

**EFFECTS OF CREDIT RISK MANAGEMENT ON THE FINANCIAL
PERFORMANCE OF MICROFINANCE BANKS IN KENYA**

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DECLARATION

This research project is my original work and has not been submitted for award of a degree in any other university.

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This Research Project has been submitted for examination with my approval as University Supervisor.

Signed Date.....

Mrs. Winnie Nyamute

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I give many thanks to God Almighty for everything and for bringing me this far.

Special thanks go to my mother Yunes Nyaboke for always believing in me and supporting me all through. I am so blessed and lucky to be your son.

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DEDICATION

I dedicate this project to my lovely family for your unconditional support; My mother Yunes Nyaboke, sisters Hellen, Leah and Lilian and brother Wyclef.

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LIST OF ABBREVIATIONS

CA:	Credit Analyst
CAMEL:	Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity
CAPM:	Capital Asset Pricing Model
CBK:	Central Bank of Kenya
CEO:	Chief Executive Officer
CRO:	Credit Risk Officer
ERM:	Enterprise Risk Management
GDP:	Gross Domestic Product
GRL:	Loan Growth
LLP:	Loan Loss Provision
LLPR:	Loan Loss Provision to Total Loans
LQR:	Liquidity Ratio
MFBs:	Microfinance Banks
MFI:	Microfinance Institutions
MGT:	Management Efficiency
NPL:	Non-Performing Loans

NPLR:	Non-Performing Loans to Total Loans
ROE:	Return on Equity
RMG:	Risk Management Guidelines
RMI:	Risk Management Index
RWA:	Risk Weighted Assets
TC:	Total Capital
TRWA:	Total Risk Weighted Assets

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ABSTRACT

Credit risk management in banking institutions has become more important not only because of the financial crisis that the world is experiencing nowadays but also the introduction of Basel II. Since granting credit is one of the main sources of income in commercial banks, the management of the risk related to that credit affects the profitability of the banks. This objective of the study was to establish the relationship between credit risk management and the financial performance of Microfinance Banks in Kenya. The research problem was studied by utilizing the descriptive research design method whereby secondary data was gathered from the annual reports of MFBs in Kenya. This was attributed to the fact that special emphasis was placed on the specific objective about the relationship between independent variables and the dependent variable in the study. Descriptive design was the most appropriate and was selected to enable the study test the relationship between credit risk management and the financial performance of MFBs. A census of the 9 licensed deposit taking Microfinance banks in Kenya as at 31st December 2014 will be carried out as outlined in the appendix. The study found out that Correlation matrix of the CAMEL indicators to financial performance showed different results. Capital adequacy has a weak relationship with financial performance of microfinance banks in Kenya. A weak relationship between asset quality and financial performance of microfinance banks in Kenya was observed. Management efficiency had an average relationship with financial performance. Earnings quality on the other hand, had a strong relationship with financial performance whereas liquidity hand had a weak relationship with financial performance. The study established that credit risk management by use of CAMEL indicators has a strong impact on the financial performance of MFBs in Kenya. The study recommends that MFBs should also try to keep their operational cost low as this negates their profits margin thus leading to low financial performance. The study further recommends that in order for MFBs to remain financially stable and flourish in the industry they must adopted viable credit risk management practices that will help in sustaining their financial performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

According to Njanike (2009), the basic role of a bank is lending and as such, loans make up the bulk of their assets. Interest on loans contributes significantly to interest income of commercial banks. Traditionally, 85% of commercial banks' income is contributed by interest on loans (Reed and Gill, 1989). Therefore, loans represent the majority of a bank's assets. The situation is not different with the Kenyan Microfinance banks (MFBs) in Kenya. Lending remained the most critical activity of MFBs accounting for 66 percent of the total assets as at the end of December 2013 (CBK, 2013)

The level of the financially excluded Kenyans saw an improvement by closing at 25% in 2013 down from 33% recorded 2009. The proportion of Kenyans with access to financial services also rose from 41% to 69% during the same period (CBK, 2013). These statistics clearly indicate that the level of financial services activity keeps on growing and with lending being the main activity of banks, a sound credit management strategy is very vital.

Waweru and Kalani (2009), note that due to the nature of their business, commercial banks get exposed to the risk of default from borrowers. Therefore, credit risk remains the single largest factor affecting the soundness of financial institutions and as such the financial system at large.

Credit risk management should be at the centre of banks operations so as to maintain financial sustainability and reach more clients. Despite these facts, over the years, there has been increased number of significant bank problems both in developed as well as emerging ones (Basel, 2004). Among other factors, weakness in credit risk management has all along been cited as the main cause for bank problems. Since credit risk exposure continues to be the leading source of problems in banks world-wide, useful lessons should be drawn from past experiences. Banks should now have a very keen awareness of the need to identify measure, monitor and control credit risk. They should also ensure that adequate levels of capital are held against these risks and are adequately compensated for risks incurred (Basel, 1999).

1.1.1 Credit Risk Management

Procedures have been developed to help in identifying banks approaching financial distress. Despite the variability of these procedures from country to country, they are designed with a view to generating financial soundness ratings. These procedures are commonly referred to as the CAMEL (Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity) rating system. Prior studies have examined the efficacy of CAMEL ratings and generally, they conclude that the use of CAMEL ratings together with publicly available data can identify and/or predict problems or failed banks (Gasbarro et al., 2002). The Central Bank of Kenya applies the CAMEL rating system in assessing the soundness of financial institutions in Kenya (CBK, 2010). The variables of

CAMEL rating system form the basis of the analytical framework of credit risk management in this study as highlighted below;

Capital Adequacy: is the ratio of Total Capital (TC) to Total Risk Weighted Assets (TRWA) and will be used as a proxy for credit risk (Bhattacharya and Sinha Roy, 2008). Oludhe (2011) observes that capital allows a financial institution to grow, establish and maintain both public and regulatory confidence as well as providing a cushion in terms of reserves. This will enable them to absorb potential loan losses above and beyond identified problems.

Asset Quality: is the ratio of Non-performing Loans to Total Loans (NPLR). It is an indicator of the quality of credit decisions made by financial institutions (Tandelilin et al., 2007). Asset quality helps in evaluating risk, controllability, adequacy of loan loss reserves, as well as acceptable earnings. The effect of off-balance sheet earnings and loss is also taken into consideration.

