factors are obviously relevant as well - such as consumer spending for retailers. The potentially large number of factors means more betas to be calculated. There is also no guarantee that all the relevant factors have been identified. This added complexity is the reason arbitrage pricing theory is far less widely used than CAPM. (Sharpe, 1992)

2.3 Determinants of Financial Performance

This section looks at the determinants of financial performance of DTMs. It covers portfolio asset quality, capital adequacy, liquidity and management efficiency.

2.3.1 Portfolio Asset Quality

A good credit culture has strong policies and credit standards, while new markets are selected to conform to the existing culture. The effectiveness of the credit risk management is verified by internal risk control and audit that monitor credit discipline, loan policies, approval policies, facility risk exposure (Bessis, 2003) and portfolio level. Portfolio asset quality is only guaranteed when the credit risk department has strong policies and risk systems. The optimal risk strategy is the one that is in line with the business strategy. It is not the one that minimizes losses, but the one that provides a good

credit quality in line with the business objectives risk. The credit culture is supported by the top management and by a strong credit risk management.

A sound credit risk management is built upon a good-quality portfolio of performing assets. The pricing of the loans has to reflect the risk. A good selection strategy aims to avoid high losses. Credit scoring is a credit risk management technique that analyzes the borrower's risk. In its early meaning, credit scores" were assigned to each customer to indicate its risk level. A good credit scoring model has to be highly discriminative: high scores reflect almost no risk and low scores correspond to very high risk, or the opposite, depending on the sign condition (Pykhtin, 2005).

The credit culture is similar to the value driven, with emphasis on strong credit quality, but for which deviation can be omitted during periods of low credit demand. Dermine, and Bissada, (2002), indicated that market share and volume growth are the highest priority, which is motivated by the ambition to become or to remain a large player on the market. Front office lenders are demanded to produce new loans and may experience difficulties with credit risk loan approvers, because of low credit quality and non-adequate pricing. Loan approvers see their influence limited because of the conflicting interests of value and asset quality. Success depends on the strength of the credit risk management to control the approval process and to keep sufficient asset quality in the growing portfolio (Gardner and Mills, 1991).

2.3.2 Capital Adequacy

Capital adequacy refers to the sufficiency of the amount of equity needed to absorb any shocks that the deposit taking Micro financial institutions may experience (Kosmidou,

2008).Capital adequacy has been the focus of many studies and regulator as it is considered to be one of the main drivers of any financial institution's profitability (Sufian & Morrison 2000).

Capital adequacy ratios relate to the firms overall use of financial leverage. Deposit taking Micro financial institutions have to make decisions about the amount of capital they need to hold for the following reasons, Deposit taking Micro financial institutions capital help prevent deposit taking Micro financial institutions failure, a situation in which deposit taking Micro financial institutions can not satisfy its obligations to pay its depositors and other creditors and goes out of business. The amount of capital affect returns for the equity holders of the deposit taking Micro financial institutions. Minimum amount of deposit taking Micro financial institutions capital (deposit taking Micro financial institutions capital requirement) is required by regulatory authorities. According to Christian, Moffit and Suberly (2008), capital adequacy measures provide significant information regarding a firm's returns, while a few of the individual variables representing asset quality and earnings are informative.

Various studies suggest that deposit taking Micro financial institutions with higher levels of capital perform better than their undercapitalized ones. Deposit taking Micro financial institutions with higher capital adequacy are perceived as safer managers of borrowed funds and will attract deposits on more favorable terms than inadequately capitalized deposit taking Micro financial institutions. Thus well capitalized deposit taking Micro financial institutions should be profitable than lowly capitalized deposit taking Micro financial institutions. Staikouras & Wood (2003), observed that there exists a positive

link between a greater equity and profitability among EU deposit taking Micro financial institutions. However Navapan and Tripe (2003), found the contrary that is they found a negative relationship between capital and profitability. Ratio to be used for measuring capital adequacy will be: Shareholders' equity to Total assets.

2.3. 3 Liquidity

Liquidity indicates the ability of the institutions to fund increases in assets and meet obligations as they fall due, it is an important profitability indicator.

