

**Influence of Financial Risk Factors on Financial Performance of Microfinance
Institutions in Kenya**

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**A Research Thesis submitted in partial fulfillment of the requirements for a ward of
the degree of Master's in Business Administration (Finance Option) of Masinde
Muliro University of Science and Technology**

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DECLARATION AND CERTIFICATION

This Thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

Signed.....

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology of a Proposal entitled, '*Influence of Financial Risk Factors on Financial Performance of Microfinance Institutions in Kenya.*'

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DEDICATION

This Thesis is dedicated to my parents there for the moral and financial support.

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I would like thank the Almighty God for the grace that led this academic journey manageable. I thank my research supervisors Dr Maniagi and Dr Nelima who have guided me all along making this proposal a success. I thank my MBA classmates for cooperation during class sessions. I extend my appreciations to Masinde Muliro University of Science and technology lecturers and subordinate staffs who at one point contributed to my easy study at the institution.

ABSTRACT

MFIs services and activities in the Kenya have helped the country to reduce its rate of poverty but the country still among the poorest in the world. According to AMFI while over the time credit-only institutions have been slowly improving, deposit taking microfinance institutions improved in 2019-2020 but then worsened slightly in 2020-2021. Microfinance institutions in Kenya have also reported liquidity pressure in terms of pricing since they have less flexibility to adjust prices due to their financial structure. The main objective of the study is to establish the Influence of financial Risk Factors on financial performance of Microfinance Institutions in Kenya. The study specifically established the influence of capital risk on financial performance of Microfinance Institutions in Kenya, to determine the influence of liquidity risk on financial performance of Microfinance Institutions in Kenya, to find out the influence of credit risk on financial performance of Microfinance Institutions in Kenya and to examine the moderating effect of microfinance size on the relationship between risk factors and financial performance of Microfinance Institutions in Kenya. The study used descriptive survey research design; use a target population of 12 MFIs listed under CBK. The study used census approach to sample the entire population. The study used secondary data of published CBK reports of a 7-year period of 2015-2021. Descriptive statistics comprised of skewness, kurtosis and jarque berra. Inferential statistics used was Pearson correlation and hierarchical regression. A study on financial risk factors and financial performance may be of value to the government on policy formation. The microfinance act policy formulators can use the study to ascertain contagious issues that needs address especially how to handle liquidity challenges. The study may assist management of microfinance institutions in establishing the problem facing financial risk factors in their sector. Capital risk had a significant positive effect on financial performance of Nairobi Securities Exchange in Kenya 0.000 ($p < 0.05$). Liquidity risk had a significant positive effect on financial performance of Nairobi Securities Exchange in Kenya $p = 0.000$ ($p < 0.05$). Credit risk had a significant positive effect on financial performance of Nairobi Securities Exchange in Kenya 0.000 ($p < 0.05$). Panel data Pearson correlation results show that microfinance size had a positive significant relationship between financial risk factors and financial performance $p = 0.0086$ ($p < 0.05$). The study rejected H_{01} - H_{04} . The findings guided following recommendations: It was found capital risk to be significant on financial performance hence microfinance firms should improve their assets so as to minimize risks associated to firm capital base. It was found that found liquidity risk to be significant on financial performance hence microfinance firms should manage cash inflow and outflows. It was found that found credit risk to be significant on financial performance hence microfinance firms should check on loan performance and minimize cases of loan non performance by managing credit terms. It was found that found microfinance size had a moderating significant influence hence microfinance firms should diverse there asset base to enable performance.

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ABBREVIATIONS AND ACRONYMS

DRC-Democratic Republic of Congo

EPS-Earnings Per Share

FSS -Financial Self-Sufficiency

KWFT- Kenya Women Finance Trust

LAR -Loan to total assets ratio

MFI-Microfinance Institutions

MSEs- Micro and Small Enterprises

OSS -Operational Self-Sufficiency

ROA- Return on Assets

ROE- return on equity

SMEP- Small and Medium Enterprise Programme

SPSS-Statistical Package for Social Science

OPERATIONAL DEFINITION OF TERMS

Capital risk-	This refers to the market and operational related risks that are monitored for safety purposes on the lending firm.
Credit risk-	Regulation implemented to mitigate the potential financial detriment that a lender may incur as a result of a borrower's non-compliance with the stipulations and provisions outlined in the credit or loan agreement.
Financial Performance-	refers to the systematic evaluation of a company's policies and activities, wherein the outcomes are quantified in monetary terms within a specified timeframe.
Financial risk-	This are regulatory guidelines provided to financial institutions to help direct them on service execution on liquidity risk, capital risk and credit risks.
Liquidity risk-	It's a system for controlling how well financial organizations may respond to customer requests for money by weighing potential risks. Liquidity risk emerges when a microfinance institution encounters difficulties in promptly and efficiently fulfilling its financial needs and payment commitments.
Microfinance size-	This refers to how large or small a microfinance firm is, it's ascertained through number of customers, assets owned and deposits done.
Microfinance institution-	It is one way to help the poor, who are often overlooked by commercial banks and other loan institutions, build up their skills and move on to self-employment that will last by giving them credit,

savings accounts, and insurance.

CHAPTER ONE

INTRODUCTION

1.1 Background

Financial sector policies have laid foundation on microfinance sector which was operating without legal formalities compared to banks. According to the World Bank (2016), MFIs services and activities in the Kenya have helped the country to reduce its rate of poverty but the country still among the poorest in the world.

There have been investigations into financial hazards. Globally, for instance in Qatar, Achou and Tengue (2018) observed that improved credit risk management leads to enhanced microfinance performance. They concluded that it is crucial for microfinance institutions to implement sound credit risk management in order to protect investors' interests and safeguard their assets. Achou and Tengue (2018) demonstrated further that microfinance institutions with strong credit risk management policies have a reduced loan default rate.

In Pakistan, a study by Hamza (2017) on impacts of CRM on banks performance was carried for a period 2005-2014 on 13 commercial banks. Using pooled regression model bank performance was proxied by ROA and ROE, while CRM was measured by LLPR, CAR, liquidity ratio, NPLR, loan and advances ratio and bank size. The study results indicated that CRM is inversely associated with bank performance measured by ROA and ROE and have significant impact. However, this study was conducted in a developed

country and therefore the current study sought to use panel data to carry out investigation on MFIs in Kenya.

Nasrin et al. (2017) analyzed the financial health of MFIs in Bangladesh between the years 2007 and 2013. Two key financial metrics, portfolio yield and profit margin, were the focus of the study. Financial self-sufficiency (FSS), operational self-sufficiency (OSS), and return on assets (ROA) are all also relevant measures of financial performance that were left out of this analysis. Because of this omission, the results of the study could be misleading.

Regionally in DRC, since 1970s MFIs have been working as unregulated entities and have served efficiently and effectively a large target population (OECD, 2015). Furthermore, a study conducted by Kargi (2018) on microfinance institutions in Nigeria during the period of 2014 to 2018 revealed a significant correlation between the performance of these institutions and their management of credit risk. The researcher discovered that non-performing loans and loans and advances play significant roles in determining the asset quality of microfinance institutions.

According to Owusu's (2018) study on credit practices in microfinance institutions in Ghana, it was found that the utilization of credit evaluation methods did not sufficiently assess credit risk in order to inform effective decision-making. Therefore, according to the guidelines provided, it is advised that a thorough evaluation of the credit amount be conducted for designated projects in order to ensure prudent allocation of funds. In order to enhance the accessibility of funds, it is imperative to address the difficulties associated with capital and collateral availability. One effective method to ensure the successful

recovery of loaned funds is to obtain loan insurance. This approach offers a straightforward method for addressing the issue of safeguarding depositor cash.

Tilahun and Dereje (2017) conducted a study to evaluate the financial performance of microfinance institutions (MFIs) in Ethiopia. The research design employed in this study was descriptive in nature. The study's findings indicated a correlation between the decrease in the gross loan portfolio and a negative shift in performance measures. The research also revealed an increase in the portfolio at risk between 2011 and 2016, suggesting a loss in the quality of the portfolio. Additionally, the study saw a decrease in the number of active borrowers during this period, despite an increase in the number of staff members inside the microfinance institution.

The maintenance of a stable micro banking system relies heavily on the presence of a well-functioning microfinance business. The ability of microfinance institutions (MFIs) to withstand adverse events is compromised by their inadequate financial performance, leading to a decline in solvency (Yenesew, 2014). Enhanced financial performance enables lenders to recuperate their whole investment or generate profits, while also establishing institutions that can maintain their operations for a significant duration without ongoing dependence on government subsidies or donor contributions. The financial performance of microfinance institutions (MFIs) is contingent upon the degree to which service consumers bear the direct costs of service provision (Adhikary, 2014). Microfinance institutions' bottom lines are affected by a number of different factors, the

most important of which are their operational effectiveness, capital levels, liquidity risk, credit risk, and size.

Capital refers to the quantity of internal financial resources that a bank possesses, which serves to sustain its operations and function as a safeguard in the event of unfavorable circumstances. Capital has a crucial role in generating liquidity for financial institutions, as it primarily consists of funds deposited by individuals, which can be withdrawn on demand (Dang, 2011). A greater capital to asset ratio indicates that the organization has sufficient cash to offset the loss or to absorb future losses while remaining financially sustainable in the event of asset loss (Adhikary, 2014). In the context of information asymmetry, it is possible for a bank with substantial capital to effectively communicate to the market that it is likely to achieve a performance that exceeds the average level (Kahiga, 2014). The measurement of capital level/risk is often represented by the ratio of microfinance institution (MFI) equity to total assets.

The ability of financial institutions to meet demands for funds is known as liquidity. Microfinance institutions face liquidity risk when they can't meet their cash needs or their payment obligations quickly and cheaply enough to meet their contractual obligations (Idama et al., 2014). Microfinance institutions (MFIs) that have insufficient liquidity may be more vulnerable to future uncertainties, delays in refinancing, difficulties in reaching growth expectations, and an increased risk in their loan portfolios (Brom, 2009). In order to mitigate liquidity risk, it is imperative for every branch of a microfinance bank to develop a daily fund plan. This plan serves as a framework for effectively aligning the cash inflows generated from loan repayments and savings deposits with the cash outflows required by the branch on a daily basis (Idama et al., 2014). When evaluating an MFI's

financial health, the Loan to Total Assets Ratio (LAR) is frequently used. It measures how much of a company's resources are devoted to making loans (Adhikary, 2014).

Effective credit management practices can lead to a decrease in the amount of capital tied up with debtors, as well as a reduction in the likelihood of encountering bad debts. Credit risk refers to the potential financial detriment that a lender may experience as a result of a borrower's inability to fulfill their obligations as outlined in the credit or loan agreement. According to Sule (2012), the implementation of sound credit risk management practices leads to enhanced profitability and decreased likelihood of insolvency. Credit risk extends beyond the loan portfolio of microfinance banks and can manifest in their various assets and activities. The profitability and overall performance of financial institutions are significantly impacted by credit risk, which stands as a prominent threat to the long-term viability of microfinance banks. Therefore, the management of credit risk is a crucial component of the operational strategies employed by microfinance banks, necessitating significant operational endeavors to mitigate these risks (Idama et al., 2014).

The size of an organization significantly influences the nature of its relationships both internally and externally, hence impacting its financial performance. According to Kahiga (2014), the contemporary theory of intermediation suggests that there are potential efficiency advantages associated with the size of financial institutions, which can be attributed to economies of scale. Smaller microfinance institutions have a distinct disadvantage as they grapple with the challenge of meeting the industry's substantial operational expenses and expanding their product offerings to effectively compete with larger microfinance providers (Muriu, 2011). Moreover, it is worth noting that larger organizations exhibit a higher degree of diversification compared to smaller firms, which

consequently grants them greater market power. Additionally, during periods of economic prosperity, larger firms tend to possess a significantly larger amount of organizational slack (Addisalem, 2015). The measurement of an institution's economies or diseconomies of scale is typically represented by its size, with the natural logarithm of total assets of Microfinance Institutions (MFIs) commonly utilized as a size proxy (Cull et al., 2007).