Management Quality: management quality as a qualitative aspect applicable to individual institutions is difficult to measure. Of the several aspects that can be used to serve as an indicator of management soundness, we use the Non-interest Expenditures in terms of salaries and benefits to Total Assets (MGT). The choice of Salaries and benefits is informed by the fact that they generally form the largest non-interest expense element of bank overhead controlled by management and thus reflecting the management policy stance (Hays et al., 2009; Goyal, 2010).

Earnings: According to Goyal (2010), Earnings determines the ability of a bank to increase its capital base through retained earnings, absorb loan losses, support future

growth of assets, and provide a return to investors. It can be measured by the Net Income to Total Assets ratio (Wasankar, 2009; Goyal, 2010).

Liquidity: Financial Institutions are required to provide liquidity in the economy. The ability to provide liquidity requires the existence highly liquid and readily transferable stock of financial assets which should be readily available as and when needed. Liquidity is represented by the Banks balances and balances with central bank to total deposits ratio (LQR). Banks with larger volume of liquid assets are generally perceived to be safe. This is due to the fact that this would allow them to meet unexpected withdrawals (Wasankar, 2009; Goyal, 2010).

1.1.2 Financial Performance Measures

Zeze (2012) argues that performance measurement systems are very vital when it comes to evaluation of the accomplishments of firm goals, construction of development strategies, making of investment decisions and management compensation. She notes that a sound financial position is not only good for depositors but also shareholders, employees, and the whole economy at large.

Kaplan and Norton (1992) used the Balanced Scorecard method in measuring the business performance. The balanced scorecard method utilizes both the financial and the nonfinancial measures such as institutional learning process, growth, internal business processes, and customer-employee satisfaction among others.

Brealey and Myers (2003) argue that there are various important measures in determining profitability of an organization. These included Net profit Margin and Return on Equity (ROE). In 1972, David Cole introduced a procedure for evaluating bank performance via ratio analysis (MacDonald & Koch, 2006). This procedure enables an analyst to evaluate the source and magnitude of banks profits relative to selected risks taken. A return on equity model was employed in analyzing bank profitability.

For the purpose of this study, we shall utilize only the financial performance which will be measured by the Accounting Return on Equity (ROE) which is the ratio of Net Income to Equity.

1.1.3 Relationship between Credit Risk Management and Financial Performance

Credit risk management in banking institutions has become more important not only because of the financial crisis that the world is experiencing nowadays but also the introduction of Basel II. Since granting credit is one of the main sources of income in commercial banks, the management of the risk related to that credit affects the profitability of the banks. This study will try to find out how the credit risk management affects the financial performance in microfinance banks in Kenya.

A credit policy provides for a common set of organizational goals while recognizing the credit and collection department as an important contributor to the organization's strategies. A credit policy that is correctly formulated executed and properly understood

at all levels of the financial institution, will enable management to maintain proper standards of the bank loans. This will avoid unnecessary risks and thus correctly assessing the opportunities available for business development (Gatuhu, 2013).

1.1.4 Microfinance Industry in Kenya

The Microfinance (Amendment) Act 2013 came to force allowing former Deposit Taking Microfinance Institutions (now 'Microfinance Banks') to operate current accounts, issue third party cheques as well as engaging in foreign exchange trading. This was in a bid to enhance financial inclusion (CBK, 2014)

This study focuses on the 9 licensed Microfinance Banks in Kenya as at 31st December 2014 (refer to Appendix 1). The microfinance banks market share is based on a weighted composite index comprising assets, deposits, capital, number of deposit accounts and loan accounts. The microfinance banks are classified into three peer groups namely large, medium and small. Based on the weighted composite index, a microfinance bank is classified large if it has a market share of 5 per cent and above; medium if it has a market share between 1 per cent and 5 per cent and small if its market share is less than 1 per cent (CBK, 2014)

As at 31st December 2014, there were 3 large microfinance banks with an aggregate market share of 92.74 per cent, 2 medium microfinance banks with a market share of 5.09 per cent and 4 small microfinance banks with a market share of 2.17 per cent. Microfinance Banks in large peer group experienced a drop in their combined market

share from 95.44 per cent in December 2013 to 92.7 per cent in December 2014 due to the exit of SMEP Microfinance bank which moved to the medium peer group. On the other hand Microfinance Banks in small peer group experienced an increase in their combined market share from 1.71 per cent in December 2013 to 2.17 per cent in December 2014 due to the entry of Sumac Microfinance bank which moved from the medium peer group (CBK, 2014)

The microfinance banks' profit before tax increased by 89 per cent from Ksh. 530 million for the period ended December 2013 to Ksh. 1 billion for the period ended December. The increase in profits is attributable to continued expansion through the establishment of new branches, marketing units and increased workforce (CBK, 2014)

1.2 Research Problem

The main goal of each banking institution is to operate profitably with a view to maintaining stability as well as improving in terms of growth and expansion. To ensure that growth in the banking sector does not jeopardize its stability, risk management is very crucial. Since the main objective of bank management is to increase shareholders' return epitomizing bank performance, this objective comes at a cost of increasing risk. Issues of risk management in the banking sector have great effects on the economic growth (Oludhe, 2011)

Waweru and Kalani (2009) contend that Credit risk is the single largest factor affecting the soundness of financial institutions and the financial system as a whole since lending is the principal business for most banks. Therefore, credit risk management in banks has

become more important not only because of the financial crisis that the world currently experiences nowadays but also the introduction of Basel II. Since granting credit is one of the main sources of income for banks, the management of the risk associated with credit affects financial performance of banks.

Since more and more microfinance banks are being licensed to operate in Kenya as part of the financial inclusion and policy development initiatives of the CBK, keen attention is needed in enhancing their sustainability. Previous studies that have been done mainly focused on commercial banks both in Kenya and internationally. They mainly relied on the typical credit risk management strategies that revolves around recovery efforts, securities, monitoring and the demand for credit from various sectors in the economy through risk profiling (CBK, 2014)

This study sought to explore credit risk management from the CAMEL rating system that was more holistic in approach and related it to financial performance. The main purpose of this study was to describe the effects of credit risk management on the financial performance of MFBs licensed in Kenya as at 31st December 2014.