Deposit taking Micro financial institutions need liquidity for two major reasons: So as to meet the needs of the deposit withdrawals. The deposits are convertible on demand (or on specified notice) into cash. Demands for conversion (withdrawal, check draws) are offset by new deposits and So as to satisfy the demand for loans from their customers.

Deposit taking Micro financial institutions manufactures liquidity mainly through pooling new deposits. In addition a deposit taking Micro financial institutions has a variety of backup mechanism to provide liquidity when pooling proves insufficient. When the demand for liquidity is great enough to completely overwhelm the backup mechanism the deposit taking Micro financial institutions is unable to provide funds for its depositors. Such an overwhelming demand for liquidity leads to deposit taking Micro financial institutions run. A deposit taking Micro financial institutions need to set the minimum amount of liquidity to ensure deposit taking Micro financial institutions does not fail and this is experienced when they are unable to meet their legal obligations to depositors, other creditors and borrowers. Liquidity risk arises from the possible inability of deposit taking Micro financial institutions to accommodate decreases in liabilities or to fund

increases on the assets' side of the balance sheet, is considered an important determinant of deposit taking Micro financial institutions profitability.

2.3.4 Management Efficiency

The management of the deposit taking Micro financial institutions institution itself is a prerequisite for achieving profitability and stability of a deposit taking Micro financial institutions. Management efficiency in deposit taking Micro financial institutions organizations could be gauged based on operational efficiency. Several indicators can serve as an indicator of management soundness. Expenses ratio, earning per employee, cost per loan, average loan size and cost per unit of money lent can be used as a proxy of the management efficiency Baral, (2005). This study will concentrate on operating expense ratio. The expense management variable provides information on variations in operating costs. Expense management is captured by the ratio of these operating expenses to total assets and it is expected to be negatively related with profitability, since improved management of these expenses will increase efficiency and thereafter raise profits.

2.4 Empirical Review

There have been debate and controversies on the impact of credit risk management and deposit taking micro financial institution's financial performance. Scholars have carried out extensive studies on this topic and produced mixed results; while some found that risk management impact positively on deposit taking Micro financial institutions performance, some found negative relationship and others suggest that other factors apart from risk management impacts on deposit taking Micro financial institution's performance.

Li yuqi (2007) examined the determinants of deposit taking Micro financial institutions profitability and its implications on risk management practices in the United Kingdom. The study employed regression analysis on a time series data between 1999 and 2006. Six measures of determinants of deposit taking Micro financial institution's profitability were employed. They peroxided Liquidity, credit and capital as internal determinants of deposit taking Micro financial institution's performance. GDP growth rate, interest rate and inflation rate were used as external determinants of deposit taking Micro financial institutions profitability. The six variables were combined into one overall composite index of deposit taking Micro financial institution's profitability. Return on Asset (ROA) was used as an indicator of deposit taking Micro financial institution's performance. It was found that liquidity and credit risk have negative impact on deposit taking Micro financial institution's profitability.

Githinji (2010), did a study on Credit Risk Management and Profitability of Deposit taking Micro financial institutions in Kenya to assess the degree to which the credit risk management in practice had significantly contribute to high profits in Deposit taking Micro financial institutions of Kenya. Data on the amount of credit, level of non-performing loans and profits were collected for the period 2004 to 2008. The results of the study showed that, there was no relationship between profits, amount of credit and the level of nonperforming loans. The findings reveal that the bulk of the profits of Deposit taking Micro financial institutions were not influenced by the amount of credit and nonperforming loans suggesting that other variables other than credit and nonperforming loans impact on profits. Deposit taking Micro financial institutions that are keen on making high profits should concentrate on other factors other than focusing more on

amount of credit and nonperforming loans. A regression model was used to elaborate the results which showed that there was no significance relationship between the deposit taking Micro financial institutions profit and credit risk management proxy by level of Non-performing Loans and Loans and Advances/Total assets.

Al-Khouri, (2011) studied the Risk Performance of the GCC Deposit taking Micro financial institutions and assessed the impact of deposit taking Micro financial institution's specific risk characteristics, and the overall deposit taking Micro financial institutions environment on the performance of 43 Deposit taking Micro financial institutions operating in 6 of the Gulf Cooperation Council (GCC) countries over the period 1998-2008. Using fixed effect regression analysis, results showed that credit risk, liquidity risk and capital risk are the major factors that affect deposit taking Micro financial institutions performance when profitability is measured by return on assets while the only risk that affects profitability when measured by return on equity is liquidity risk.