In Kenya, microfinance institutions (MFIs) encounter significant challenges in establishing an optimal credit risk management framework to mitigate the danger of elevated default rates. Hence, it appears highly challenging for them to effectively execute credit risk management protocols such as debt collection methods, customer evaluation, and other strategies that could potentially mitigate client default occurrences. According to Kitheka (2012), the effective implementation of a well-organized structure enables microfinance institutions (MFIs) to utilize credit risk management strategies effectively, hence mitigating the danger of high default rates and ensuring financial viability. Although Kenyan MFIs have put in place the necessary standards for credit risk management, Silikhe's (2018) research shows that loan recovery continues to be a serious difficulty for the vast majority of them.

Njiru (2013) surveyed Embu cooperative farmers to better understand how cooperatives there handle credit risk. It was found that none of the Embu Saccos used any quantitative methods to determine a member's trustworthiness. The author concludes that insider transactions, biased lending practices, and external influences all point to a lack of expertise in the field of credit risk management. Kithinji (2020) did a study on the

Kenyan microfinance business and found that financial sector policies have an indirect effect on the financial performance of Microfinance Institutions (MFIs).

Njenje and Bengi (2016) analyzed the financial factors impacting the growth of MFIs in the Bahati Sub-county of Nairobi County. The research showed that higher levels of financial education were associated with a greater number of microfinance institutions (MFIs). No statistically significant link between interest rates and MFI expansion was seen in this study.

1.1.2 Financial Performance

Financial performance refers to the evaluation of an organization's success in relation to its objectives, policies, and operational activities, as expressed in monetary terms. The concept pertains to the fiscal well-being and might be subjected to comparative analysis among analogous enterprises inside the identical sector (Agola, 2014). The financial performance of a firm is a significant determinant that shapes its competitiveness, business potential, and economic interests of its management. It also influences the reliability of current and future contractors (Dufera, 2010). In the context of microfinance institutions (MFIs), financial performance refers to the MFI's capacity to sustain its microfinance objectives without relying on donor funding (Thapa, 2018). The primary objective of each microfinance institution is to achieve profitability in its operations, thereby ensuring stability and fostering sustainability and expansion (Agola, 2014). Therefore, it is imperative for Microfinance Institutions (MFIs) to strive for optimal performance across several dimensions, encompassing both social and economic aspects (Jørgensen, 2011). Financial performance analysis refers to the evaluation of the viability,

stability, and profitability of a company, subsidiary, or project (Bhunia, Mukhuti, & Gautam, 2011). The shareholders are rewarded for their investment through positive financial performance (Ongore & Gemechu, 2013). The assessment of a firm's financial performance, as perceived by the shareholder, is quantified by the improvement in the shareholder's financial position at the conclusion of a given period compared to the initial state. Financial statement ratios (such as those found on the balance sheet and income statement) and stock market data can also be used for this purpose (Baraza, 2014). Profit after tax, return on assets, return on equity, earnings per share, and any accepted market value ratio can all be used to gauge a company's financial health and success. (Yenesew, 2014). The ROA ratio holds significant importance as a financial performance metric due to its ability to gauge the efficacy of a company in effectively managing its asset investments and utilizing them to produce profits (Jorgensen, 2011).

1.1.3 Microfinance Institutions in Kenya

Microfinance is a strategy employed to enhance the capabilities of economically disadvantaged individuals who are often neglected by traditional banking institutions, such as commercial banks, by offering them financial services such as credit, savings, and insurance. This approach aims to facilitate the transition of these individuals towards sustainable self-employment endeavors (Anand & Kanwal, 2011). Microfinance is commonly linked to initiatives that provide assistance to individuals facing severe subsistence challenges in developing nations. For an extended period, the field of microfinance has been closely associated with microcredit, which entails providing small loans without conventional collateral, with the objective of enhancing the well-being of

borrowers and their families, or supporting small-scale business endeavors (Addisalem, 2015).

The viability of poor individuals as clients in the Microfinance sector has been substantiated, provided that their financing is approached in a suitable manner. This necessitates the mitigation of moral hazard, adverse selection, and other agency difficulties (Dokulilova, Janda, & Zetek, 2009). Microfinance plays a crucial role in enhancing the economic endeavors of individuals belonging to the low-income demographic, so making a significant contribution towards the alleviation of poverty (Almas & Mukhtar, 2014). Nevertheless, microfinance institutions (MFIs) face the challenge of the microfinance schism, including two essential prerequisites. The concept of poverty alleviation, referred to as social performance, is advocated by welfarists. On the other hand, institutionalists argue in favor of the economic requirements of profitability and viability of institutions, known as financial performance (Berguiga, 2008). The school maintains that the primary objective of microfinance is to achieve financial deepening. The objective is to establish an independent framework for sustainable financial intermediation that caters to the needs of the impoverished population, who are either marginalized or inadequately served by the conventional financial system. In contrast, the welfare approach prioritizes the extent of client coverage, measured by the number of individuals reached, rather than the amount of poverty experienced by these clients. Additionally, this method is characterized by its acceptance of ongoing subsidies (Yenesew, 2014). The microfinance business in Kenya exhibits a high level of dynamism within the Sub-Saharan African region. The organization encompasses a wide range of institutional structures and an extensive

network of branches aimed at providing services to individuals with limited financial resources (FSD Kenya, 2012). The Microfinance Act of 2006 and the Microfinance Regulations of 2008 are the two primary pieces of legislation in Kenya that are responsible for laying the groundwork for the nation's microfinance industry. (Association of Microfinance Institutions, 2013). Due to numerous constraints that have hindered the development of Kenya's banking and financial sector, there is a growing need for microfinance in the country. The structure and composition of Kenya's banking and financial sector has been profoundly influenced by key constraints, such as the lack of adequate regulation and governance necessary to improve the quality of banking and finance, and the conservative commercial business practices adopted by profit-oriented banking institutions (Alastair, 2015).

Microfinance businesses that hold themselves up to customers as banks in order to solicit deposits are considered "deposit-taking microfinance businesses" under the Microfinance Act of 2006. According to the Microfinance Act of 2006, microfinance banks are subject to their own set of rules and regulations. They are not technically banks, but they fall under the Central Bank's prudential supervision just the same. This is because they use consumer deposits to fund their own lending activities, without the need for outside investors (Alastair, 2015). Accepting demand deposits, as stated by Alastair (2015), is a common practice among microfinance banks. These deposits are then converted into lending capital.

The microfinance business in Kenya exhibits significant dynamism within the context of Sub-Saharan Africa. The program encompasses a diverse range of financial institution structures and an extensive branch network aimed at catering to individuals with limited

financial resources. The regulation of microfinance activities in Kenya was initiated in 2006 with the implementation of the Microfinance Act of that year. After the implementation of the Microfinance Act in Kenya, several pre-existing Microfinance Institutions (MFIs) submitted applications for licenses that would enable them to accept deposits from both their members and the wider public. The primary objective of the microfinance act was to govern and oversee the establishment, activities, and operations of microfinance institutions (MFIs) in Kenya by means of licensing and monitoring. According to Ayele (2014), Kenya is first in Africa and fifth in the world when it comes to microfinance activities. About 250 MFIs make up Kenya's microfinance sector, although only 56 are formally recognized by the industry's regulatory body, the Association of Microfinance Institutions.

In December 2015, there were 12 microfinance organizations in Kenya, and all of them were open to new depositors. Among the most prestigious organizations in this field are Faulu Kenya, the Kenya Women Finance Trust (KWFT), the Small and Medium Enterprise Programme (SMEP), the Rafiki Microfinance Bank, the Century MFI, the Sumac MFI bank limited, and the Uwezo MFI. The primary focus of Kenya's microfinance business is on providing financial services to low-income Kenyans and MSEs involved in non-agricultural productive activities. To the joy of micro and small enterprises (MSEs), microfinance institutions (MFIs) have seen tremendous development throughout time (Gibson, 2012). Assets in the microfinance industry as a whole have been growing steadily over the past few years, as reported by Agola (2014). The financial sector is currently led by banks.

1.2 Problem statement

The World Bank (2016) reports that MFI services and operations in Kenya have contributed to a decrease in the poverty rate, but that Kenya is still one of the world's poorest countries. Based on the findings of AMFI (2018), it can be shown that credit-only institutions have exhibited gradual enhancements over a period of time. Conversely, deposit taking microfinance institutions demonstrated improvements throughout the period of 2019-2020, followed by a subsequent decline in performance during 2020-2021. According to a report by the International Microfinance Institutions (IMFI, 2019), microfinance institutions in Kenya have encountered challenges related to liquidity pressure and pricing. These institutions face limitations in their ability to modify prices due to the constraints imposed by their financial structure. In the Kenyan context, there has been a significant surge in non-performing loans within the microfinance institutions (MFIs) sector during the past twenty years. This trend has subsequently resulted in the emergence of challenges related to liquidity management. Consequently, the investment choices made by the organization are adversely impacted, resulting in subpar financial performance of the Microfinance Institution (AMFI, 2013).

According to the findings of a study conducted by Biwott and Muturi (2014), it was observed that capital risk and credit risk exhibited the most significant positive impact on the performance of microfinance firms. According to a study conducted by Kimando, Kihoro, and Njogu (2012), it was found that financial risk factors, specifically those related to liquidity and credit risk, had a significant adverse impact on the sustainability of microfinance firms. Additionally, it was observed by Kariuki and Wafula (2016) that capital risk exhibited a favorable impact on the financial performance of microfinance

institutions (MFIs), but Yahaya, Mansor, and Okazaki (2016) discovered that capital risk had no significant affect on performance.

Moreover, the aforementioned research examined microfinance institutions (MFIs) within particular regions in Kenya, with a specific emphasis on MFIs that engage in deposit-taking activities. Furthermore, the majority of research conducted on microfinance institutions primarily emphasizes its outreach, as well as their financial and operational sustainability across various types of MFIs. Although Kariuki (2017) looked at the impact of financial risk on SACCOs in Kenya, he thought more research was needed into the impact of financial risk factors on the financial performance of MFIs listed with the Central Bank of Kenya over a longer period of time.

1.3.2 Main objective

The main objective of the study is to establish the influence of financial risk factors on financial performance of Microfinance Institutions in Kenya.

1.3.2 Specific objectives

- i. To establish the influence of capital risk on financial performance of Microfinance Institutions in Kenya.
- ii. To determine the influence of liquidity risk on financial performance of Microfinance Institutions in Kenya.
- iii. To find out the influence of credit risk on financial performance of Microfinance Institutions in Kenya.

- iv. To examine the moderating effect of microfinance size on Risk Factors and financial performance of Microfinance Institutions in Kenya.

1.4 Research Hypothesis

- i. Ho₁: Capital risk does not significantly influence the financial performance of Microfinance Institutions in Kenya.
- v. Ho₂: Liquidity risk does not significantly influence the financial performance of Microfinance Institutions in Kenya.
- ii. Ho₃: Credit risk does not significantly influence the financial performance of Microfinance Institutions in Kenya.
- iii. Ho₅: Microfinance size has no significant moderating influence on the relationship between financial risk factors and financial performance of Microfinance Institutions in Kenya.

1.5 Significance of the Study

A study on financial risks and financial performance was of utility to the government on policy formation. The microfinance act's policymakers may use the study to identify contagious issues that need to be addressed, particularly how to address liquidity issues. In addition, the study assisted the government in formulating policy regarding financial institutions, particularly MFIs, through a parliamentary act.

The study may aid microfinance institution management in identifying the issue posed by financial hazards in their industry. On the basis of its findings, the study recommends a course of action that may make it easier for management to resolve the issues.

Future researchers with an interest in microfinance institution studies may benefit from this study. It may serve as a resource when constructing their studies.

1.6 Scope of the study

The scope of the study was restricted to the impact of financial risk factors on the financial performance of Kenyan Microfinance Institutions. The study covers the seven-year span from 2015 to 2021. According to Central Bank of Kenya reports, 12 microfinance institutions were targeted for this study. Capital risks, liquidity risks, and credit risks served as the study's guiding financial factors. This was controlled by Microfinance size.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive literature analysis on the impact of financial risk factors on the financial performance of Microfinance Institutions (MFIs) in Kenya. The research was conducted under the framework of liquidity theory and asymmetric information theory. The analysis is guided by financial risk elements, including capital risks, liquidity risks, and credit risk. The moderation of this phenomenon was influenced by the scale of Microfinance. The chapter provides a comprehensive examination of several aspects, including a conceptual assessment, empirical evaluation, identification of research gaps, and the development of a conceptual framework.