The importance of credit risk management and its effect on financial performance being the main motivation for this study, an assumption was made that a sound credit risk management achieves satisfactory financial performance, whereas poor credit risk management leads to a lower financial performance level. The central question therefore was how significant was the effects of credit risk management on the financial performance of MFBs in Kenya?

1.3 Objective of the Study

This study aimed at establishing the relationship between credit risk management and the financial performance of Microfinance Banks in Kenya.

1.4 Value of the Study

The study will help microfinance banks managers in making better financial decisions that will improve the bottom line. It seeks to emphasize the importance of the CAMELS rating system to the soundness of operations of microfinance banks.

The study will also be useful to regulators of the microfinance industry in Kenya such as the central bank of Kenya in enhancing sound existence of Microfinance banks as well as better policy requirements and prudential guidelines.

It will also be useful in enhancing shareholders confidence in the credit risk management strategies employed by management.

This study will be of value to academicians as they find useful gaps that will stimulate interest in further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the theoretical and empirical literature reviews for studies done both internationally and in the local context. It also provides a summary of the findings.

2.2 Theoretical Review

This section outlines various theories that have been formulated to explain, predict, and understand the effects of credit risk management on the financial performance of financial institutions. It will also challenge and extend existing knowledge which is within the limits of the critical bounding assumptions.

2.2.1 Enterprise Risk Management Theory

According to Nocco and Stulz (2006), risk management has evolved from a narrow, insurance based view to a more holistic and all risk encompassing view. This is commonly termed as enterprise risk management (ERM). They argue that ERM is beneficial to most firms because it allows the firm to manage risks in a manner that avoids costly outcomes. They note that an ERM where all material corporate risks are viewed and managed within a single framework can be a source of long term competitive

advantage and value. At the company-wide level, ERM enables senior management in identifying, measuring, and limiting to acceptable levels the net exposures faced by firms. The firm's ability to access capital and other resources necessary to implement its strategy and business plan is enhanced by cushioning downside outcomes and as a result protecting the firm's credit rating.

At the business-unit level, ERM contributes significantly in ensuring that all material risks are owned and risk-return tradeoffs carefully evaluated by employees as well as operating managers throughout the firm. Therefore, firms should assess their risk appetite, measure the amount of risk they are bearing and decide which risks to retain and which to transfer to others. Consistent with the principle of competitive advantage that firms can use in guiding such decisions, non-core exposures are limited and as a result enlarging the capacity to deal with risks at the core of their business and competencies (Gatzert and Martin, 2015).

Since corporations disclose only minimum details of their risk management programs, implementation of an ERM is proxied by Chief Risk Officer (CRO) hiring (Tufano, 1996). The announcements of senior risk officers measure the characteristics of firm's signaling an enterprise risk management process. Therefore, CRO hiring is consistent with the decision to follow an ERM program. The Economist Intelligence Unit, (2005) reports that many organizations usually appoint a member of the senior executive team, often referred to as CRO, to oversee the enterprise's risk management process.

2.2.2 Dynamic Risk Management Theory

The dynamic model of corporate risk management incorporates the initiation, early termination, replacement, maturity choice, and frequency of adjustment of risk management instruments. Whereas static models provide valuable intuition as to why firms manage risk, this model further develops our understanding of the dynamic aspects of risk management. It generates many new and sometimes quite different implications as compared to related static models. Furthermore, the empirical evidence suggests that the model helps to explain observed risk management among gold mining companies (Tufano, 1996).

This model can serve as a basis for developing normative decision tools that can assist practitioners in developing the risk management strategies. For instance developing a strategy of the optimal hedging of risks associated with predetermined long-term delivery contracts that have longer maturity than the maturity of the available risk management instruments (Adam, 2002b).

Much of the understanding of corporate risk management is based on static models that describe how various capital market imperfections provide organizations an incentive to reduce risk. While existing models provide rich intuition as to why organizations should manage risk, they provide fewer predictions about how they translate the incentives to manage risk into actual decisions on the choice of risk management instruments and how these strategies evolve over time (Tufano, 1996).

2.2.3 Financial Intermediation Theory

Financial intermediation is a process which involves surplus units depositing funds with financial institutions who then lend to deficit units. In earlier studies of financial intermediation, such as Gurley and Shaw's (1960), the main activity of intermediaries was the transformation of securities issued by firms (shares and bonds) into securities demanded by investors (deposits). Financial intermediaries are valuable because they provide services of divisibility and risk transformation, which borrowers cannot obtain on their own under identical conditions due to transaction costs.

Mathews and Thompson (2008) note that financial intermediaries can be distinguished by four criteria; one is their main category of liabilities (deposits) are specified for a fixed sum which is not related to the performance of a portfolio; second is that the deposits are typically short-term and of a much shorter term than their assets; third, is that a high proportion of their liabilities can be withdrawn on demand; the fourth criteria distinguishing financial intermediaries is that their liabilities and assets are largely not transferrable. However, there are exceptions such as certificates of deposit and securitization.

It is important to distinguish between banks as financial intermediaries accepting deposits and advancing loans directly to borrowers and non-bank financial intermediaries who lend via the purchase of securities. The latter category includes insurance companies, pension funds and investment trusts who purchase securities, thus providing capital indirectly rather than making loans. These types of intermediaries do not meet the four criteria shown above. This study is devoted to banks only. The most significant

contribution of intermediaries is that they provide a steady flow of funds from surplus to deficit units (Mathews and Thompson, 2008)

2.2.4 Modern Theories of Financial Intermediation

In modern theories of financial intermediation, the two most prominent explanations for the existence of intermediaries like depository institutions are the provision of liquidity and the provision of monitoring services (Ramakrishnan and Thakor, 1984). Banks have always been the most important financial intermediaries in virtually all economies. This results from their role as providers of liquidity insurance and monitoring services and as producers of information. By issuing demand deposits, banks can improve on a competitive market because these deposits allow for better risk-sharing among households that face idiosyncratic shocks to their consumption needs over time (Gorton and Pennacchi, 1990). The importance of banks in this framework arises from an information asymmetry; the shock that affects a household's consumption needs is not publicly observable.