Boahene et al, (2012) used regression analysis to determine whether there is a significant relationship between credit risk and profitability of Ghanaian deposit taking Micro financial institutions. They followed the line of Hosna et al (2009) by using Return of Equity as a measure of deposit taking Micro financial institution's performance and a ratio of non-performing loans to total asset as proxy for credit risk management. They found empirically that there is an effect of credit risk management on profitability level of Ghanaian deposit taking Micro financial institutions. The study also suggests that higher capital requirement contributes positively to deposit taking Micro financial institution's profitability.

Kolapo (2012) on his study on Credit Risk and Deposit taking Micro financial institutions' Performance In Nigeria carried out an empirical investigation into the quantitative effect of credit risk on the performance of Deposit taking Micro financial institutions in Nigeria over the period of 11 years (2000 - 2010). Five Commercial deposit taking Micro financial institutions firms were selected on a cross sectional basis for eleven years. The traditional profit theory was employed to 24 formulate profit, measured by Return on Asset (ROA), as a function of the ratio of Non - performing loan to loan & Advances (NPL/LA), ratio of Total loan & Advances to Total deposit (LA/TD) and the ratio of loan loss provision to classified loans (LLP/CL) as measures of credit risk.

William (2012) studied the influence of credit risk on the financial performance of deposit taking Micro financial institutions in Kenya. A descriptive survey of the credit and management staff of the forty two Deposit taking Micro financial institutions and one mortgage company formed the target population with a sample size of one hundred and seven staff randomly chosen for the study. Primary data for the period 2008-2012 through close ended questions was collected in this study on the credit risk practices employed and their influence on the financial performance of the Deposit taking Micro financial institutions. Data was analyzed using correlation analysis and regression models with the strength of the model being tested using Cronbach's Co-efficient Alpha. The study found that most Deposit taking Micro financial institutions had highly adopted credit risk practices to manage financial and credit risk and as a result the credit risk practices mentioned herein have a positive correlation to the financial performance of Deposit taking Micro financial institutions of Kenya. The study recommends that Deposit taking

Micro financial institutions should seek and obtain information consistently so as to permit them to detect potential problems at an early stage and identify trends not only for particular institutions, but also for the deposit taking Micro financial institutions system as a whole, while also ensuring transparency of deposit taking Micro financial institutions activities and the risks inherent in those activities, including credit risk.

Ogilo (2012) provided a comparative study of Credit Risk Management on Financial Performance of Deposit taking Micro financial institutions in Kenya. A causal research design was undertaken in this study and this was facilitated by the use of secondary data which was obtained from the Central Deposit taking Micro financial institutions of Kenya publications on deposit taking Micro financial institutions sector survey. The study used multiple regression analysis in the analysis of data and the findings were presented in the form of tables and regression equations. The study found out that there was a strong impact between the CAMEL components on the financial performance of Deposit taking Micro financial institutions. The study also established that capital adequacy, asset quality, management efficiency and liquidity (CAMEL) had weak relationship with financial performance (ROE) whereas earnings had a strong relationship with financial performance. The study concluded that CAMEL model can be used as a proxy for credit risk management.

Owade (2012), on her study assessed the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya through secondary data collected from the Deposit taking Micro financial institutions annual reports for the period 2007-2011 and out of the 43 deposit taking Micro financial institutions she concentrated on full data collected from 26 deposit taking Micro financial

institutions. The data was analyzed using multiple regression analysis by using the Statistical Package for Social Sciences (SPSS). The study showed that there is a significant relationship between performance in terms of profitability and credit risk management in terms of loan performance and capital adequacy.

Ndekunde and Makali (2013) on their study on Determinants of Financial Performance of Deposit taking Micro financial institutions in Kenya they assessed on the moderating effect of ownership structure on deposit taking Micro financial institutions performance. To fill this glaring gap in this vital area of study, the authors used linear multiple regression model and Generalized Least Square on panel data to estimate the parameters. The findings showed that deposit taking Micro financial institutions specific factors significantly affect the performance of Deposit taking Micro financial institutions in Kenya, except for liquidity variable. But the overall effect of microeconomic variables was inconclusive at 5% significance level. The moderating role of ownership identity on the financial performance of Deposit taking Micro financial institutions was insignificant. Thus, they concluded that the financial performance of Deposit taking Micro financial institutions in Kenya was driven mainly by board and management decisions, while microeconomic factors have insignificant contribution.