2.2 Theoretical Review

Loanable Fund Theory, Liquidity Preference Theory and Asymmetric Information Theory helped explain the financial sector policies and financial performance.

2.2.1 Liquidity Preference Theory

The concept was initially formulated by Keynes in the year 1936. According to Keynes, the demand for money may be represented as a function of both the level of income and the prevailing interest rate. The equation $MD=(Y, r)$ represents the relationship between

money demanded (MD), the level of income (Y), and the interest rate (r). According to this theoretical paradigm, the determination of the interest rate is contingent upon the interplay between the supply and demand of the money stock. The liquidity preference approach analyzes interest rates by examining the interaction between the supply and demand of money within the financial system. Keynes (1936) argues that maintaining a high level of liquidity is advantageous for organizations, as it primarily serves to address three key objectives: transaction, precautionary, and speculative motives. Keynes additionally asserted that investors consistently exhibit a preference for short-term securities over long-term ones. In order to incentivize investors to retain long-term bonds, it is advisable for long-term securities to offer higher interest rates compared to short-term bonds. Hence, it may be inferred that the yield curve consistently exhibits an upward sloping pattern. This phenomenon is rooted in the observation that, under equal circumstances, individuals exhibit a preference for retaining cash as a form of liquidity. Consequently, they require a compensation, sometimes referred to as a premium, when engaging in investments involving non-liquid assets such as bonds, stocks, and real estate. According to the idea, there is a positive relationship between the premium required and the duration of time it takes to retrieve the cash. This study aims to ascertain the underlying reasoning behind the liquidity preference hypothesis in respect to the correlation between financial risk indicators and the financial performance of Microfinance Institutions (MFIs). The theory has received criticism for its primary focus on interest rate risk, while neglecting to provide sufficient detail on its impact on other financial hazards. The study is guided by the theory, which is driven by three motives. The transaction motive pertains to the management of liquidity, whereas the cautious

motive addresses the management of capital risks, liquidity risk, and credit risk. The speculative motive, on the other hand, deals with capital speculations. This theory was deemed to be the most significant for the purposes of this investigation.

2.2.2 Asymmetric Information Theory

The theory of asymmetric information was initially proposed by Akerlofs (1970). According to Ekumah and Essel (2003), the theory elucidates the circumstances in which pertinent knowledge is lacking for all parties involved in a transaction. The absence of data on compliance with capital risk requirements and the firm's size in relation to its asset base can give rise to liquidity concerns. According to Epp (2005), it might be argued that the relevant information is not known by all parties involved in a particular transaction. Edwards and Turnbull (1994) demonstrated that the presence of incomplete information on the part of lenders, in contrast to borrowers possessing comprehensive knowledge regarding the returns and dangers connected with financed projects, gives rise to a phenomenon known as information asymmetry within the capital market. However, the lender lacks adequate information regarding the borrower. The theory highlights that financial institutions encounter two challenges due to information asymmetry: the monitoring of entrepreneurial conduct and the presence of adverse selection, which refers to the occurrence of errors in lending decisions and moral hazard. Denis (2010) asserts that the reduction of information asymmetry between borrowers and lenders, facilitated by credit registries, can contribute to the attainment of low default rates and increased aggregate lending. This, in turn, enables the provision of loans to clients who were previously unable to access the market due to pricing constraints. In addition, the evaluation of the creditworthiness of applicants is facilitated by the exchange of

information regarding their credit quality. The theory does not adequately address the mitigation strategy for situations where necessary information is not provided, thereby resulting in incorrect credit allocation. According to Maniagi (2018), this approach necessitates the acquisition of client information in order to effectively manage credit risks. The theory holds significance in the context of this study as it elucidates the concept of credit risk, wherein thorough examination of borrower information is crucial to mitigate the occurrence of defaults and subsequent financial underperformance of a corporation.

2.2.3 Loanable Fund Theory

Knut Wicksell, a prominent Swedish economist, is credited with developing the concept. Ohlin, Myrdal, Lindahl, Robertson, and J. Viner, as well as the other economists mentioned, also played a role in its further evolution. Interest rates are related to the loanable fund theory. According to this model, the interest rate is set by the competitive dynamics between the demand for and supply of loanable funds. Capital risk's importance, according to Wilson et al. (2011), resides in the fact that it serves as a significant capital requirement that protects taxpayers and the firm's financial systems from instability. Microfinance institutions rely heavily on retained earnings, an important component of capital that can be used to make loans. Within the context of Microfinance institutions, the loanable funds hypothesis pertains to the pool of monetary resources that are accessible for borrowing purposes, which are primarily derived from the deposits made by the institution's members. It is essential to assess the credit risks associated with the borrower in order to mitigate the potential emergence of liquidity issues. The funds held by microfinance institutions have significantly facilitated the increasing population

of impoverished individuals by fulfilling their need for investment loans. Bhattacharya and Thakor (1993) believe that financial institutions typically establish high capital ratios as a means of safeguarding depositors from potential losses and mitigating the risk of panic withdrawals, which could trigger detrimental runs on solvent yet illiquid microfinance banks. Microfinance institutions encounter a range of credit risks, including nonperforming loans and capital adequacy in relation to risk-weighted assets, within the domain of credit risk. The uncertainty around loan repayment by borrowers, as stated in the application forms, is a challenge for MFIs in their role as lenders (David et al., 2014). The idea has been subject to criticism due to its focus on the risk associated with lending rather than the generating of cash. This theory is predicated on the notion that the credit risk of the borrower and the liquidity risk of the lender are contingent upon the variables associated with the amount of money available for lending. Moreover, in the context of lending, it is necessary to determine the minimum amount of capital that can be loaned, so introducing the concept of capital risk.

2.3 Conceptual Review

This section provides a review on are Capital risk, Liquidity risks and credit risk.

2.3.1 Capital risk

The utilization of the equity to total assets ratio serves as a metric for assessing the capital risk of a financial organization. This metric quantifies the proportion of the overall assets that are funded through equity capital. Capital risk refers to the adequacy of the equity amount that can absorb potential shocks encountered by a financial firm. There exists an anticipation that an increase in the Equity to Asset ratio will correspondingly decrease the reliance on external funding, thus leading to heightened profitability for the financial

institution. Moreover, financial institutions that possess substantial capitalization experience a diminished cost associated with bankruptcy, resulting in a reduction in their funding expenses (Kosmidou, 2008). Microfinance institutions characterized by a greater capital to asset ratio are regarded as comparatively secure and are inclined to possess a more substantial buffer, enabling them to sustain profitability even in challenging economic circumstances. On the contrary, financial institutions that possess lower levels of capital risk are generally regarded as being more risky in comparison to Microfinance organizations that are highly capitalized.

2.3.2 Liquidity risk

The ability of financial institutions to meet demands for funds is known as liquidity. The inability of a microfinance institution to meet its financial needs or payment obligations in a timely and cost-effective manner is known as liquidity risk (Idama et al., 2014). If a microfinance institution (MFI) lacks sufficient liquidity, it may be more exposed to risks associated with its loan portfolio and its ability to weather economic storms. Every microfinance institution should have a daily fund strategy in place that helps to ensure that the branch's cash outflows are balanced with the cash inflows from loan repayments and savings deposits (Idama et al., 2014). One typical way to evaluate an MFI's financial health is by looking at its Loan to Total Assets Ratio (LAR). It quantifies the proportion of total assets allocated towards loan provision (Adhikary, 2014).

2.3.3 Credit risk

The management of credit risk is of significant importance to microfinance institutions (MFIs) due to the nature of micro-financing, which typically involves unsecured loans and a limited use of traditional collateral as security for microloans (Churchill & Coster,

2011). However, the situation is similar for microfinance institutions (MFIs) in the Democratic Republic of Congo (DRC), as they express concerns about a potential rise in the rate of loan defaults due to the inadequate implementation of credit risk management practices. Microfinance institutions (MFIs) have encountered challenges in effectively implementing credit risk management protocols, resulting in suboptimal financial performance. Due to the utilization of ineffective methodologies, these entities encounter difficulties in acquiring essential client data and implementing a debt collection system that would enable them to mitigate a substantial default rate and maintain financial viability. Khemraj and Pasha (2019) highlight the substantial proportions. Non-performing loans (NPLs) are frequently associated with financial crises and the operational challenges faced by banks in both developed and developing nations. The assessment of credit risk is determined by the ratio of nonperforming loans to total loans. In addition, microfinance organizations employ the 5Cs model of credit assessment, encompassing capacity, capital, condition, character, and collateral.

2.3.4 Firm Size

According to Addisalem (2015), it can be observed that larger organizations exhibit a higher degree of diversification compared to smaller firms. Furthermore, these larger firms own better market power and, given favorable economic conditions, may possess a significantly larger amount of organizational slack. The concept of size pertains to the evaluation of economies or diseconomies of scale within an institution. In the context of microfinance institutions (MFIs), the natural logarithm of total assets is commonly employed as a proxy to measure size, as suggested by Cull et al. (2007).

2.3.5 Financial Performance of Microfinance Institutions

Yenesew (2014) investigated what elements were at play in the financial success of a cross-section of Ethiopian MFIs, making an effort to account for a wide range of issues from a variety of perspectives. The primary focus of the study revolved around assessing financial performance, with the dependent variable being ROA. This approach differs from the proxies commonly employed by other studies.

Kimando et al. (2012) conducted research into what makes microfinance institutions in Kenya's Murang'a County successful. The research revealed that capital risk, liquidity, and credit risk exerted significant influence on the sustainability of microfinance institutions. The banking act, the building act, and the Association of microfinance institutions act were only a few of the financial regulations whose effects on regulatory bodies were investigated. According to the data, elements like geographic reach and oversight from regulatory bodies have an impact on the long-term viability of Micro-finance organizations.

2.4 Empirical Review

This section provided an empirical review on are capital risk, liquidity risks and credit risk.

2.4.1 Capital Risk and Financial Performance

Capital refers to the quantity of internal financial resources that are accessible to sustain the operations of a lending corporation and serve as a protective measure in the event of unfavorable circumstances (Athanasoglou et al., 2005). Sufficient capital requirements

serve to mitigate the risk of insolvency in microfinance institutions in the event of unforeseen shocks.

According to Haron's (2010) research, the level of capital risk plays a crucial role in determining the ability of financial institutions to effectively manage and withstand shocks to their balance sheets. The Capital Risk ratio is employed to assess the ability of a financial institution to fulfill its time responsibilities and manage various risks, including credit risk and operational risks.

Kariuki and Wafula (2016) examined the relationship between capital risk and financial performance using data from a sample of 103 Deposit taking Sacco's in Kenya as of 31st December 2014. Return on assets (ROA), return on equity (ROE), and net interest margin (NIM) were used as proxy ratios in this study to evaluate financial performance. Two ratios, core capital to total assets and core capital to total deposits, were used to assess the level of capital risk. A positive link between financial performance and capital risk ratios was discovered. This indicates that a rise in the amount of retained capital improves economic results.

Yahaya, Mansor, and Okazaki (2016) argue that the assessment of capital risk is crucial for determining the financial performance of banking institutions in achieving a comprehensive understanding of their overall financial performance. The researcher additionally observed that the relationship between capital risk and the dependent variable was positive, yet not statistically significant.

2.4.2 Liquidity Risk and Financial Performance

Hamza (2017) conducted a study from 2005 to 2014 on thirteen commercial banks in Pakistan regarding the effects of CRM on bank performance. The pooled regression model was employed to examine the relationship between bank performance, as represented by ROA and return on equity (ROE), and customer relationship management (CRM), as evaluated by loan loss provision ratio (LLPR), capital adequacy ratio (CAR), liquidity ratio, non-performing loan ratio (NPLR), loan and advances ratio, and bank size. The findings of the study suggest that there is a negative relationship between customer relationship management (CRM) and bank performance, as assessed by ROA and ROE, and this relationship has a statistically significant influence. Nevertheless, the aforementioned study was conducted within the context of a developed country. Consequently, the present study aims to utilize panel data in order to investigate the microfinance institutions (MFIs) in Kenya.