Banks are valuable as providers of monitoring services because they act as delegated monitors to investors and thus avoid the duplication of monitoring costs. As for liquidity insurance, the key to the existence of banks in this step is also an information problem. Firms are assumed to have more information about their investment projects than investors do. Investors can learn this information but only after incurring monitoring cost. They may choose, however, to delegate monitoring to a bank, through which they all provide funding to the firm. By acting as delegated monitors of investors, banks save

on monitoring costs and make funding available to firms at a lower cost than direct lending. The provision of liquidity insurance explains the liability side of the bank's balance sheet while provision of monitoring services explains the asset side of the balance sheet (Ramakrishnan and Thakor, 1984).

2.3 Determinants of Financial Performance in Banks

Olweny (2011) argued that interest rate risks can also come in a variety of forms, including repricing risk, yield curve risk and basis risk. The lending rate is composed of other elements that determine what rate the MFIs should charge. This is based on many other elements that will be discussed in this chapter.

2.3.1 Macroeconomic Variables

Ahlin and Lin (2006) used a sample of 112 MFIs from 48 countries for the year 1996-2004. Using panel regression, they focused on four performance measures namely, self-sustainability, default rates cost per borrower and growth in clientele. Then for the macroeconomic variables, they used real per capita income growth rates, inflation, labor force participation rates, manufacturing shares in GDP and net foreign direct investment as a fraction of GDP. The conclusion of their study was that macroeconomic environment was a significant determinant of the financial performance of MFIs.

2.3.2 Population density

Vanroose (2008) in her study took into account all developing countries and identified their respective macroeconomic factors that may explain why the microfinance sector is more developed in some countries while not in others. She studied the sector on an aggregate country level and the findings confirmed that for certain, a country's population density greatly determines the financial performance of the specific Microfinance institutions operating there. And from the previous discussions on this paper, these huge numbers in terms of population are the same clientele for these MFIs in the developing countries.

2.3.3 Level of Financial Development of a Country

Financial development is measured by factors such as size, depth, access, efficiency and stability of a financial system. The market system is made up of its markets, intermediaries, range of assets, institutions and regulations. And so the higher the degree of financial development, the wider the availability of financial services that allows the diversifications of risks, increasing the long run growth curve of a country and ultimately improving the financial performance of MFIs,. Although financial performance is important to foster economic growth (Levine, 2004)

2.3.4 Interest Rate

Okoye 2013, showed a positive relationship between Interest rates and financial performance of MFIs in Nigeria. The study utilized secondary data econometrics in a regression, where time-series and quantitative design were combined and estimated. The result confirmed that the lending rate and monetary policy rate has significant and positive effects on the performance of Nigerian deposit money banks. The implication of these is that lending rate and monetary policy rate are true parameter of measuring bank performance. The lending rate used by MFIs is the actual rate that affects the financial performance of these institutions.

2.4 Empirical Review

Since Bhattacharya and Thakor drew up their research agenda for contemporary banking theory in 1993, risk management and risk transformation in the intermediation process have become a common denominator in the research agenda and risk management has gained attention at both firm level and the macro economy (Hunter and Smith, 2002).

Ahmad (2003) found that management efficiency (MGT) is negatively related to credit risk of conventional banks and positive to Islamic banks. The positive sign of the coefficient in Islamic banking suggests that a higher proportion of earning assets, if not properly managed, would result in higher credit risk. For conventional banks, the negative sign denotes that a lower efficiency in managing its earning assets would lead to a higher credit risk. A possible answer for the opposite signs probably lies in the nature of the earning assets where they are all interest based in conventional banking and loan

default is immediately recognized after 3 months of arrears in interest. In Islamic banking, the earning assets are largely on murabahah and mudarabah mode of financing where credit risk is transferred to its investment depositors and the loan defaulters are not recognized immediately.

According to a study done by Nocco and Stulz (2006), data was collected for all the 138 firms listed in Compustat from 1992-2005. This was supplemented with stock price data from CRSP and 13-F ownership data. In a subset of tests, a variable to measure the sensitivity of the CEO's compensation to the volatility of the stock price was included. The data for these variables comes from ExecuComp, but is only available for the S&P 1500 firms reducing the number of CRO hire firms in the sub sample to 69. The full data set is an unbalanced panel in which CRO hiring are indicated by a dummy variable that takes the value 1 in the year that they are made, and zero otherwise. The distribution of the announcements through time as well as the distribution across industries showed that most CRO hires tend to be in the later part of the sample period, clustered around 1999 and 2002. A substantial portion of the appointments are located in the financial and utility industries.

Adam (2002b) surveyed 100 gold producer companies that were publicly traded in the United States and Canada out of which a sample of 36 constituted the data set for empirical work. The data contained quarterly information from the first quarter of 1993 through the third quarter of 1999 on the risk management instruments held by these firms, including the amount of the firms expected future production and specific information regarding each of the firms hedging positions, for example the strike price and approximate maturity of each option. The Black-Scholes model was used in

computing deltas for each option, and deltas of negative one are assigned to all other short positions while deltas of positive one are assigned to all other long positions. The results confirmed the limited impact of risk management on equity exposure to variations in gold prices.

Al-Tamimi (2002) investigated the degree to which UAE commercial banks use risk management techniques in dealing with different types of risks. The study found that the UAE commercial banks mainly faced credit risk. The study also found that inspection by branch manager and financial statement analysis were the main methods of risk identification. The main techniques according to this study were establishing standards, credit score, credit worthiness analysis, risk taking and collateral. The study also highlighted the willingness of the UAE commercial banks to use the most sophisticated risk management techniques and recommended the adoption of conservative credit policy.

According to a study done by Mwirigi (2006) which examined the credit risk management techniques adopted by microfinance institutions in Kenya, 92% of the respondents used credit management policies as a basis of objective credit appraisal. Credit risk was identified as the most important risk with 80% of the respondents ranking it as the most significant risk among other risks faced by the institutions.

Kioko (2008) did a study on credit risk management techniques of unsecured loans of commercial banks in Kenya and found out that banks used a combination of credit risk management methods for unsecured loans. These findings were also similar to Ngare (2008) who did a study of the credit risk management practices by commercial banks in

Kenya. Oludhe (2011) examined the relationship between credit risk management and the financial performance of commercial banks in Kenya. He used a multiple linear regression model in analyzing his data. Credit risk management was modeled from a CAMEL rating system perspective. His findings were that there is a significant relationship between credit risk management and financial performance.