Ndemo (2013) assessed the effect of credit risk on the financial performance of Deposit taking Micro financial institutions in Kenya. In achieving this objective, the study assessed the current risk management practices of the Deposit taking Micro financial institutions and linked them with the deposit taking Micro financial institutions' financial performance. Return on Assets (ROA) was averaged for five years (2008-2012) to proxy the deposit taking Micro financial institutions' financial performance. To assess the credit

risk practices, a self-administered survey questionnaire was used across the deposit taking Micro financial institutions. The study used multiple regression analysis in the analysis of data and the findings were presented in the form of tables and regression equations. The study found out that majority of the Kenyan deposit taking Micro financial institutions were practicing good credit risk and as a result the credit risk practices mentioned herein have a positive correlation to the financial performance of Deposit taking Micro financial institutions in Kenya. Although there was a general understanding about risk and its management among the deposit taking Micro financial institutions, the study recommends that deposit taking Micro financial institutions should devise modern risk measurement techniques such as value at risk, simulation techniques and risk-adjusted return on capital. The study also recommends use of derivatives to mitigate financial risk as well as develop training courses tailored to the needs of deposit taking Micro financial institutions personnel in risk management.

2.5 Summary of Literature Review

Credit Risk is the potential change in net asset value due to changes in the perceived ability of counterparties to meet their contractual obligations. It occurs when a borrower does not pay back the loan. Determining how much capital must be held against contingencies that could arise from such risks is very important for the soundness and financial performance of the deposit taking micro financial institutions sector. The 1988 Basle Capital Accord targets a deposit taking micro financial institution's capital holdings as a proportion of the risk of their on-balance-sheet and off-balance-sheet business. Supervisory reporting systems provide for early detection before problems become more serious. To complement the information available in public and supervisory

reporting, supervisors often collect additional information to assist in clarifying a deposit taking Micro financial institution's financial risk profile, as well as to better understand important credit risk issues. Thus, the issue of credit risk management is very important in any financial institution as it is because of this the financial crises that have hit financial institutions before would have been avoided if they had taken it into consideration thus risk management is considered a key factor for all companies that are in any business operation. The empirical studies looked at the credit risk and loan defaults in commercial banks. However, none of them looks at the credit risk management among the DTMs leaving a wide knowledge gap that the study seek to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

In this section the researcher has discussed the research design that was used to conduct this study. The researcher has also made an elaborate discussion on the population that is targeted, the sample size that was involved in the study and the sampling design that was used to arrive at the required sample size. The study also looks at the type of instruments that was used to collect data and how the same was analyzed and presented.

3.2. Research Design

This study applied descriptive research design. The designs analyses the how, what, why and when of a phenomenon (Kothari, 2004). Research design is a logical and systematic plan for directing a research study. It specified the objectives of the study, the methodology and techniques to be adopted for achieving the objective(s) (Mugenda and Mugenda, 2003).

3.3 Population

The target population was the Nine Deposit taking Micro finance institutions members in Kenya (the official association of Deposit taking Micro finance institutions in Kenya, 2013) registered at end June 2013 at the Central Deposit taking Micro financial institutions of Kenya (CBK) which supervise the activities of Microfinance sector in Kenya (Appendix I).

3.4 Data Collection

Secondary data was collected for this study, for the purpose of analyzing the effect of credit risk management on financial performance of the nine deposit taking Microfinance institutions. The patterns in the data were identified and useful inferences therefore studied with a regression approach. These dataset included: Return on Assets as a proxy for the financial performance of the Deposit taking Micro-Finance Institutions (Robert, 2007). The dataset was drawn from the Financial Statements of each of the deposit taking MFI under study throughout the period of study 2009 to 2013 and sourced from the Management of the institutions. The computer program aided analysis for this study which was done using the statistical package for the social sciences (SPSS) version 17.