In a recent empirical study, Korir (2019) examined the relationship between liquidity and its impact on the financial performance of Kenyan banks. The researcher exclusively utilized secondary data in his investigation. This study employed a comprehensive census technique, encompassing all forty-four commercial banks operating in Kenya at the time of data collection. The study employed a descriptive research methodology and utilized the Ordinary Least Squares regression approach over a span of six years. The study investigated the impact of liquidity on performance using regression and correlation methodologies within a financial framework. The study found a strong and statistically significant connection between liquidity and financial results. Financial performance benefits from increased liquidity, as can be seen in the end study.

Odalo, Achoki, and Njuguna (2016) conducted a survey to evaluate the impact of the liquidity distress factor and performance from a financial standpoint among agricultural enterprises listed on the Nairobi Securities Exchange in Kenya. The primary objective was to analyze the liquidity and financial performance. When evaluating liquidity ratios using the liquid to gross assets metric, a favorable trend was seen. Additionally, the study found positive trends in financial performance indicators such as ROA, Earnings per Share, and ROE. A research strategy characterized by descriptive and causal attributes was employed to investigate the relationship between liquidity and financial performance among all seven agricultural enterprises included in a census survey. The study's findings provided a robust indication of performance, demonstrating a favorable correlation between listed manufacturing enterprises and their use of ROE as a unit measure. Current liabilities and current assets to be tracked are used to inform these suggestions (Odalo, Achoki, & Njuguna, 2016). The study did not effectively communicate the statistical methodology employed, specifically in relation to inferential analysis using regression and correlation analysis. Additionally, the study addressed the oversight of focusing solely on ROE as a measure of shareholder strength, while neglecting ROA as an indicator of management strength. The study placed its expectations on a limited sample of seven firms, which constituted a relatively small population in comparison to the 39 enterprises included in this study. Moreover, the present investigation focused on commercial banks rather than manufacturing enterprises.

Sanghani (2014) investigated the role that liquidity played in the financial success of non-financial companies traded on the Nairobi Securities Exchange (NSE). Secondary data was acquired from the National Stock Exchange (NSE), and then analyzed using multiple

regression. The study's authors conclude that NSE-listed non-financial enterprises benefit from greater liquidity in the long run. The results indicate that the ratio of current liabilities to current assets is favorably associated to the financial performance of non-financial enterprises. The study also discovered that when the operating cash flow ratio of NSE-listed non-financial companies was increased, the companies' financial performance was enhanced. The study concludes that non-financial companies traded on the NSE should enhance their current assets to promote liquidity, as doing so has a beneficial impact on financial performance.

Kitonyi (2019) analyzed the effects of MFIs' liquidity and financial performance in Kenya. The primary goal of this study was to examine the interplay between nonperforming loan ratios, loan loss provisions, cost-per-loan-asset ratios, and credit-to-deposit ratios at Kenyan microfinance companies. The study utilized cross-sectional data collected over a five-year period (2013-2017) and followed a descriptive research methodology. The participants in this research are prospective customers of four distinct Kenyan Microfinance institutions. It is now legal for the microfinance institution to accept deposits and make loans. The research used a census approach to choose its participants. Secondary information, such as the CBK's public yearly financial statements and other financial records, was used for this study. Microfinance Excel and SPSS were used by the researchers in order to establish the non-performing statistics. Simultaneously, a regression analysis was carried out with SPSS software to determine the effect of NPLs on the profitability of Kenyan MFIs. Despite loans being the principal income-generating asset, the study found that nonperforming loans had a large and positive impact on the financial performance of Microfinance banks (MFBs). According

to the data, there is a direct correlation between the percentage of nonperforming loans and an MFI's financial health. Despite the fact that loans are the main asset that helps MFIs generate money, this correlation remains stable across varying degrees of nonperforming loans.

Bichanga and Chege (2017) looked at 44 commercial loans in Kenya from 2011 to 2015 to see if there was a link between nonperforming loans (NPLs) and how well the business did financially. Non-Performing Loans (NPL) were evaluated taking into account the capitalization bank ratio, bank size, liquidity, and operational costs. However, ROA was used to evaluate bank performance. Data analytic methods were used to look at variables unique to each bank, like size, capitalization, and operational costs, to see how NPLs affect financial results. The results showed that NPLs significantly affected these variables. In addition, we find no statistically significant relationship between liquidity (as measured by the loan to deposit ratio) and financial performance. In spite of this, the prior study only focused on commercial banks, making it necessary to focus on MFIs in the present study to see if any significant conclusions can be drawn.

2.4.3 Credit Risk and Financial Performance

The management of credit risk is a significant area of focus for microfinance institutions (MFIs) due to the fact that a majority of microfinance loans are not backed by any kind of collateral, and the utilization of conventional collateral for securing microloans is infrequent (Churchill & Coster, 2001). Nevertheless, the situation is analogous in the case of microfinance institutions (MFIs) in Kenya, as they express concerns regarding a

potential rise in the rate of loan defaults due to the inadequate implementation of credit risk management strategies. Microfinance institutions (MFIs) have demonstrated a lack of adherence to credit risk management protocols, resulting in suboptimal financial performance. The determination of the non-performing loans (NPL) to total loans ratio serves to evaluate the credit quality of microfinance institutions (MFIs). Due to the utilization of ineffective methodologies, these entities have difficulties in acquiring essential customer data and implementing a debt collection system that might mitigate the occurrence of elevated default rates and ensure sustained profitability.

The phrase "credit risk" is used to describe the danger that a lender would incur losses because a borrower failed to fulfill the terms and conditions of a loan or line of credit. Credit risk management strategies that increase profitability and reduce insolvency are advocated by Sule (2012). Microfinance institutions face credit risk across the board, not just with their loan portfolio. Credit risk has a major bearing on microfinance institutions' bottom lines and long-term viability. Because of this, microfinance banks place a premium on credit risk management as part of their operating strategies, and they expend considerable effort to lessen the impact of credit risks (Idama et al., 2014).

Aboagye and Otioku (2010) investigated the results of Credit Risk Management on Swedish banks' bottom lines. The primary aim of this study was to analyze the results of credit risk management inside banking institutions. The present global financial crisis and the implementation of Basel II have raised the profile of credit risk management within financial institutions. The study's authors concluded that banks' bottom lines are affected by credit risk management because providing loans is a major source of income for these

institutions. Thus, credit management is crucial in determining the extent to which a financial institution's performance might be improved or mitigated.

Hudon (2010) analyzed the correlation between MFI management and financial performance. He did this by analyzing the ROI, AROA, and FSS as well as the competences of the board of directors, the accounting and control systems, the decision-making processes, the planning, budgeting, and reporting procedures, and the top management and HR departments. Nonetheless, his research shows that management ratings significantly affect the financial performances of MFIs. From his point of view, it is significant that no other organizational structure shows superior outcomes across the three financial indicators other than cooperatives, where the management variable, particularly human resources management, negatively affects the ROA. He underlined that this is because regulated MFIs are held to far higher management standards than their non-regulated counterparts.

Mwangi (2012) argues that the success of microfinance institutions (MFIs) is inversely proportional to the quality of their loan management. The study also found that non-performing loans, as measured by ROA, were associated with worse financial outcomes. On the flip side, it was discovered that lower rates of non-performing loans correspond to higher levels of financial performance. The effectiveness of microfinance institutions' (MFIs) finances hinges on how well they handle problem loans. Optimal solutions in the management of non-performing loans are crucial to improving the institution's financial performance.

Khalid (2012) looks into how microfinance institutions can benefit from better credit management. Microfinance institutions' (MFIs') financial success was analyzed in this study using multiple regression models between the fiscal years of 2006-07 and 2010-11. The study measures the success of MFIs by their ROA and other profitability parameters. This study's results lend support to the hypothesis that there is a correlation between the quantity of time spent on non-value-added tasks and the quality of tasks performed before approving a loan when problems arise. Therefore, it is hypothesized that microfinance institutions (MFIs) will be able to improve their operational performance as a result of this connection.

Owusu's (2008) research on microfinance institutions' utilization of loans revealed that clients weren't receiving accurate assessments of their credit risks. The report suggests doing a careful analysis of the credit amount for chosen projects to ensure judicious allocation of funding. The availability of capital and collateral are two major roadblocks that must be overcome if we are to make progress in financial inclusion. Getting loan insurance is a good way to guarantee the repayment of borrowed money in the event of default. The problem of protecting depositor funds can be easily addressed with this strategy. Silikhe (2018) reports that despite having created adequate rules for controlling credit risk, loan recovery remains a substantial difficulty for most MFIs in Kenya. This is despite the fact that MFIs in Kenya have performed extensive research into the topic.

Atieno (2021) discovered that due to the terms and circumstances of their loans, microfinance institutions (MFIs) and other formal institutions typically do not meet the credit demands of smallholders. Official financial institution regulations and procedures are largely to blame for the widespread belief that people from lower socioeconomic backgrounds are unbankable. Due to their inability to provide the collateral required by these institutions, the poor are generally written off as being untrustworthy. Based on the data collected, it appears that credit rationing is a major contributor to the low usage rates. This is true for both formal and informal lending institutions. Based on the findings, it is possible to improve small businesses' access to credit by expanding the existing network of formal credit institutions and adjusting lending terms and conditions in their favor.

Muriithi, Waweru, and Muturi (2016) investigated the influence of credit risk on the financial performance of 43 Kenyan commercial banks from 2005 to 2014. Several indicators, including capital to risk-weighted assets ratio, loan-to-deposit ratio, asset quality, and loan loss provision, were used to calculate credit risk. Instead, return on equity (ROE) was calculated as a measure of fiscal success. Bank profits were analyzed against credit risk using a panel data analysis. Credit risk was found to have a statistically significant unfavorable association with bank profitability. The research also showed that poor asset quality as a percentage of total assets is associated with poorer short- and long-term bank performance. Microfinance institutions (MFIs) in Kenya will be evaluated in this study using the return on asset metric.

Kariuki (2017) used a descriptive study to find out how credit risk management techniques affect the financial performance of SACCOS in Kenya that take deposits. Currently, there are 164 SACCOS in operation, all of which are recognized by the Savings and Credit Cooperative Societies Regulatory Authority (SASRA). Credit analysis, credit mitigation strategies, and credit identification were all found to have a favorable impact on financial performance. The study's primary goals include recognizing credit risks, analyzing them, keeping tabs on them, and taking steps to lessen their impact. According to the findings, SACCOS would do well to adopt stringent credit analysis procedures and set up credit monitoring policies. The research also recommended strict credit risk management methods and regulations be implemented by SACCOS and other lending institutions. Therefore, it is critical for credit committees at all levels of the organizational structure to work together efficiently to ensure the timely collection of credit.

Gathuni (2015) studied the effect of credit management on the economic success of Kenya's microfinance industry. Seventy credit officers from 14 different financial institutions in Meru town participated in the study. According to a Chi-square test, there is no correlation between the involvement of upper management in deciding on lending terms and the company's bottom line. However, it was shown that credit officers' heavy engagement really does affect the bottom line.

2.4.5 Microfinance Size, Financial Risk Factors and Financial Performance

The advantageous aspect of the scale of microfinance lies in the ability of larger banks to reduce costs through the allocation of fixed expenses, as well as their capacity to secure a significant portion of the market. Berryman (2012) posits that the act of providing loans to small firms carries a higher level of risk due to the presence of a robust negative association between the size of the firm and its financial performance.

Mule, Mukras, and Nzioka (2015) found that there is a positive and significant link between the size of a company and its profitability, or ROE. This means that when the size of a company changes by one unit, the ROE of the company goes up. In contrast, several authors argue that the scale of a company may not necessarily result in positive effects on its profitability, and in some cases, it may even have negative implications.

Financial performance refers to the evaluation of an organization's success in achieving its goals, implementing its policies, and conducting its operations, as expressed in monetary terms. The concept pertains to the fiscal well-being and might be subjected to comparative analysis among analogous enterprises inside the identical sector (Agola, 2014). One of the most important factors in establishing a company's competitiveness, business potential, and economic interests for management and present or potential contractors is the company's financial performance (Dufera, 2010). The financial performance of a microfinance institution (MFI) is measured by how well it can keep running and reach its microfinance goals without outside support (Thapa, 2018). The primary objective of each microfinance institution is to achieve profitability in its operations, hence ensuring stability and enhancing financial performance (Agola, 2014).