Korir (2012) studied the effects of credit risk management practices on financial performance of deposit taking microfinance institutions in Kenya. A descriptive survey approach was used to collect data from the respondents of the 36 institutions at the time. The study findings were that deposit taking microfinance institutions adopted various approaches in credit risk management which included capacity/completion, conditions and use of collateral/security and the character of the borrower in screening and risk analysis in an attempt to manage credit risks. A positive relationship was established between credit risk management practices and the financial performance of deposit taking microfinance institutions.

According to a study done by Korir (2014) on the effect of credit risk management on financial performance of deposit taking Microfinance Institutions in Kenya, data was collected from the CBK annual reports (2011-2014) the 9 licensed institutions at the time. Using a multiple regression model, it was established that cost per loan asset, bad debt cost and default rate are significant credit risk indicators with an inverse effect on financial performance.

In his study examining the effects of credit risk management on the financial performance of commercial banks in Kenya, Mutua (2014) utilized a descriptive research

design. A regression model was used utilizing both primary and secondary data obtained from self administered questionnaires and other secondary sources such as published financial reports. The findings were that risk identification, risk analysis, non-performing loans, and loans and advances contributed significantly to the financial performance of commercial banks in Kenya.

2.5 Summary of Literature Review

The Kenyan banking sector has over the years exhibited continued growth. The level of advances which are mainly financed by deposits has also shown an upward trend. Since loans contribute significantly to the balance sheet size, credit risk remains the most important type of risk faced by banking institutions. According to the Basel committee recommendations, banks are expected to provide timely information that allows market participants assess the credit risk profile of banking institutions. Therefore, understanding credit risk and its effect on the financial performance of banks helps in proper risk management of banks.

Most of the studies that have been done previously mainly focus on credit risk management in commercial banks both internationally and locally. Most of the studies examine the credit risk management techniques employed by banking institutions. This study focuses on MFBs in Kenya by seeking to establish the relationship that exists between credit risk management by use of the CAMEL rating system and their financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter introduces us to the research design as well as the methodology that was used to carry out the research. It represents the research design, the population, sample size and the sampling procedure, data collection and data analysis.

3.2 Research Design

The research problem was studied by utilizing the descriptive research design method using secondary data gathered from the annual reports of MFBs in Kenya. This was attributed to the fact that special emphasis was placed on the specific objective about the relationship between independent variables and the dependent variable. Descriptive design was the most appropriate and was been selected to enable the study test the relationship between credit risk management and the financial performance of MFBs.

3.3 Population and Sample

The target population can be defined as a set of individuals, cases/objects with some common observable characteristics that are unique to the particular population. No sampling was employed in this study. Instead, a census of the 9 licensed deposit taking

Microfinance banks in Kenya as at 31st December 2014 was carried out as outlined in the appendix.

3.4 Data Collection

This research mainly utilized secondary data that was obtained from the annual financial reports of the MFBs as well as the CBK Publications on banking sector survey. The study necessitated looking into credit risk management disclosures, financial statements and notes to financial statements within the annual reports of the MFBs. The period of analysis was from year 2012 to 2014. The information collected was as follows; For capital adequacy, Total capital and Total Risk Weighted Assets data were collected from the bank supervision reports. Asset quality entailed collection of Non Performing Loans and Total Loans that were also collected from the bank supervision reports. For management quality, data on Staff Costs and Total Assets were collected from both published annual reports and annual BSR reports. Under Earnings, Net Income and Total Assets data were obtained from the annual BSR Reports. Lastly, liquidity data was obtained by collecting Liquid Cash balances and Total Deposits from both BSR reports and financial statements. Data collection was basically done by picking the relevant figure and then arranging such data in excel manually.

3.5 Data Analysis

A multiple linear regression model was used to analyze the relationship between the dependant variable and multiple independent variables as represented below. This was useful in evaluating credit risk management by utilizing the CAMEL system in relation to financial performance of MFBs. The regression output was obtained by using SPSS as well as MS Excel to confirm the accuracy of the results.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

Where;

Y: ROE-Financial performance indicator

α : the constant term

β : coefficient of the function

X_1 : Capital Adequacy (TC/TRWA)

X_2 : Asset quality (NPLR=Non Performing Loans/Total Loans)

X_3 : Management quality (MGT=Staff Costs/Total Assets)

X_4 : Earnings (Net Income/Total Assets)

X_5 : Liquidity (LQR=Liquid Cash balances/Total Deposits)

ε : the disturbance or error term

In the regression model above, α was the constant value which the dependent variable was predicted to have when the independent variables was equal to zero, whereas β was

the value for the regression equation to predict the variances in dependant variable from the independent variables. This meant that if β coefficient was negative, the predictor or independent variable affects the dependant variable negatively: one unit increase in the independent variable decreased the dependant variable by the coefficient amount. In the same way, if the β coefficient was positive, the dependent variable increased by the coefficient amount. Finally, ε was the disturbance or error term, which expressed the effect of all other variables other than the independent variables on the dependant variable used in this function.

3.6 Operational Definition of Variables

Operational definition is due to the process of operationalization and is engaged to describe something for instance a variable, object or term in terms of a procedure that are needed to determine the existence, quantity and duration. Variables definition are shown on Table 3.1

Table 3.1: Operational Definition of Variables

Objective	Variable	Indicators	Data Analysis Method
To determine the influence of Capital Adequacy	Dependent		Descriptive statistics,
To establish the	Dependent		Descriptive

influence Asset quality			statistics,
To determine the influence of Management quality	Dependent	Increments in total assets	Descriptive statistics,
To examine the influence of Earnings	Dependent		Descriptive statistics,
To examine the influence of Liquidity	Dependent		Descriptive statistics,

3.7 Tests of significance

A test of overall significance of the model was done using the F-test as well as the T-test for significance for the coefficients. Model significance was assessed by comparing the F calculated to the F critical.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis and interpretation. The study sought to establish the relationship between credit risk management and the financial performance of Microfinance Banks in Kenya. To achieve this, the study was guided by the objective: To determine the relationship between credit risk management and the financial performance of Microfinance Banks in Kenya. Secondary data from annual financial reports of the MFBs and CBK supervision reports on banking sector was used and presentation and interpretation is given below through the use multiple regression analysis and Analysis of Variance (ANOVA).