3.5 Data Analysis

Quantitative data collected was analyzed by the use of descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. The information was displayed by use of bar charts, graphs and pie charts and in prose-form. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions through use of SPSS.

3.5.1 Analytical Model

The relationship equation represented in the linear equation below.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon$$

Where Y= Financial Performance measured by the return on assets

α = Constant Term

β_1 = Beta coefficients

X_1 = credit scoring mechanism which is measured by the number of credit reports logged

X_2 = Risk identification measured as the risk weighted assets

X_3 = Risk analysis and assessment measured as the loan loss provision

X_4 = Diversification of assets measured as the ratio of the risk weighted assets to total assets

X_5 = Portfolio Asset Quality measured as the ratio of the total capital to total assets

e = Error Term

3.5.2 Test of Significance

The significance of each independent variable was tested. Fischer distribution test called F-test was also applied. It refers to the ratio between the model mean square divided by the error mean square. F-test was used to test the significance of the overall model at a 95 percent confidence level. The p-value for the F-statistic will be applied in determining the robustness of the model. The conclusion was based on the basis of F calculated and F-critical where if the null hypothesis of the beta is rejected then the overall model was significant (if the p-value is less than 0.05) and if null hypothesis is accepted (if the p-value is greater than 0.05) the overall model will be insignificant and cannot be used to explain the variations in the dependent variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

The main objective of the study was to investigate the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya. The study targeted nine deposit taking micro finance institutions in Kenya. The study used descriptive and inferential analytical techniques to analyze the data obtained. The study used Ordinary Least Squares (OLS) regression models. However, before running the regressions, descriptive statistics and correlation analysis were calculated. Correlation analysis shows the relationships between the different variables considered in the study. The correlation matrix presented simple bivariate correlations not taking into account other variables that may influence the results.

4.2 Descriptive statistics

Table 4.1 presents the descriptive statistics and the distribution of the variables considered in this research: Return on Assets, credit scoring, risk identification, risk analysis, Asset diversification and Portfolio asset quality. The descriptive statistics considered were minimum, maximum, mean, standard deviation, skewness and kurtosis.

Table 4.1 shows that return on assets had a mean of 0.1620 and standard deviation of 0.1051. That is, return on asset is, on average, 16.20% as a proportion of net income to micro finance total assets. However, the value went as high as 36% and as low as 2.3%. Credit score registered an average of 10.5% with a maximum of 25.0% and minimum of 1.03% during the study period. The risk weighted assets to total assets ratio recorded an average of 0.206 and a lower ratio of 0.201. Mean value of portfolio asset quality

measured as the ratio of the total capital to total assets was 0.1982 while asset diversification recorded an average of 0.2151 with a lower ratio of 0.173.

Table 4.1: Descriptive Statistics

	Min	Max	Mean	Std. Deviation	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
ROA	.023	.36	.1620	.10510	.780	.2910	.743	.430
CREDIT SCORE	.0103	.250	.105	.5023	-1.481	.272	2.104	.430
RWA	.201	.425	.206	.05287	1.681	.158	1.104	.430
LOAN LOSS	2.2	5.6	3.2	.21670	2.410	.209	1.104	.430
ASST DIV	.173	.410	.2151	.351042	.303	.299	-.565	.430
PAQ	.105	.352	.1982	0.04952	1.428	.263	4.615	.430

Source: research Findings,(2014)

4.3 Inferential statistics

4.3.1 Correlation Analysis

The study sought to establish the relationship credit risk management and the financial performance of deposit taking micro-finance institutions in Kenya. Pearson Correlation analysis was used to achieve this end at 99%, 95% and 90% confidence levels. Table 4.2 illustrates significant, negative but low linear relationships between credit score and return on assets ($R = -0.028$, $p = .031$); risk identification ($R = 0.264$, $p = .0421$); loan loss provision ($R = -0.126$, $p = .0372$); asset division ($R = -0.372$, $p = .013$) and portfolio asset quality ($R=0.261$, $P=0.030$)

