

**EFFECT OF FIRM-LEVEL FACTORS ON THE FINANCIAL PERFORMANCE OF
MICROFINANCE BANKS IN KENYA.**

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DECLARATION

This research project is my original work and to the best of my knowledge, it has not been submitted for any academic award within any other institution.

Signature *meki* Date 29th November, 2023

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This research project is submitted for presentation with my approval as university supervisor.

Signature *Winnie* Date November 28, 2023

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DEDICATION

I dedicate this work to my partner Nelly and my entire family for their moral support throughout my study.

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LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
DTM	Deposit Taking Microfinance
FP	financial performance
FS	Firm Size
LQ	Liquidity
LQTY	Loan Quality
MFB	Microfinance Bank
MS	Market Share
NIM	Net Interest Margin
ROA	Return on Assets
ROE	Return on Equity

ABSTRACT

Microfinance banks are critical to the development of any economy and they are useful in poverty alleviation and grassroots reach as well as providing financial access to low-income households and businesses. However, in Kenya, MFIs have been struggling, recently reporting performance declines. This study therefore sought to establish the effect of Firm-Level Factors on microfinance institutions' Financial Performance in Kenya. The study specified liquidity, deposit level, market share and loans quality and their effect on ROA. The study is guided by the trade-off theory and the agency theory. This study used a descriptive research design that targeted 14 registered microfinance banks. The study utilized quantitative panel research data and descriptive and inferential analysis. The findings were then presented in tables and charts. The results were that there is a statistically positive and significant relationship between firm-level factors and financial performance of MFB. Conclusions were that there is no significant effect of liquidity ratio on the MFB FP, deposits ratio and market share have an insignificant effect and firm size had a significant effect. Finally, there was no significant effect of loan quality on MFB's FP. Recommendations were that MFBs ensure that they maintain adequate liquidity to meet short-term obligations, while also assessing and managing other risks. The study also recommends that smaller MFBs should consider developing strategic growth plans aimed at increasing their size while larger MFBs should leverage their expanded capacity to offer a broader range of financial products and services since diversification can attract a more diverse customer base, generate additional revenue streams, and enhance overall FP. The study also suggested further research on other factors including technological innovations, regulatory changes and macroeconomic factors and their effect on the FP of these microfinance banks.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Microfinance is instrumental in alleviating financial distress, promoting financial access and supporting economic development, particularly in emerging economies (Central Bank of Kenya, 2015). Microfinance banks, as specialized financial institutions, serve the financial needs of low-income individuals and small-scale enterprises who have limited access to formal banking services. Between 2009 and 2018, the microfinance industry witnessed a global growth rate of 11.5%, with the number of borrowers increasing from 98 to 139 million and the estimated loan asset growing to USD 124 billion from less than USD 50 billion in 2010 (Financial Sector Deepening, 2019).

Despite these firms' growth, Witila and Ondabu (2022) opine that several internal factors such as sales and asset growth, liquidity, leverage and firm size improve microfinance banks' FP and according to Abubakar, Sulaiman and Haruna (2018), internal decision making and asset tangibility factors do influence financial firms' revenue generation ability. Kenya had 10 microfinance banks (MFBs) whose asset base grew from Ksh10 billion in 2010 and by 2022, the number had grown to 30, and the asset base to Ksh100 billion (Central Bank of Kenya, 2023).

According to Witila and Ondabu (2022), fundamental firm characteristics are the main determinants of a firms' financial performance. The researchers explain that the conceptual relationship between firm characteristics and FP can be explained by various theories such as the stakeholder's theory, liquidity theory, trade-off theory, agency theory, stewardship theory and the wealth maximization theory. These theories show the association between distinct firm characteristics such as the capital structure, the liquidity, solvency and firm size and the firms performance outcomes. According to the liquidity theory, for instance, liquidity levels determine firms' ability to pay their debts using assets while leverage determines a firms' ability to source loans as sources of finance (Adrian & Shin, 2020). This study employed the trade-off theory which predicts that firms can achieve balance between tax benefits and costs of debt by substituting debt with equity or equity with debt until the firm hits the optimal capital structure and the agency theory which explains how businesses and their stakeholders interact through internal governance structures.