4.2 Descriptive statistics

In order to understand the data used for the analysis, the researcher conducted a descriptive analysis so as to understand the distribution of data. The measures used here included minimum, maximum, mean and standard deviation. The findings are illustrated in the Table 4.1 below:

Table 4. 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
ROE	-24.500000	16.700000	1.31250000	9.016666332
Capital Adequacy	5.000000	310.000000	57.30000000	62.450759734

Asset Quality	.004115	5.600000	.74543843	1.347938036
Management Quality	.030468	.130841	.07583496	.027907497
Earnings	.085366	.307692	.20638084	.057892700
Liquidity	.005971	.576923	.14745117	.154863420

Table 4.1 above presents results of the descriptive statistics of the overview of return on equity by microfinance banks in Kenya for the period 2012 to 2014. From the findings, the minimum ROE during the study period was -24.5 while the maximum was 16.7. The mean was 1.3125 with a standard deviation of 9.0167. For Capital Adequacy it had a minimum score of 5.00 with a maximum of 310, mean of 57.3 with a standard deviation of 62.450. For the Asset Quality, the minimum value was .004115 while the maximum value was 5.6. The mean was 0.7454 with a standard deviation of 1.347.

For the Management Quality, the minimum was .030468 while the maximum value was .130841. The mean was .07583 with a standard deviation of .02790. Earnings had a minimum value of -.085366, maximum of .307, mean of .2063 with a standard deviation of .05789 and finally Liquidity had a minimum of 0.05 and maximum of 0.576923. It had a mean of 0.1474 with a standard deviation of 0.1548. From these findings it shows that the variables in the study were evenly distributed and not skewed to one end.

4.3 Regression Analysis

The study sought to establish the strength of the relationship between financial performance and independent variables (liquidity, management quality, earnings quality, capital adequacy and asset quality). The findings are shown below in Table 4.3:

Table 4. 2: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.933 ^a	.87	.854	4.611

From the findings in Table 4.3, R was 0.933 meaning that there was a positive relationship between all the five credit risk management combined and financial performance. R^2 was 0.87 implying that only 87% of the dependent variable- financial performance variations could be explained by CAMEL indicators while only 13 % of the variations were due to other factors. This implies that the regression model has very good explanatory and predictor grounds as only 13% of the variations in performance could not be explained.

Table 4. 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2070.045	5	414.009	4.48	.018 ^b
	Residual	1662.861	18	92.381		
	Total	1869.906	23			

From the findings in Table 4.4, the results show that the model had an F ratio of 4.48 and the p value was $0.018 < 0.05$, implying that the F ratio was statistically significant, therefore the overall regression model for all the five variables were statistically significant and can be used for prediction purposes at 5 % significance level, this further indicate that the variables (liquidity, management quality, earnings quality, capital adequacy and asset quality) used in this study are statistically significant.

Table 4. 4: Summary of Coefficient Results

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.425	9.282		0.907	.572
	Capital Adequacy	-1.026	.034	-0.182	-3.01	.000
	Asset Quality	-1.037	1.550	0.155	-0.669	.212
	Management Quality	-13.010	73.909	8.040	-0.176	.662
	Earnings	1.387	35.446	1.054	-0.038	.000
	Liquidity	2.199	14.725	1.364	0.1440	.467

The regression model becomes:

$$Y = 8.425 - 1.026 X_1 - 1.037 X_2 - 13.01 X_3 + 1.387 X_4 + 2.199 X_5$$

The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large

effect on the criterion variable. The t and (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. At 5% level of significance and 95% level of confidence system Capital Adequacy, had a coefficient value of -1.026 levels, Asset Quality had a -1.037, Management Quality was at -13.01, Earnings had a coefficient of 1.387 and Liquidity had a coefficient of 2.199. Thus we conclude that Capital Adequacy, Asset Quality and Management Quality had inverse relationship to overall financial performance of the Microfinance Banks in Kenya.

4.4 Correlation Analysis

The study sought to establish whether there was linearity between independent and dependent variables. The average values of the data sets were used for the three year period (2012 – 2014). The results are presented on table 4.2:

Table 4. 5: Correlation Analysis

		ROE	Capital Adequacy	Asset Quality	Management Quality	Earnings	Liquidity
ROE	Pearson Correlation	1					
	Sig. (2-tailed)						
Capital	Pearson	-	1				

Adequacy	Correlation	.054					
	Sig. (2-tailed)	.001					
Asset Quality	Pearson Correlation	.063	.083	1			
	Sig. (2-tailed)	.017	.700				
Management Quality	Pearson Correlation	-.019	-.022	.089	1		
	Sig. (2-tailed)	.009	.919	.678			
Earnings	Pearson Correlation	.62	-.005	-.034	.069	1	
	Sig. (2-tailed)	.012	.980	.876	.749		
Liquidity	Pearson Correlation	.254	.318	-.227	-.202	.173	1
	Sig. (2-tailed)	.003	.130	.286	.344	.418	

As indicated in Table 4.2 capital adequacy had a correlation coefficient of -0.054 at $p=0.001$ with financial performance. The correlation coefficient between asset quality and financial performance is 0.063 at $p=0.017$. Management quality had -0.019

correlation with financial performance at $p=0.009$, correlation between earnings quality and financial performance was 0.62 at $p=0.012$ and correlation between liquidity and financial performance was 0.254 at $p=0.0032$.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the summary of findings, conclusions drawn from the data findings. In addition, it presents the recommendations of the study. All this had been geared toward achieving the objective of the study.

5.2 Summary of the findings

The study found out that Correlation matrix of the CAMEL indicators to financial performance showed different results where capital adequacy has values of $R=-0.054$ at $p=0.001$. This implies that capital adequacy has a weak relationship with financial performance of microfinance banks in Kenya. Asset quality had values of $R=-0.063$ at $p=0.017$ revealing that there also exists a weak relationship between asset quality and financial performance of microfinance banks in Kenya. Management efficiency ($R=-0.019$, $p=0.009$) had an average relationship with financial performance. Earnings quality on the other hand, had a strong relationship with financial performance with the values being $R=0.62$ at $p=0.012$. Liquidity on the other hand had a weak relationship with financial performance ($R=0.254$; $p=0.0032$).