Table 4.2: Correlation Matrix

Variables		ROA	CRS	RW	LONL	ASSTD	PAQ
ROA	Correlation	.4820	1				
	Sig.	(.001)					
CREDIT SCORE	Correlation	-.028	-.224	1			
	Sig.	(.031)	(.023)				
RWA	Correlation	.264	.007	.384	1		
	Sig.	(.0421)	(.643)	(.502)			
LOAN LOSS	Correlation	-.126	-.302*	.162	-.052*	1	
	Sig.	(.332)	(.001)	(.350)	(.007)		
ASSET DIV	Correlation	.372	-.052	-.0270	-.356	-.0463	1
	Sig.	(.013)	(.917)	(.002)	(.003)	(.577)	
PAQ	Correlation	.0261*	-.283*	.048	-.352***	.117	.345*
	Sig.	(.030)	(.019)	(.713)	(.003)	(.339)	(.004)

Source: research Findings,(2014)

4.3.2 Regression Models

Regression result was captured for the model summary, analysis of variance and regression coefficient

4.3.2.1 Analysis of Variance

Table 4.3 gives an analysis of variance. This is established if there is significance difference between the means of the variable and under study and also to examine the overall significance of the model. Overall significance of the model is important in establishing whether the model is fit to giving true estimate of the variables. Since the F value (0.026) is below 0.05, it can be concluded that the regression models was

significant in giving true estimate of the variables. It also implies that the means of the variable are not significantly related.

Table 4.3: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.168	5	.008	3.452	.026
Residual	.215	9	.036		
Total	.323	14			

Source: research Findings,(2014)

4.3.3 Model Summary

From table 4.4 below, R-squared is 0.705 implying that 70.5% of the variation in financial performance of the 61 listed companies under study is attributed to the variation in the changes in the explanatory variables (credit scoring, risk identification, loan loss, asset diversification, portfolio asset quality). The study also used Durbin Watson (DW) test to check that the residuals of the models were not auto correlated since independence of the residuals is one of the basic hypotheses of regression analysis. Being that the DW statistics were close to the prescribed value of 2.0 for residual independence, it can be concluded that there was no autocorrelation.

Table 4.4: Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.824	.705	.748		.5350	1.986

Source: research Findings,(2014)

4.3.4 Regression coefficients

Table 4.5 below gives the regression coefficient for regression model with level of significance at 5% level indicated

Table 4.5: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.(5%)	
	B	Std. Error	Beta			
1	(Constant)	1.685	.844		2.689	.012
	CRED SCORE	.000	.000	.2301	-.892	.079
	RWA	-.101	.040	.0894	-2.547	.016
	LOAN LOSS	.205	.066	-.609	2.112	.004
	ASSET DIV	.0361	.128	1.681	2.511	.009
	PAQ	.026	.025	.273	1.035	.309

Source: research Findings,(2014)

a. independent variable: credit score, rwa, loan loss, asset div, paq

b. dependent Variable: Return on asset

From the regression coefficient result above, the estimated model becomes:

All the explanatory variables are statistically significant at 5% level of significance in explaining the variation in the financial performance of micro-financial institutions.

$$FP = 1.685 + 0.230CS + 0.089RW - 0.609LL + 1.681AD + 0.273PAQ$$

4.4 Interpretation of the Findings

From the regression coefficients above, a unit increase credit score will lead to 0.230 units increase in the financial performance of deposit taking micro-finance institutions. This is attributed to the reduction in lending to the highest-risk applicants due to more stringent down payment requirements and lending to lower-risk borrowers thereby increasing the profitability of micro-financial institutions. From the regression result above, a unit increase in risk identification will lead to 0.089 units increase in the financial performance of micro-finance institutions.

A unit increase in loan loss provision will lead to 0.609 units decrease in the profitability of deposit taking micro-financial institutions. Loan-loss provisioning policy is therefore critical in assessing financial system stability, in that it is a key contributor for financial institutions profitability and capital positions, which has a bearing on supply of credit to the economy (Beatty and Liao, 2009). Loan loss provisions allow banks to recognize in their profit and loss statements the estimated loss from a particular loan portfolio(s), even before the actual loss can be determined with accuracy and certainty as events unfold and are actually written off. In other words, loan-loss reserves should result in direct charges against earnings during upturns in the economic cycle, as financial institutions anticipate future losses on the loan portfolio when the economy hits a downturn. When these

anticipated loan losses eventually crystallize, micro-financial institutions can then draw on these reserves, thereby absorbing the losses without impairing precious capital and preserving banks' capacity to continue extending the supply of credit to the economy. The whole process reduces the profitability (ROA) of the micro-financial institutions.