According to Jorgensen (2011), it is imperative for Microfinance Institutions (MFIs) to strive for optimal performance in both the social and economic domains.

Analysis of a company's, division's, or project's financial performance measures how well it can survive and generate income (Bhunja, Mukhuti & Gautam, 2011). According to Ongore and Gemechu (2019), shareholders are rewarded for their investment through favorable financial performance. A shareholder's evaluation of a company's financial success looks at how much their money has grown over a certain time frame. Financial ratios calculated from the income and balance sheets, or analysis of stock prices, might be used for this purpose (Baraza, 2014). Profit after tax, ROA (ROA), ROE, earnings per share (EPS), and market value ratios are some of the most generally accepted financial measures used to evaluate financial performance (Yenesew, 2014).

Return on equity (ROE) is a financial metric used to assess a company's profitability by contrasting it with its total shareholder equity. As a proxy for the success and efficiency of their investment, shareholders care most about ROE. Companies with a high ROE are more likely to be able to finance their own operations using in-house cash flows. Therefore, increased profitability can be seen in a better ROE. ROE is determined by dividing Net Income After Taxes by Total Equity Capital, as stated by Khrawish (2011). The above phrase defines ROI, or the rate at which a company or organization may expect to earn a profit from the money its investors put into it. The efficiency with which management is investing shareholders' money can be gauged by looking at the ROE ratio. A higher ROE suggests that management is making better use of shareholders' money, as implied by the aforementioned phrase.

2.5 Research Gap

The existing body of empirical research on financial sector policies and financial performance has predominantly concentrated on commercial banks, hence creating a research void for scholars to investigate the microfinance institutions (MFIs). In a similar vein, numerous studies have been conducted in diverse contexts, encompassing varying economic, regulatory, and cultural frameworks. However, there is a dearth of research conducted specifically in Kenya, indicating a need to address the existing knowledge gap. The primary goal of this research is to fill a vacuum in the literature on the topic of Kenya's financial sector policies and MFIs' financial performance. Three different theories of finance are analyzed here: the Asymmetrical Information Theory, the Liquidity Preference Theory, and the Liability Management Theory. The effect of ratios that are unique to MFIs on efficiency is analyzed. Non-performing loans (NPL) to total loans, NPL to total assets, and equity to total assets are all examples of such ratios. Using Return on Investment (ROI) can help you reach your performance goals.

Table 1: Research Gap

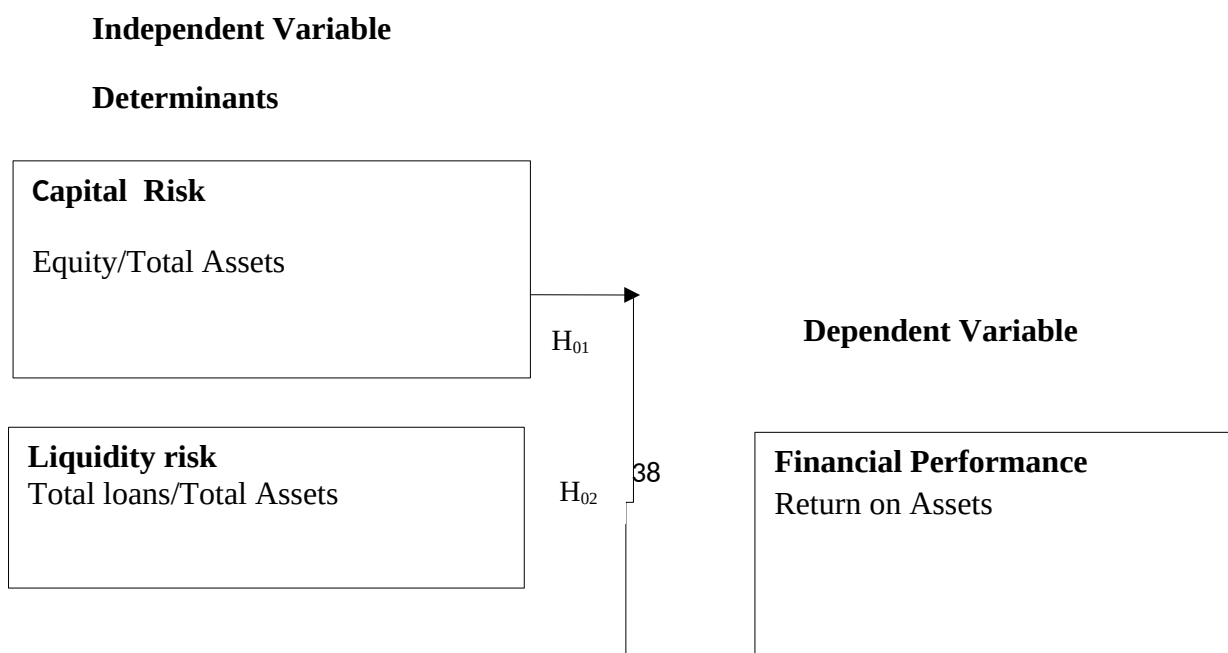
Author & Year	Title	Methodology	Findings	Gap
Korir (2019)	Empirical study liquidity and its role on Microfinance financial performance in Kenya	Empirical research design Secondary data Case study design, Target population was 9 Banks, Multi regression analysis adopted, Financial health, liquidity and solvency, Covered five year period of 2011-2017 Variables: Liquidity risk,	Liquidity risk, market risk, credit risk had a positive significant and statistically significant effect on financial performance	Study recommended longer period study and use of other variables of which this study involved capital risk and a moderator firm size

		market risk, credit risk		The study covered a longer period of 7years. This study didn't address MFIs.
Odalo, Achoki and Njuguna (2016)	Influence of Liquidity distress factor and Performance based on a financial point of view among Agricultural companies listed at Nairobi Securities Exchange Kenya	Descriptive research design , 65 firms Ordinary least squares regression method Period covered; 6 years Variables: capital risk, leverage risk, operation risk	Results indicate that capital risk, leverage risk, operation risk had a negative insignificant effect on financial performance of Agricultural firms performance	The current study incorporated other variables such as credit risk. Firm size as a moderator which former study failed to incorporate. This study was on manufacturing firm listed at NSE and not MFIs.
Muriithi, Waweru and Muturi (2016)	Effect of credit risk on financial performance of 43 commercial banks in Kenya for a period between 2005 and 2014.	Descriptive research Sample size; 43 Banks Sampling method; purposive Period covered: 5 years. Variables: firm size, foreign ownership, leverage	The study found that credit risks financial risk insignificantly affected financial performance of commercial banks.	The current study incorporated was for a 7year period and not 5year period for previous study. Current study is on MFIs and not banks.
Kariuki (2017)	Effect of credit risk management practices on financial performance of deposit taking SACCOSs In Nairobi	Descriptive research design Target population; 40 Sample; 40 SACCOSs in Nairobi Multiple regression model Variables: credit analysis, credit mitigation measures and credit identification	Found that credit analysis, credit mitigation measures and credit identification have a significant positive effect on financial performance	A moderating variable; firm size was introduced in the current study and the study took 7 year period and not 5 year period for former study.
Kariuki and Wafula (2016)	Capital risk and financial performance of Microfinance	Explanatory design Sample of 103 Deposit taking Sacco's. Three proxy ratios to measure financial	Capital risk had a positive and statistically significant effect on financial	This study incorporated other variables as recommended by this study, thus

firms	performance namely; return on assets (ROA), return on equity (ROE) and net interest margin (NIM).	performance Microfinance firms	liquidity and credit risks.
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2.6 Conceptual Framework

The relationship between financial risk characteristics and the financial performance of microfinance organizations, as conceptualized by the researcher, is shown in Figure 2.1. Capital risk, Liquidity risk, and Credit risk are the financial sector policies that are serving as the basis for this research (the independent variable). The size of the microfinance institution is the moderator, while financial success is the dependent variable.



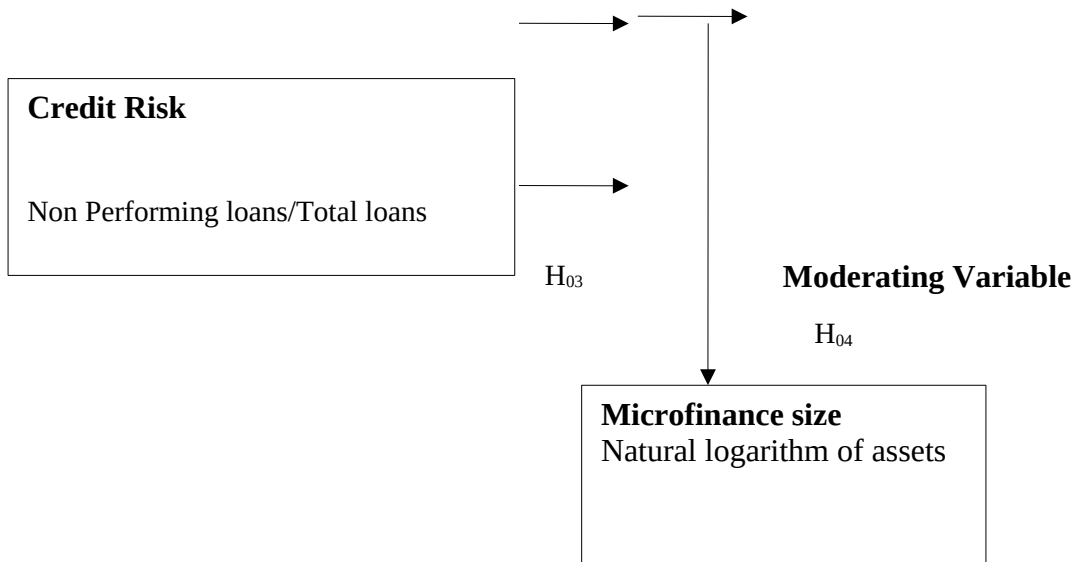


Figure 2.1: Conceptual Framework

Source: Researcher Conceptualization (2022)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology employed in undertaking the study. Included are details on the study's methodology, demographic, participants, data sources, methods, and findings.

3.2 Study area

This research encompassed all the microfinance institutions (MFIs) that were officially registered and documented in Kenya. This study encompassed a total of twelve Microfinance institutions. All of the mentioned microfinance institutions (MFIs) contributed to the articulation of liquidity, capital, and credit risk components, as well as their subsequent impact on financial performance. Moreover, it effectively mitigated instances of sampling errors.

3.3 Research Design

The longitudinal research design adopted in this study was based on panel data and time series patterns. The researcher initiates the process by formulating a broad concept and using research as a means to identify and explore potential issues that will be addressed in the near future (Ngechu, 2004). The primary objective of longitudinal research is to enhance a researcher's comprehension of a certain subject by examining temporal patterns and trends over an extended period of time.

3.4 Target Population

According to Cooper and Schindler (2006), the term "population" refers to the total collection of elements from which a researcher draws conclusions. It's a catch-all term for everyone or anything the study's results could potentially apply to in the future. The population of interest in this study comprised all MFIs registered with the Central Bank of Kenya (CBK). There are twelve such MFIs in Kenya, as stated in the Banking Supervision Report published by the Central Bank of Kenya in 2021.

3.5 Sample size

The study employed a census approach, encompassing all 12 microfinance institutions (MFIs) in the Central Bank of Kenya (CBK), as detailed in Appendix 1. This approach also serves as the sample size for the study. The researchers employed census sampling in this study to ensure the selection of data from the entire study population. This approach was chosen due to its ability to improve the validity of the obtained data by minimizing sample error and incorporating specific information relevant to the study (Saunders, Lewis, & Thornhill, 2009).

3.6 Data Collection Instruments

It refers to the instrument utilized for data collection (Sekara & Bougie, 2010). The study ensured the legitimacy of the data by sourcing it from reputable and authoritative sources, including the CBK reports. The data utilized in this study encompassed information extracted from the annual reports of the Central Bank of Kenya, as well as the accounts of cash flows, comprehensive income, and financial status of Microfinance Institutions (MFIs). According to Dawson (2009), the utilization of secondary data entails the collection of material from pre-existing studies conducted by other researchers within a specific field or subject.