The study found that there is a significant impact between the CAMEL components on the financial performance of microfinance banks in Kenya. The value for R^2 for the regression model was 0.87 which means that CAMEL components explain 87 percent

variations in the financial performance of MFBs in Kenya. The CAMEL rating system can thus be used as a credit risk management indicator in the determination of financial performance of MFBs in Kenya.

5.3 Conclusions

The study established that credit risk management by use of CAMEL indicators has a strong impact on the financial performance of MFBs in Kenya. This study therefore concludes that CAMEL model can be used as a proxy for credit risk management. The CAMEL indicators in this study had strong impact on the financial performance with the CAMEL components being able to explain variations of up to 87 percent on financial performance of MFBs.

The study also established the relationship between credit risk management proxied by CAMEL indicators and financial performance of MFBs in Kenya. The study concludes that capital adequacy, asset quality, management efficiency and liquidity have weak relationship with financial performance of MFBs in Kenya. Earnings have a strong relationship with financial performance. This is because earnings determine the ability of a bank to increase capital, absorb loan losses, support the future growth of assets, and provide a return to investors. Thus, as each shilling invested in assets increases its revenues generation, the financial performance of MFBs increase.

5.4 Limitations of the Study

A limitation for the purpose of this research was regarded as a factor that was present and contributed to the researcher getting either inadequate information or if otherwise the response given would have been totally different from what the researcher expected. The main limitations of this study were:

The researcher used secondary data which was collected from The Central Bank of Kenya supervision reports and financial reports from the MFBs. In this regard, the veracity of the research findings was in essence affected by the reliability and accuracy of the reported information by the CBK.

The study focused on credit risk management by microfinance banks. However, other factors exist which in one way or another contribute to credit risk management by MFBs which were disregarded in this study.

The researcher only used five independent variables in the study and only concentrated on financial performance effects. The effects of other variables on credit risk management were not addressed by this study.

5.5 Recommendations

5.5.1 Policy Recommendations

The study recommends that MFBs should also try to keep their operational cost low as this negates their profits margin thus leading to low financial performance. This is

depicted by the strong effect of earnings on financial performance. MFBs should also check their credit policy and practices. By this they would reduce loss on nonperforming loans which raises their expenses and consequent reduction in financial performance.

The study further recommends that in order for MFBs to remain financially stable and flourish in the industry they must adopt viable credit risk management practices that will help in sustaining their financial performance.

The study recommends that organizations should enhance credit risk management practices which include portfolio asset quality/portfolio management, MFBs loan policy procedure, risk monitoring, risk analysis and assessment, credit scoring mechanism.

5.6 Suggestion for further Studies

The study suggests that a further study can be done on the impact of credit risk management by use of CAMEL indicators on the financial performance of other financial institutions like the commercial banks institutions and SACCOs. This is to ascertain if the CAMEL model can be applied as a proxy for credit risk management on the other financial institutions in the Kenyan market.

Further studies can also be undertaken on risk management practices in financial institutions in Kenya whereby the study will aim to investigate on the awareness about risk management practices.

The study can comprise of data collected through both, primary as well as secondary sources with the purpose of using primary source data being to check the extent to which different risk management practices are being applied by MFBs.

REFERENCES

- Adam, T. (2002b). *Why firms use non-linear hedging strategies*. Working Paper, Hong Kong: University of Science & Technology.
- Ahlin, C., J. Lin & Maio, M. (2008). *Where does Microfinance Flourish? Microfinance Institutions' Performance in Macroeconomic Context*, Unpublished Working Paper, Michigan State University, Michigan.
- Ahmad, N. H. (2003). *Formation of Credit Risk, Price Effect of Regulatory Changes and the Path linking Credit Risk and Total Risk*. Ph.D Dissertation, University Utara, Malaysia.
- Al-Tamimi, H. (2002). *Risk Management Practices: An Empirical Analysis of the UAE Commercial Banks*. *Finance India*, 3, 1045-1057.
- Basel. (1999) *Principles for the management of Credit Risk*. Basel Committee on Banking Supervision, Basel.
- Basel II. (2004) *Bank Failures in Modern Economies*. Basel Committee on Banking Supervision, Basel.
- Bhattacharya, B. & Sinha Roy, T. N. (2008). *Macroeconomic Determinants of Asset Quality of Indian Public Sector Banks: A Recursive VAR Approach*. *The IUP Journal of Bank Management* 1, 20-40.
- Brealey, R. A. & Myers, S. C. (2003). *Financing and Risk Management*. Graw-Hill Professional

Central Bank of Kenya, (2005).Risk Management Survey for the Banking Sector. CBK, Nairobi.

Central Bank of Kenya, (2010).Risk Management Survey for the Banking Sector. CBK, Nairobi.

Central Bank of Kenya, (2010).Bank Supervision Annual Report.CBK, Nairobi.

Central Bank of Kenya, (2013).Bank Supervision Annual Report.CBK, Nairobi.

Central Bank of Kenya, (2014).Bank Supervision Annual Report.CBK, Nairobi.

Chege, S. W. (2010). The Relationship between Credit Risk Management Practices and Financial Performance of Microfinance Institutions in Kenya. Unpublished MBA Dissertation, University of Nairobi, Nairobi.

Economist Intelligence Unit. (2005). The Evolving role of the CRO, The Economist Intelligence Unit, London/New York/Hong Kong (May).

Gasbarro, D., Sadguna I. M., & Zimwalt J. K. (2002).The Changing Relationship between CAMEL Ratings and Bank Soundness during the Indonesian Banking Crisis. *Review of Quantitative Finance and Accounting 19: 247-260.*

Gurley, J., & Shaw, E. (1960). Money in a Theory of Finance. Washington D.C: Brookings.