A unit increase in asset diversity will lead to 1.681 units increase in the profitability of the micro-financial institutions and a unit increase in the portfolio asset quality will lead to 0.273 units increase in the financial performance of the 9 deposit taking institutions. The result conforms to the modern portfolio theory which state that unsystematic risk can be mitigated through diversification. That is, by holding many different assets, random fluctuations in the value of one will be offset by opposite fluctuations in another consequently reducing the risk level for the micro-financial institution.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussions of the key findings presented in chapter four, conclusions drawn based on such findings and recommendations there-to. This chapter will thus be structured into conclusion, recommendations and areas for further research.

5.2 Summary

The main objective of the study was to establish the effect of credit risk management on the financial performance of Deposit taking Micro financial institutions in Kenya.

The study specifically focused on the extent to which credit risk management affected the financial performance of micro finance institutions in Kenya.

The findings of the study indicated that return on assets had a mean of 0.1620 and standard deviation of 0.1051. That is, return on asset is, on average, 16.20% as a proportion of net income to micro finance total assets. However, the value went as high as 36% and as low as 2.3%. Credit score registered an average of 10.5% with a maximum of 25.0% and minimum of 1.03% during the study period. The risk weighted assets to total assets ratio recorded an average of 0.206 and a lower ratio of 0.201. Mean value of portfolio asset quality measured as the ratio of the total capital to total assets was 0.1982 while asset diversification recorded an average of 0.2151 with a lower ratio of 0.173.

The inferential statistics indicate that the independent variables relate with the dependent variables in that a unit increase in loan loss provision will lead to 0.609 units decrease in the profitability of deposit taking micro-financial institutions, a unit increase in risk identification will lead to 0.089 units increase in the financial performance of micro-finance institutions, A unit increase in asset diversity will lead to 1.681units increase in the profitability of the micro-financial institutions and a unit increase in the portfolio asset quality will lead to 0.273 units increase in the financial performance of the 9 deposit taking institutions.

5.3 Conclusion

From the results, risk management by credit scoring positively impacts on the return on assets of micro-financial institutions. The adoption of credit scoring allows micro-financial institutions to make systematic different offers to loan applicants with different risk profiles. The finding is consistent with Ndemo (2013) who postulates that majority of the Kenyan deposit taking Micro financial institutions are practicing good credit risk and as a result the credit risk practices have positive correlation to the financial performance of deposit taking Micro financial institutions in Kenya.) . Effective credit risk leads to more balanced trade-off between risk and reward, to realize a better position in the future Fatemi and Fooladi (2006. Shafiq and Nasr (2010) contends that the deposit taking Micro financial institutions industry recognizes that an institution needs not do business in a manner that unnecessarily imposes risk upon it; nor should it absorb risk that can be efficiently transferred to other participants. Rather, it should only manage risks at the firm level that are more efficiently managed there than by the market itself or by their owners in their own portfolios.

Risk diversification positively influences the financial performance (ROA) of the micro-financial institutions. Diversification lowers risk even if assets' returns are not negatively correlated indeed, even if they are positively correlated (Markowitz, 1952). The effect of credit risk management practices adopted by financial institutions has led to diversifying their exposure limits across the borrowers and among various types of debt facilities. Capital asset pricing model (CAPM) developed by William Sharp is well applicable in investment decisions by the deposit taking micro-financial institutions.

5.4 Recommendations for Policy

Deposit taking Micro financial institutions should devise modern risk measurement techniques such as value at risk, simulation techniques and risk-adjusted return on capital. Other than relying on credit reference bureau (CRB), the study recommends use of derivatives to mitigate financial risk as well as develop training on the guidelines to be used by the financial advisors.

5.5 Limitations of the Study

The main limitation of study was inability to include more organizations. This study only sampled Deposit Taking Microfinance institutions. The study would have covered more institutions across financial sectors so as to provide a more broad based analysis. However, resource constraints placed this limitation.

The study also faces challenges of time resources limiting the study from collecting information for the study particularly where the researcher was required to travel for collection of Data.