Table 3.1 Measure of Variables

Category	Variable	Measurement	Formulae
Independent Variable	Capital risk	Capital risk Ratio	Equity/Total Assets

	Liquidity risk	Liquidity ratio	Total loans/Total Assets
	Credit risk	Loan loss ratio	Non Performing loans/Total loans
Moderating Variable	Microfinance size	Total Assets	Natural logarithm Assets
Dependent Variable	Financial Performance	ROA Ratio	Total income/Total Total assets

3.7 Research Procedures

The data used in this study came from the Central Bank of Kenya's (CBK) annual reports as well as those of the Microfinance Institutions (MFIs) doing business in Kenya. The selected time for data collection spans seven years, specifically from 2015 to 2021. The researcher subsequently compiled all the publicly available CBK reports from the years 2015 to 2021 and collected the necessary data using a data collection template ratio guide.

3.8 Data Analysis

Babbie (2010) asserts that data analysis is the systematic examination and manipulation of gathered data in order to render it in a format conducive to deriving meaningful findings that align with the underlying ideas and theories that prompted the investigation. The acquired data underwent coding, computer data entry, and analysis using the Stata software. Descriptive and inferential statistics were employed in the investigation. The

process of descriptive analysis encompasses the utilization of statistical measures such as the mean, mode, skewness, kurtosis, and Jarque-Bera tests. The process of inferential analysis encompasses the utilization of correlation and multiple regression techniques.

The Hausman test was conducted to ascertain whether the model should be estimated using fixed effect regression or random effect regression. The fixed effect regression model suggests that the enterprises under consideration exhibit similar features, while the random effect regression model suggests that the firms possess varying qualities. In the case when the p-value is less than 0.05, the fixed effect is considered significant. Conversely, if the p-value exceeds 0.05, the random regression effect is deemed significant.

Model for obtaining data

Model for data collection

Model 1: Without a moderator

$$Y_{ROA} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e$$

Model 2: With a moderator

$$Y_{ROE} = \beta_0 + \beta_1 X_{1it} S_{it} + \beta_2 X_{2it} S_{it} + \beta_3 X_{3it} S_{it} + e$$

Where:

Y_{ROE} = Financial performance.

$\beta_1, \beta_2, \beta_3$ = Regression coefficient

X_1 = Capital risk

X_2 = Liquidity risk

X_3 = Credit risk

S = Microfinance size

e = error term

β_0 = Constant term

it = Time

3.8.1 Diagnostic tests

Before undertaking inferential statistics, diagnostic studies were undertaken to test the assumptions of Pearson correlation and multiple regression analysis. The diagnostic tests undertaken in this study involved assessing the normalcy of the data using measures such as skewness, kurtosis, and the Jarque-Bera test. The issue of multicollinearity can be addressed by the application of Pearson correlation analysis. According to Garson (2012), in the context of multi-collinearity, the star values associated with Pearson correlation coefficients should be less than 0.9.

The purpose of this analysis is to do a unit root test. The purpose of stationarizing data is to generate a representative sample mean and variance that can accurately reflect the future behavior of a series, provided that the series remains stationary. According to Costantini and Martini (2010), if a series has a constant upward trend, it may lead to an underestimation of the mean. Unit root analysis is a statistical technique used to assess the presence of a unit root, which indicates non-stationarity, in time series data. The researchers employed the Augmented Dickey-Fuller (ADF) test to address the issue of serial correlation in the error terms of the time series data. The Augmented Dickey-Fuller test also takes into account the somewhat less restricted characteristics of the error process.

The Hausman test is employed in panel data analysis to ascertain the appropriate model to use, either a fixed effects model or a random effects model. While the fixed effect model posits the presence of firm-specific intercepts and accounts for the impacts of variables that are unique to each firm and remain constant over time, the random effect model implies the existence of a single common intercept that varies randomly across firms (Baltagi, 2005). In order to ascertain the suitability of either of these two models, estimation of both fixed and random effects will be conducted. The study conducted by Guggenberger (2010) utilized Hausman's specification test (1978) to ascertain the appropriate selection between fixed or random effects. If the null hypothesis, $E(\mu_i/x_i) = 0$, is not rejected, the random effect can be considered a reliable estimator. Nevertheless, in the event that the null hypothesis is rejected, employing fixed effect estimation yields a more precise and effective estimation of the betas.

3.9 Ethical Considerations

The study was conducted in accordance with all relevant ethical considerations. The report appropriately acknowledges all sources utilized in the research endeavor. The researcher proceeded to provide the research participants with precise and comprehensive information regarding the purpose of the study, as well as emphasizing the importance of keeping confidentiality. This was achieved by excluding participants' names from the questionnaires to ensure anonymity. The stated objective of the study was exclusively

focused on academic pursuits. The study was authorized by Masinde Muliro University and the National Commission for Science, Technology and Innovation (NACOSTI), as proven by the respective authorization letters.

CHAPTER FOUR

RESEARCH RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter provides a summary of the findings, conclusions, and suggestions. Suggestions for future research are also included.

4.2 Normality Test

Normality test was established through skewness, kurtosis and Jaque bera test. This was provided in Table 1.

Table 1: Normality Test

Variable	Skewness	Kurtosis	Jarque Bera adj chi2(2)	Prob>chi2
CR:E_TA	-0.9899	3.5251	14.68	0.00
CR:TL_TA	-0.4339	2.4115	3.848	0.1461
LR:TL_TA	-0.4339	2.4115	3.848	0.1461
LR:TL_TD	1.8899	5.684	163.1	0.001
CR:NPL_TL	0.2979	5.5112	23.31	0.00
CR:NPL_TI	0.5413	4.8207	15.71	0.00
MS: Log-TA	0.4508	3.1408	2.915	0.2328
ROA:TI/TA	-0.2323	2.6537	1.175	0.5557

Source: Field data (2023)

Credit Risk (CR) refers to the potential for loss arising from the failure of a borrower to meet their financial obligations. Liquidity Risk (LR) pertains to the possibility of not being able to readily convert an asset into cash without incurring significant losses. Microfinance Size (MS) denotes the scale or magnitude of microfinance operations. Log represents the logarithm, a mathematical function used to determine the exponent to which a base must be raised to get a given number. E stands for Equity, which represents the residual interest in the assets of an entity after deducting liabilities. In this context, the abbreviations TA, TL, TD, NPL, and TI refer to the following financial

metrics: Total Assets, Total Loans, Total Deposits, Non Performing Loans, and Total Income, respectively.

A normal distribution has skewness and kurtosis values that are in close proximity to zero. The variables TL_TD, NPL_TL, NPL_TI, and Log-TA exhibit positive skewness, whereas E_TA, TL_TA, and TI/TA display negative skewness. According to the Monte Carlo rule, a figure with a skewness value less than 2 and a kurtosis value less than 6 is considered to be normally distributed. Figures falling within the range of 2.0 to 3.0 for skewness and 6.0 to 21.0 for kurtosis are classified as non-normal. In this study, it was observed that there were no instances of non-normal data, as indicated by the greatest skewness value of 1.8899, which suggests a high level of normality. Similarly, the highest kurtosis value of 5.684 did not surpass the threshold of 6, indicating that the data distribution was within an acceptable range. The Jarque-Bera test indicated that the probability values were below the significance level of 0.05, suggesting that the data can be considered normally distributed, with the exception of TL_TA (0.1461), Log-TA (0.2328), and TI/TA (0.5557). According to Oztuna, Elhan, and Tuccar (2006), it is deemed acceptable to have an exception of > 0.05 in the Jarque Bera test for studies involving a large population.

4.4 Panel Unit Root Test

Unit root tests were performed to determine whether a spurious effect existed in order to establish stationarity. Since Levin Lin, Chu, and PhillipsPerron are so effective in detecting spurious effect, they were implemented. The findings are presented in Table 2.

Table 2: Unit Root Test

Variable	Levin, Lin & Chu Stat	Phillips Perron
CR:E_TA	-2.5244** (0.0058)	2.2175** (0.0133)
CR:TL_TA	-15.4442** (0.0000)	5.0534** (0.0000)
LR:TL_TA	-15.4442** (0.0000)	5.0534** (0.0000)
LR:TL_TD	-1.5795** (0.0049)	-3.0571** (0.0089)
CR:NPL_TD	-18.5892** (0.0000)	5.8132** (0.0000)
CR:NPL_TI	16.4074** (0.0000)	-1.7056** (0.0005)
MS: Log TA	-56.2700** (0.0000)	1.4181** (0.0081)
ROA:TI/TA	-1.2723** (0.0027)	1.0035** (0.0178)

Source: Field data (2023)

The presence of a non-balanced panel dataset necessitated the application of several unit root tests. According to the information provided in Table 2, the p-values are presented in parentheses. The symbols ** and * are used to indicate the rejection of the null hypothesis at the significance levels of 1% and 5% respectively. All of the observed P values were found to be less than the predetermined significance level of 0.05, indicating the absence of a unit root. Hence, the data proved to be suitable for analysis.

4.5 Correlation Analysis

Table 3 shows the relationship among independent, dependent and moderating variables.

Pearson correlation was therefore conducted.

Table 3: Correlation Analysis

VARIABLES	CR:E_TA	CR:TL_TA	LR:TL: TA	LR:TL: TD	CR:NPL:TD	CR:NPL: TI	MS:Log TA
CR:E_TA	1.0000						
CR:TL_TA	0.3287* 0.0023	1.0000					
LR:TL_TA	0.3208 * 0.0029	1.0000** 0.0000	1.0000				
LR:TL_TD	0.3208* 0.0029	0.2704* 0.0129	0.2704* 0.0129	1.0000			
CR:NPL_TD	0.2985* 0.0058	0.1103 * 0.3180	0.1103* 0.3180	0.2080* 0.0576	1.0000		
CR:NPL_TI	0.4077* 0.0001	0.2572* 0.0182	0.2572* 0.0182*	0.7194* 0.000	0.6411* 0.0000	1.0000	
MS: Log TA	0.1318* 0.2322	-0.4482* 0.0000	-0.4482 0.0000	0.1560* 0.1565	-0.0231* 0.8348	-0.0417* 0.7063	1.0000
ROA:TI/TA	0.0706* 0.5235	0.4776* 0.0000	0.4776* 0.0000	-0.4715* 0.0000	-0.1651* 0.0000	-0.6151* 0.000	0.4470* 0.0000

Source: Field data (2023)

The data did not demonstrate a significant link among the factors. The presence of multicollinearity was not observed, as the correlation coefficients were found to be below 0.9.

The study found that the link between capital risk and ROA was positive but not statistically significant for the CR:E_TA ratio ($\beta = 0.0706$). However, for the CR:TL_TA ratio, the association was positive and had a strong effect ($\beta = 0.4776$). The correlation coefficient between liquidity and ROA was -0.4715 for the liquidity ratio to total liabilities (LR:TL), indicating a negative and strong association. Similarly, the correlation coefficient between the current ratio (CR) to non-performing loans (NPL) to total debt (TD) was -0.6151, indicating a negative and weak relationship. On the other hand, the

positive and significant correlation coefficient of 0.4470 was observed for the size of microfinance. The conclusions of Meeme's (2015) analysis on the compliance of banks with Basel III align with the present study's examination of liquidity and capital adequacy. However, there is a divergence in the findings pertaining to asset quality. All variables exhibited p-values of 0.000, indicating statistical significance. Nevertheless, the credit risk exhibited a negative (-0.6151*) but statistically significant relationship, whereas both capital risk and liquidity risk had positive and statistically significant associations (0.0706* and 0.4776* respectively). Additionally, business size displayed a positive and statistically significant relationship (0.4470*).

4.5.1 Multi-Collinearity

The utilization of variance inflation factors and tolerance values was employed in order to elucidate the concept of multi-collinearity. Multicollinearity occurs when two or more independent variables exhibit correlation (Cooper & Schindler, 2011).