- Gatuhu, R. N. (2013). The effect of Credit Management on the Financial Performance of Microfinance Institutions in Kenya. Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Gatzert, N., & Martin, M. (2015), Determinants and Value of Enterprise Risk Management: Empirical Evidence From the Literature. *Risk Management and Insurance Review*, 18: 29–53.
- Gorton, G., & Pennacchi, G. (1990). Money Market Funds and Finance Companies: Are they the Banks of the Future? Structural Change in Banking, M. Klausner and L. White, eds. Homewood, Illinois: Irwin, 173-214.
- Hays, F.H., De Lurgio, S. A., & Gilbert, A. H. (2009). Efficiency Ratios and Community Bank Performance. *Journal of Finance and Accountancy* 1, 1-15.
- Hunter, W. C., & Smith, S. D. (2002). Risk Management in the Global Economy: A Review Essay. *Journal of Banking and Finance* 26,205-221.
- Kioko, K. T. (2008). A Survey of Credit Risk Management Techniques of Unsecured Bank Loans of Commercial Banks in Kenya, Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Korir, M. K. (2012). Effects of Credit Risk Management Practices on the Financial Performance of Deposit Taking Microfinance Institutions in Kenya, Unpublished MBA Dissertation, University of Nairobi, Nairobi.

- Korir, S. (2014). The Effect of Credit Risk Management on the Financial Performance of Deposit Taking Microfinance Institutions in Kenya, Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Mutua, D. M. (2014). Effect of Credit Risk Management on the Financial Performance of Commercial Banks in Kenya, Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Mwirigi, P. K. (2006). An Assessment of Credit Risk Management Techniques Adopted by MFIs in Kenya, Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Njanike, K. (2009). The impact of effective credit risk management on bank survival. *Annals of the University of Petroşani. Economics Journal*, 9(2), 173-184 173.
- Nocco, B. W. & Stulz, R. M. (2006). Enterprise Risk Management: Theory and Practice. *Journal of Applied Corporate Finance*, 18: 8–20.
- Oludhe, J. (2011). The impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. Unpublished MBA Dissertation, University of Nairobi, Nairobi.
- Olweny, T. (2011). Modelling Volatility of Short -Term Interest Rates in Kenya. *International Journal of Business and Social Science*, 2(7), 289-303.
- Ramakrishnan, R. T. S., & Thakor, A. V. (1984). Information Reliability and a Theory of Financial Intermediation. *Review of Economic Studies* 51, 415-432.

- Reed E. W., & Gill E. K. (1989). *Commercial Banking*. 4th Edition, Prentice Hall: New Jersey, USA.
- Tandelilin, E., Kaaro, H., Mahadwartha, P. A., & Supriyatna, K. (2007). *Corporate Governance, Risk Management, and Bank Performance: Does Type of Ownership Matter? Final Report of an EADN Individual Research Grant Project*.
- Tufano, P. (1996). Who Manages Risk? An Empirical Examination of Risk Management Practices in the Gold Mining Industry. *Journal of Finance* 51, 1097-1137.
- Vanroose, A. (2008). What Macro Factors Make Microfinance Institutions Reach Out? *Savings and Development*. 32(3), 153-174.
- Wasankar, P. (2009). *Industry Insight – Selecting Stocks from Banking*. Wasankar Training Institute: India.
- Waweru, N. M. & Kalani, V. M. (2009). Commercial Banking Crises in Kenya: Causes and Remedies. *African Journal of accounting, Economics, Finance and Banking Research*, 4 (4), 12 – 33.
- Zeze, O. S. (2012). *The Relationship between Credit Risk Management Practices and Financial Performance of Commercial Banks in Liberia*. Unpublished MBA Dissertation, University of Nairobi, Nairobi.

APPENDICES

APPENDIX I: List of Microfinance Banks in Kenya

- i. Faulu Microfinance Bank Ltd
- ii. Kenya Women Microfinance Bank Ltd
- iii. SMEP Microfinance Bank Ltd
- iv. Remu Microfinance Bank Ltd
- v. Rafiki Microfinance Bank Ltd
- vi. Uwezo Microfinance Bank Ltd
- vii. Century Microfinance Bank Ltd
- viii. Sumac Microfinance Bank Ltd
- ix. U&I Microfinance Bank Ltd

Source: CBK

APPENDIX II: DATA

	Total Assets			Net Income			Non Performing Loans		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
FAULU KENYA	7638	12434	26985	1688	2362	6433	87	191	651
KWFT	20384	21752	20320	4993	5813	3882	461	591	344
SMEP	2290	2490	5975	606	618	970	146	48	231
REMU	181	337	2378	26	46	654	7	24	27
RAFIKI	1838	3679	395	226	555	69	65	147	28
UWEZO	78	107	390	24	24	108	1	14	29
CENTURY	-	164	231	-	14	32	-	1	3
SUMAC	-	307	160	-	80	37	-	6	21
U & I	-	80	137	-	16	27	-	1	2

	Capital Adequacy (%)			Staff Cost			Liquid Cash Balance		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
FAULU KENYA	17	5	25	520	606	2370	175	480	2148
KWFT	17	15.8	23	1935	2132	1057	1028	1032	297

SMEP	56	39	24	203	229	300	14	71	207
REMU	81	60	31	17	22	262	5	12	77
RAFIKI	12	18	79	56	168	29	22	212	17
UWEZO	88	66	51	6	14	14	1	1	31
CENTURY	-	60	38.4	-	21	22	-	9	22
SUMAC	-	61	53	-	12	15	-	24	10
U & I	-	310	145	-	5	8	-	9	30

	Total Capital			Total Loans			Total Deposits		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
FAULU KENYA	757	828	3486	2162	2090	4216	4465	8684	13987
KWFT	2703	3512	5236	7869	4995	1339	9354	12954	17076
SMEP	620	630	452	617	511	958	1014	1274	977
REMU	103	133	206	434	16	396	68	183	175
RAFIKI	139	687	1093	372	754	5	485	1419	2847
UWEZO	51	62	78	243	5	68	22	32	64
CENTURY	-	90	76	-	8	11	-	66	135
SUMAC	-	179	185	-	3	7	-	99	128
U & I	-	45	83	-	4	12	-	34	52

	Return on equity (ROE)		
	2012	2013	2014
FAULU KENYA	-24.5	2	7.1
KWFT	16.7	13.1	8.2
SMEP	1.6	6.2	10.3
REMU	-13.6	-7.4	3.2
RAFIKI	-11.4	3.6	3.1
UWEZO	-10	5.5	2.4
CENTURY	5.6	2.3	1.6
SUMAC	3	2.1	0.8
U & I	-	-	-