5.6 Areas of Further Research

The study investigated the impact of credit risk management practices on financial performance in Deposit Taking MFIs.

The study also recommends that a further study should be carried out to determine the effects portfolio quality management financial institutions in Kenya to determine its impact on financial performance.

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APPENDICES

Appendix I: List of Deposit Taking Microfinance Institutions Licensed by Central Deposit taking Micro financial institutions of Kenya.

1.Faulu Kenya DTM Limited

Postal Address: P. O. Box 60240 – 00200, Nairobi

Telephone: +254-20- 3877290 -3/7, 38721883/4

Fax: +254-20-3867504, 3874875

Email: info@faulkenya.com , customercare@faulkenya.com

Website: www.faulkenya.com

Physical Address: Faulu Kenya House, Ngong Lane -Off Ngong Road

Date Licenced: 21st May 2009

Branches: 27

2.Kenya Women Finance Trust DTM Limited

Postal Address: P. O. Box 4179-00506, Nairobi

Telephone: +254-20- 2470272-5, 2715334/5, 2755340/42

Pilot Line: 070 - 3067000

Email: info@kwftdtm.com

Website: www.kwftdtm.com

Physical Address: Akira House, Kiambere Road, Upper Hill,

Date Licenced: 31st March 2010

Branches: 24

3.SMEP Deposit Taking Microfinance Limited

Postal Address: P. O. Box 64063-00620 Nairobi

Telephone: 020-3572799 / 26733127 / 3870162 / 3861972 / 2055761

Fax: +254-20-3870191

Email: info@smep.co.ke info@smep.co.ke info@smep.co.ke

Website: www.smep.co.ke

Physical Address: SMEP Building - Kirichwa Road, Off Argwings Kodhek Road

Date Licensed: 14th December 2010

Branches: 6

4. Remu DTM Limited

Postal Address: P. O. Box 20833-00100 Nairobi

Telephone: 2214483/2215384/ 2215387/8/9, 0733-554555

Email: info@remultd.co.ke info@remultd.co.ke info@remultd.co.ke

Physical Address: Finance House, 14th Floor, Loita Street

Date Licensed: 31st December 2010

Branches: 3

5. Rafiki Deposit Taking Microfinance

Postal Address: 12755-00400 Nairobi

Telephone: 020-216 6401

Cell - phone : 0719 804 370/0734 000 323

Email: info@rafiki.co.ke

Website: www.rafiki.co.ke

Physical Address: : 2nd Floor, El-roi Plaza, Tom Mboya Street

Date Licensed: 14th June 2011

Branches: 3

6. UWEZO Deposit Taking Microfinance Limited

Postal Address: 1654-00100 Nairobi

Telephone: 2212917 / 9

Email: info@uwezodtm.com

Website: www.uwezodtm.com

Physical Address: Park Plaza Building, Ground Floor, Moktar Daddah Street

Date Licensed: 08 November 2010

Branches: 2

7. Century Deposit Taking Microfinance Limited

Postal Address: P. O. Box 38319 – 00623, Nairobi

Telephone: +254-20- 2664282, 20 6768326, 0722 168721, 0733 155652

Email: info@century.co.ke

Physical Address: KK Plaza 1st Floor, New Pumwani Road, Gikomba

Date Licensed: 17th September 2012

Branches: 1

8.SUMAC DTM Limited

Postal Address: P. O. Box 11687-00100, Nairobi

Telephone: (254) 20 2212587, 20 2210440

Fax: (254) 2210430

Email: info@sumacdtm.co.ke

Website: www.sumacdtm.co.ke

Physical Address: Consolidated Deposit taking Micro financial institutions House 2nd
Floor, Koinange Street

Date Licensed: 29th October 2012

Branches: 1

9.U&I Deposit Taking Microfinance Limited

Postal Address: P.O. Box 15825 – 00100, Nairobi

Telephone: (254) 020 2367288, Mobile: 0713 112 791

Fax: (254) 2210430

Email: info@uni-microfinance.co.ke

Website: http://uni-microfinance.co.ke/uni-microfinance/

Physical Address: Asili Complex Building 1st Floor, River Road

Date Licensed: 8th April 2013

Branches: 2

Source: Banks Supervision Survey 2013