Table 4: Multi-Collinearity

Variable	Tolerance	VIF
Credit Risk	0.000	1.088
Liquidity Risk	0.008	2.107
Capital Risk	0.000	2.091

Microfinance size	0.071	1.020
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Source: Field data (2023)

The variance inflation factors (VIF) obtained from the coefficient table are all below 10, suggesting the absence of any issues related to multicollinearity. The coefficients in the tolerance table exhibit values below 1, indicating the absence of a multi-collinearity issue. In their study, Odalo, Achoki, and Njuguna (2016) determined that a Variance Inflation Factor (VIF) value below 10 is indicative of the absence of multicollinearity. The researchers conducted an assessment of the impact of Liquidity distress factor and Performance on agricultural enterprises listed at the Nairobi Securities Exchange in Kenya, focusing on financial perspectives.

4.5.2 Heteroscedasticity Test

Heteroscedasticity occurs when the variance of the error component, which is typically assumed to be constant, exhibits fluctuations. This suggests that the ordinary least squares model may be ineffective due to its tendency to underestimate the variance of standard errors, leading to potentially misleading outcomes. The presence of heteroscedasticity was assessed in this study using the utilization of the Walid test. The null hypothesis in this context is that there is homoscedasticity, denoted as H_0 , while the alternative hypothesis is that there is heteroscedasticity. The results are presented in Table 5.

Table 5: Test for Heteroscedasticity Results.

Walid Test	Walid test Statistic
Chi2 (28)	8.14
P-value	0.08501

Source: Field data (2023)

The results of the heteroscedasticity test, as presented in Table 5, reveal that the Walid test yielded a statistically significant outcome. The chi-square value obtained was 8.14, yielding a p-value of 0.08501. It is important to acknowledge that the p-value above the usual threshold of significance set at 0.05. The investigation's findings led to the rejection of the null hypothesis, indicating the lack of heteroskedasticity.

4.6 Regression Results

Linear regression analysis were conducted to relationship between study variables. The study adopted a fixed effects model from Hausman test conducted.

4.6.1 Hausman Test

Borenstein, Hedges, Higgins, and Rothstein (2010) argue that the use of fixed effects is appropriate when the significance level is equal to or less than 0.05, indicating support for the alternative hypothesis. Conversely, when the significance level exceeds 0.05, the use of random effects is deemed suitable, hence supporting the null hypothesis.

Table 6: Hausman Test

	ROA
Chi-sq statistic	12.41
Prob	0.0061

Source: Field data (2023)

The findings presented in Table 6 revealed a probability value ($\text{prob} > \chi^2$) of 0.0061, which was found to be lower than the predetermined significance level of 0.05. This result suggests that the alternative hypothesis, which supports the adoption of a fixed effect model, can be accepted.

4.6.2 Influence of Capital Risk on Performance of Microfinance Institutions

The study sought to establish results on the null hypothesis H_{01} : Capital risk has no significant influence on financial performance of Microfinance Institutions in Kenya. Table 7 contains the findings.

Table 7: Regression Fixed Effects of ROA on Capital Risk

xtreg ROA_	Ratio Capital_risk_	Ratio,fe
Fixed-effects (within) regression	Number of obs	= 84
Group variable: FIRM	Number of groups	= 12
R-sq:	Obs per group:	
within = 0.1071	min =	7
between = 0.7667	avg =	7.0

overall = 0.0050

max = 7

F(1,71) = 8.52

corr(u_i, Xb) = -0.2061

Prob > F = 0.0047

ROA_Ratio	Coef.	Std. Err.	t	P> t 	[95% Conf. Interval]	
Capital_risk_Ratio	-.1203394	.0412379	-2.92	0.005	-.2025653	-.0381135
_cons	.6510963	.0346763	18.78	0.000	.5819537	.7202388
sigma_u .07394387						
sigma_e .06427649						
rho .56960128 (fraction of variance due to u_i)						
F test that all u_i=0: F(11, 71) = 8.87				Prob > F = 0.0000		

Source: Field data (2023)

The findings derived from the fixed effect model revealed that Capital risk explained 10.71% (Overall R square=0.1071) of the variability in the financial performance of Microfinance firms. The obtained p-value was determined to be 0.0000, which is below the significance level of 0.05. The statistical analysis revealed that the observed link between the variables was deemed to be statistically significant, as evidenced by the p-value of 0.000, which fell below the predetermined significance level of 0.05. The regression model is depicted in the following manner.

$$LNROA = 0.6510963 - 0.1203394CR$$

The present study has thus refuted the null hypothesis, which proposed that liquidity did not have a major impact on the financial outcomes of Microfinance firms. The study revealed that capital risk exhibited a statistically significant impact on financial outcomes. The study conducted by Kariuki and Wafula (2016) centered on microfinance organizations in Kenya, specifically examining the relationship between capital risk and

financial outcomes. The findings of their study demonstrated that the exposure to capital risk exerted a significant impact on the financial performance of the organizations. The study conducted by Yahaya, Mansor, and Okazaki (2016) revealed that there was a positive relationship between capital risk and the performance of financial institutions. However, it was found to be statistically insignificant. In their study, Yahaya et al. (2016) examined the concept of generic financial institutions and explored the potential for variability within this framework.

4.6.3 Influence of Liquidity Risk on performance of Microfinance Institutions

The primary aim of this study was to evaluate the influence of liquidity risk on the financial performance of Microfinance institutions. The null hypothesis, symbolized as Ho2, asserts that there exists no statistically significant correlation between liquidity risk and the financial performance of Microfinance institutions in Kenya. The results are displayed in Table 8.

Table 8: Regression Fixed Effects of ROA on Liquidity Risk

xreg ROA_ Ratio Liquidity_ratio_2,fe			
Fixed-effects (within) regression	Number of obs	=	84
Group variable: FIRM	Number of groups	=	12
R-sq:	Obs per group:		
within = 0.2408	min =		7
between = 0.3666	avg =		7.0
overall = 0.2223	max =		7
	F(1,71)	=	22.52
corr(u_i, Xb) = 0.1694	Prob > F	=	0.0000

ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Liquidity_ratio_2	-.1335594	.0281435	-4.75	0.000	-.1896759	-.0774429
_cons	.689969	.0297841	23.17	0.000	.6305813	.7493567
sigma_u	.06279618					
sigma_e	.05926845					
rho	.52887636	(fraction of variance due to u_i)				
F test that all u_i=0: F(11, 71) = 7.63				Prob > F = 0.0000		

Source: Field data (2023)

The findings derived from the fixed effect model revealed that liquidity risk was responsible for 24.08% (Overall R square=0.2408) of the variability observed in the financial performance of Microfinance institutions. The results indicated a p-value of 0.0000. The statistical significance of this association was confirmed, as evidenced by the p-value for liquidity risk being 0.0000, which fell below the predetermined significance limit of 0.05. The presented model is a regression model.

$$LNROA = 0.689969 - 0.1335594 LR$$

The results obtained from this research challenge the null hypothesis, which posits that there is no substantial impact of liquidity risk on the financial performance of microfinance institutions. However, the findings of the research indicate that liquidity risk exerts a significant influence on financial results. The presented data illustrates a positive correlation between the reduction of liquidity risk and the improvement of financial results in Microfinance institutions. Korir (2019) conducted an empirical investigation to examine the relationship between liquidity and the financial performance of microfinance institutions in Kenya, and the findings presented in this study corroborate

his findings. The study revealed a significant and positive correlation between liquidity risk and financial performance. This study presents an alternative perspective on the relationship between liquidity and the performance of agricultural firms listed on the Nairobi Securities Exchange in Kenya, hence questioning the findings put up by Odalo, Achoki, and Njuguna (2016). The research undertaken by Odalo et al. (2016) focused on agricultural enterprises, indicating that the variations in findings may be attributed to inter-firm disparities.

4.6.4 Influence of Credit Risk on Performance of Microfinance Institution

The objective of this study was to investigate the impact of credit risk on the financial performance of Microfinance firms. The null hypothesis, denoted as Ho3, posits that there is no statistically significant relationship between credit risk and the financial success of Microfinance firms. The findings are presented in Table 9.

Table 9: Regression of Fixed Effects of ROA on Credit Risk

xtreg ROA_Ratio Credit Risk ratio_2,fe			
Fixed-effects (within) regression	Number of obs	=	84
Group variable: FIRM	Number of groups	=	12
R-sq:	Obs per group:		
within = 0.3938	min =		7
between = 0.4929	avg =		7.0
overall = 0.3784	max =		7

F(1,71) = 46.12

corr(u_i, Xb) = 0.2228 Prob > F = 0.0000

ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Credit Risk_ratio_2	-.1196367	.0176156	-6.79	0.000	-.1547611	-.0845123
_cons	.7531436	.0301759	24.96	0.000	.6929747	.8133126
sigma_u .05678456						
sigma_e .05296074						
rho .53480044 (fraction of variance due to u_i)						
F test that all u_i=0: F(11, 71) = 7.65				Prob > F = 0.0000		

Source: Field data (2023)

The results obtained from the fixed model indicate that credit risk accounts for 39.38% (Overall R sq=0.3938) of the variability observed in the financial performance of Microfinance institutions. The results indicated a p-value of 0.0000. The statistical analysis revealed that the observed link between the variables was deemed to be statistically significant. This conclusion was based on the p-value of 0.000 for credit risk, which was below the predetermined significance level of 0.05.. Regression equation is shown below.

$$LNROA = 0.7531436 - 0.1196367CR$$

This research thus rejected the null hypothesis, indicating the existence of a statistically significant link between credit risk and economic outcomes. These results line up with Korir (2019) did an empirical study to look at how microfinance institutions in Kenya's economy fared when exposed to credit risk. Credit risk was found to have a statistically significant positive correlation with financial outcomes. Contradictory results were shown in the study. In a 2016 study, Muriithi, Waweru, and Muturi analyzed the effect of

credit risk on the bottom lines of 43 Kenyan commercial banks from 2005 to 2014. According to their research, credit risk didn't significantly affect the profitability of the banks. Muriithi et al. (2016) conducted research exclusively in the banking industry, which raises the possibility that variances between companies could explain the varying findings.

4.6.5 Multiple Regression

The study sought to obtain the multiple effect of Microfinance Size on Financial Risk Factors and Performance of Microfinance Institutions.

Table 10: Multiple Regression

Source	SS	df	MS	Number of obs =	84
				F(3, 80) =	127.69
Model	.579026492	3	.193008831	Prob > F =	0.0000
Residual	.120919532	80	.001511494	R-squared =	0.7272
				Adj R-squared =	0.7208
Total	.699946024	83	.008433085	Root MSE =	.03888
ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Capital_R	.4481392	.0311438	14.39	0.000	.386161 .5101174
Liquidity_R	-.068106	.0250293	-2.72	0.008	-.1179159 -.0182961
Credit R	-.1643054	.016665	-9.86	0.000	-.1974697 -.131141
_cons	.3907783	.0358828	10.89	0.000	.3193693 .4621873

Source: Field data (2023)

Model one incorporates the analysis of ROA alongside the examination of other financial risk variables. The statistical analysis of the independent and dependent variables yielded

an R-squared value of 0.7272, indicating that 72.72% of the variability in the financial risks of microfinance organizations can be attributed to the financial risks factor, which is statistically significant. This contribution holds substantial importance, as evidenced by the statistical significance of $P=0.000$. This implies that the financial hazards factor serves as a major predictor of financial performance. These findings are consistent with the findings of Mule, Mukras, and Nzioka (2015), who discovered a statistically significant positive link between financial risks and profitability. However, they differ from the findings of Agola (2014), who found the relationship between financial risks and profitability to be statistically insignificant. The equation for regression is as follows:

$$\text{LNROA} = 0.3908 + 0.39 - 0.448\text{CR} - 0.068\text{LR} - 0.164\text{CR}$$

4.6.7 Moderating effect of Microfinance Size on Financial Risk Factors and Performance of Microfinance Institutions

The purpose of this research was to determine if and how microfinance institution size affects the correlation between financial risk factors and performance. Microfinance size is not a significant moderator of the association between financial risk factors and the financial performance of Microfinance Institutions in Kenya, according to the null hypothesis H_04 . Microfinance Size was tested as a potential moderator between Financial Risk Factors and Financial Performance using a hierarchical regression analysis.

The regression findings are summarized in Table 10, 11, and 12, where three models were developed.

Table 11: Model 1-Independent and Dependent Variables

Source	SS	df	MS	Number of obs =	84		
				F(3, 80)	=	127.69	
Model	.579026492	3	.193008831	Prob > F	=	0.0000	
Residual	.120919532	80	.001511494	R-squared	=	0.7272	
				Adj R-squared	=	0.7208	
Total	.699946024	83	.008433085	Root MSE	=	.03888	
ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
Capital_R	.4481392	.0311438	14.39	0.000	.386161	.5101174	
Liquidity_R	-.068106	.0250293	-2.72	0.008	-.1179159	-.0182961	
Credit R	-.1643054	.016665	-9.86	0.000	-.1974697	-.131141	
_cons	.3907783	.0358828	10.89	0.000	.3193693	.4621873	

Source: Field data (2023)

Model one incorporates the analysis of ROA alongside the examination of other financial risk variables. The regression analysis conducted on the independent and dependent variables yielded an R-squared value of 0.7272, indicating that 72.72% of the variability in the financial risks of microfinance organizations can be attributed to the financial risks component, and this relationship is statistically significant. This contribution holds substantial importance, as indicated by a p-value of 0.000, suggesting that the financial hazards component serves as a major predictor of financial performance. These findings are consistent with the research conducted by Mule, Mukras, and Nzioka (2015), which identified a statistically significant positive association between firm size and the link between financial risks and profitability. However, these findings contradict the findings of Agola (2014), who determined that the moderating effect of firm size was not significant. The equation for regression is as follows:

$$\text{LNROA} = 0.3908 + 0.39 - 0.448\text{CR} - 0.068\text{LR} - 0.164\text{CR}$$

Table 12: Model 2-Independent, Moderating and Dependent Variables

Variables in Model: Capital__R- Liquidity R_ratio_2 Credit R_ratio						
Adding : Total_Assets						
Source	SS	df	MS	Number of obs =	84	
				F(4, 79)	= 100.52	
Model	.585003842	4	.14625096	Prob > F	= 0.0000	
Residual	.114942182	79	.001454964	R-squared	= 0.8358	
				Adj R-squared	= 0.8275	
Total	.699946024	83	.008433085	Root MSE	= .03814	
ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Capital_R	.411326	.0355463	11.57	0.000	.3405729	.4820791
Liquidity_R	-.0537422	.0255589	-2.10	0.039	-.1046159	-.0028685
Credit R	-.1664237	.0163837	-10.16	0.000	-.1990347	-.1338127
Total_Assets	-.0132568	.0065405	-2.03	0.046	-.0262754	-.0002383
_cons	.5507385	.0864158	6.37	0.000	.3787321	.7227449

R-Square Diff. Model 2 - Model 1 = 0.009 F(1,79) = 4.108 p = 0.046

Source: Field data (2023)

Model two examines the relationship between the dependent variable, ROA, and the independent variables, financial risk factors. Additionally, it considers the moderating variable, microfinance size. The regression analysis conducted on the independent, moderating, and dependent variables yielded a R square value of 0.7358, indicating that 73.58% of the variability in the risks of Microfinance institutions may be attributed to the considerable influence of financial risk factors. The incorporation of additive

Microfinance size into the analysis resulted in an increase in the R squared value from 0.7272 to 0.7358. Although the scale of microfinance had a notable impact, the magnitude of the increase was rather modest, as evidenced by the statistical significance of $P=0.0086$. The subsequent regression model is presented in the following manner. The equation for LNROA can be expressed as follows: $LNROA = 0$

Table 13: Model 3-Independent, Moderating, Interaction and Dependent Variables

Source	SS	df	MS	Number of obs =	84		
				F(7, 76)	=	57.19	
Model	.588267054	7	.084038151	Prob > F	=	0.0000	
Residual	.111678969	76	.00146946	R-squared	=	0.7404	
				Adj R-squared	=	0.7258	
Total	.699946024	83	.008433085	Root MSE	=	.03833	
ROA_Ratio	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
Capital_Risk_R	.0649009	.3587252	0.18	0.857	-.6495622	.779364	
Liquidity R_ratio_	-.1979092	.3152177	-0.63	0.532	-.8257198	.4299013	
Credit R_ratio_	-.2743564	.213909	-1.28	0.204	-.700393	.1516803	
Total_Assets	-.0874741	.0502372	-1.74	0.086	-.1875301	.012582	
Size_Capital Risk	.0353288	.0370815	0.95	0.344	-.0385255	.1091831	
Size_Liquidity Risk	.0146475	.0329927	0.44	0.658	-.0510632	.0803582	
Size_Credit Risk	.0115377	.0224234	0.51	0.608	-.0331223	.0561976	
_cons	1.271452	.4913817	2.59	0.012	.2927807	2.250124	
R-Square Diff. Model 3 - Model 2 = 0.005 F(3,76) = 0.740 p = 0.531							
Model	R2	F(df)	p	R2 change	F(df) change	p	
1:	0.827	127.694(3,80)	0.000				

2: 0.836	100.519(4,79)	0.000	0.009	4.108(1,79)	0.046
3: 0.840	57.190(7,76)	0.000	0.005	0.740(3,76)	0.531

Source: Field data (2023)

Model three encompasses several key components, including ROA, financial risk factors, microfinance size, and the relationship between financial risk variables and microfinance size. The third regression model is presented in the following manner.

The model yielded an R-square value of 0.7404, indicating that 74.04% of the variability in the risks of microfinance organizations may be attributed to the considerable influence of financial risk factors. The inclusion of interaction terms, specifically the product of the independent variable (IV) and the moderator variable (MV), resulted in an increase in the coefficient of determination (R squared) from 0.736 to 0.7404. The observed change in the variable under investigation yielded a p-value of 0.005, indicating statistical significance. The marginal nature of this increase suggests that the interaction between the scale of microfinance and financial risk factors did not have a significant moderating impact on the connection between financial risk factors and the financial performance of microfinance firms.

$$NRROA = 1.27 + 0.0649CAR + -0.1979LR + -0.274CR + -0.087TA + 0.035CAR + 0.01462LRS + 0.0115CRS$$

This discovery aligns with the conclusions drawn by Mule, Mukras, and Nzioka (2015), as they identified a statistically significant positive correlation between the size of a corporation and the connection between financial risks and profitability. Nevertheless, the results shown here are in direct contrast to the conclusions drawn by Agola (2014),

whose research indicated that the influence of business size as a moderating factor was not statistically significant.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study employed provided summary of findings, conclusions and recommendations strictly based on capital risk, liquidity risk, credit risk and Microfinance size moderation on financial risk factors and Performance of Microfinance Institutions in Kenya.

5.2 Summary of the Findings

The main objective of this study was to evaluate the influence of financial risk indicators on the performance of Microfinance Institutions (MFIs) in Kenyan firms that are listed on the Nairobi Securities Exchange. The data employed in this study was acquired from secondary sources, specifically public financial reports of Microfinance Institutions operating within Kenyan firms listed at the Nairobi Securities Exchange.

5.2.1 Capital Risk and Performance of Microfinance Institutions

The main objective of this study was to evaluate the influence of capital risk on the financial performance of publicly traded Microfinance institutions on the Nairobi Securities Exchange in Kenya. The examination of panel data uncovers a statistically significant positive correlation between capital risk and financial performance of

Microfinance institutions that are publicly traded on the Nairobi Securities Exchange in Kenya ($p = 0.000$, $p < 0.05$). The study revealed a significant positive correlation between capital risk and the financial success of the Nairobi Securities Exchange in Kenya. The study resulted in the rejection of hypothesis HO1.

5.2.2 Liquidity Risk Influence and Performance of Microfinance Institutions

The first objective of the research was to examine how liquidity risk affects the financial results of Microfinance Institutions traded on the Nairobi Securities Exchange in Kenya. The examination of panel data demonstrates a statistically significant positive correlation between liquidity risk and the financial performance of Microfinance institutions listed in the Nairobi Securities Exchange in Kenya ($p = 0.000$, $p < 0.05$). The study revealed a significant positive correlation between liquidity risk and the financial performance of the Nairobi Securities Exchange in Kenya. The study rejected HO2.

5.2.3 Credit Risk and Performance of Microfinance Institutions

The first objective of the study was to determine the influence of credit risk on financial performance of Microfinance institutions listed in the Nairobi Securities Exchange in Kenya. The results obtained from the analysis of panel data demonstrate a statistically significant association between credit risk and the financial performance of Microfinance institutions that are listed on the Nairobi Securities Exchange in Kenya ($p = 0.000$, $p < 0.05$). The study revealed that there is a statistically significant and positive relationship between credit risk and the financial performance of the Nairobi Securities Exchange in Kenya. The hypothesis HO3 was rejected in the study.

5.2.4 Moderating effect of Microfinance size and Financial Risk Factors and Performance of Microfinance Institutions

The first objective of the study was to determine the influence of Microfinance size on the relationship between financial risk factors and financial performance of Microfinance institutions listed in the Nairobi Securities Exchange in Kenya. Panel data Pearson correlation results show that microfinance size had a positive significant relationship between financial risk factors and financial performance $p = 0.0086$ ($p < 0.05$). The study rejected H_{O4} .

5.3 Conclusion

The findings of the study suggest that an increase in capital risk is correlated with a significant enhancement in the financial performance of Microfinance institutions that are publicly traded on the Nairobi Securities Exchange in Kenya. Therefore, the significant influence of capital risk on the financial performance of Microfinance institutions listed on the Nairobi Securities Exchange in Kenya has been seen.

The findings of the study suggest that an increase in liquidity risk is correlated with a significant enhancement in the financial performance of Microfinance institutions that are listed on the Nairobi Securities Exchange in Kenya. Therefore, the significant influence of liquidity risk on the financial performance of Microfinance institutions that are listed on the Nairobi Securities Exchange in Kenya has been seen.

The outcomes of the study suggest a favorable relationship between credit risk and the financial performance of Microfinance institutions that are listed in the Nairobi Securities Exchange in Kenya. Therefore, the significant influence of credit risk on the financial

performance of Microfinance institutions listed on the Nairobi Securities Exchange in Kenya has been seen.

The outcomes of the study indicate a favorable correlation between the size of microfinance organizations and the relationship between financial risk indicators and financial performance. The aforementioned association was noticed within the Microfinance institutions that are listed on the Nairobi Securities Exchange in Kenya. Therefore, the magnitude of microfinance institutions is of utmost importance in mitigating the significant impact of financial risk factors on the financial performance of said institutions enlisted on the Nairobi Securities Exchange in Kenya.

5.4 Recommendation

The findings guided following recommendations:

It was found capital risk to be significant on financial performance hence microfinance firms should improve their assets so as to minimize risks associated to firm capital base.

It was found that found liquidity risk to be significant on financial performance hence microfinance firms should manage cash inflow and outflows.

It was found that found credit risk to be significant on financial performance hence microfinance firms should check on loan performance and minimize cases of loan non performance by managing credit terms.

It was found that found microfinance size had a moderating significant influence hence microfinance firms should diverse there asset base to enable performance.

5.5 Suggestion for Further Studies

Listed manufacturing companies are 8 in number hence a study on all manufacturing firms can be conducted.

A similar study on effect of quality of financial reporting on the performance can be done in other sectors like agricultural firms or county governments.

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Appendix I: List of Microfinance Institutions Under CBK Supervisory Reports

Microfinance	Licensed Year
1. Kenya Women Microfinance Bank Limited	2010
2. Faulu Microfinance Bank Limited	2009
3. Rafiki Microfinance Bank Limited	2011
4. SMEP Microfinance Bank Limited	2010

5. Maisha Microfinance Bank	2015
6. Caritas Microfinance Bank	2015
7. Century Microfinance Bank	2012
8. U & I Microfinance Bank	2013
9. Uwezo Microfinance Bank	2010
10. Choice Microfinance Bank	2015
11. Daraja Microfinance Bank	2015
12. Muungano Microfinance Bank	2012

Appendix II: Document Analysis

	2016	2017	2018	2019	2020	2021
Total Assets						
Total loans						
Non Performing loans						
Total income						
Total assets						

Appendix III: Research Permit