Empirical evidence shows that growth of the microfinance industry is indeed influenced by a host of firm-specific variables. For instance, Pakistani MFIs experienced a significant decline in repayments due to widespread floods in 2013 which significantly affected their income generation (Wijesiri & Meoli, 2015). Failures have characterized Nigerian MFIs since the 2008 financial crisis, as highlighted by Babajide, Taiwo, and Adetiloye (2017). In Uganda, Semwanga (2022) attributes poor performance in the microfinance sector to inadequate credit risk management and management inefficiencies. Similarly, a study by Kivaya (2022) reveals low performance outcomes for Kenyan MFIs, asserting that size factors such as the number of board members, its composition and nature (duality) negatively impact microfinance banks' FP. Nyabaga and Wepukhulu (2020), on the other hand found mixed effects of asset quality and leverage on performance, but a significant positive effect of capital adequacy on ROA. Asset quality, on the other hand, negatively impacted the firms' FP.

However, the microfinance sector's contribution to expanding financial access in Kenya has been relatively disappointing, despite the country's overall financial access rate reaching 82.9% in 2019, a significant improvement from 26.7% in 2006 (Financial Sector Deepening, 2019). The sector is struggling to match growth of formal financial institutions such as Savings and Credit Cooperative Organizations (SACCOs), banks and emerging financial technology service providers (Wijesiri & Meoli, 2015). In terms of specific figures, the gross loans of Deposit Taking Microfinance (DTM) in Kenya were Ksh. 40.8 billion in March 2015 against Ksh. 40 billion in the previous year, a modest 2% increase, indicating satisfactory performance. However, in the same period, long-term loans declined by Ksh. 2 billion, a 29% decrease (Central Bank of Kenya, 2023).

Against this backdrop, this study sought to examine the potential impact of firm-level factors on the profitability of Microfinance Banks (MFBs) in Kenya. By investigating these factors, the study aimed to determine whether they have a significant influence on the FP of MFBs operating in the Kenyan context.

1.1.1 Firm Level Factors

Firm level factors are those unique internal firm-specific factors that describe an organization including their size, age and market presence (Arora, 2014). Firm level factors can significantly impact organizational performance and understanding the impact of firm-level factors on FP is crucial for microfinance banks decision making regarding their operations and strategic direction,

as well as improving their profitability, sustainability, and overall effectiveness in serving their target clients (Adrian & Shin, 2020). Adrian and Shin (2020) affirm that firm-level factors do impact firm's competitiveness and profit generation capacity. The researchers identified firm size and leverage as unique firm specific factors while the researchers Abubakar, Sulaiman and Haruna (2018) singled out liquidity, deposits, market share and loan quality as the main firm-level factors that influence financial firms' performance in their study. This study sought to assess the effect of these firm level factors which can influence microfinance banks' FP

Liquidity level is the degree to which a company or financial institution has readily available cash or assets that can be easily converted into cash to meet its short-term obligations (Duffie, 2020). Egbunike & Okerekeoti (2018) defined liquidity level as a measure of firm's ability to generate cash quickly and efficiently to cover its operating expenses, debt repayments, and any unexpected financial obligations. Liquidity level is crucial for microfinance banks as it directly impacts their ability to meet the withdrawal demands of depositors and fulfil their funding requirements for new loans (Adrian & Shin, 2020). Adequate liquidity ensures that a microfinance bank can operate smoothly, maintain customer confidence, and sustain its lending activities. Liquidity level can be evaluated using various measures including: current ratio (CR), quick ratio, cash ratio, operating cash flow ratio, working capital ratio and cash conversion cycle (Duffie, 2020). The study utilized the CR (the ratio of total debt to total assets).

According to Allen & Gale, (2017), deposit level refers to the amount of funds or financial resources that individuals, businesses, or organizations have deposited with a financial institution. In the context of microfinance banks, deposit level refers to the aggregate value of funds that clients have entrusted to the bank through various deposit products, such as savings accounts, current accounts, fixed deposits, or other deposit instruments (Allen, 2018). Higher deposit levels indicate greater confidence and attractiveness of the bank's deposit products, which can contribute to its stability, liquidity, and ability to fulfil its financial obligations. Total deposits, deposit growth rate and average deposit size are some of the measures of the deposit level. The study employed total deposits since it provides an aggregate view of the institution's deposit base.

Market share refers to the portion or percentage of the total market demand or sales captured by an organization within a specific industry or product category (Kotler, Kartajaya, & Setiawan, 2017). In the context of microfinance banks, market share refers to the bank's share of the overall

market for microfinance services and represents the portion of the microfinance customer base, loan portfolio, or other relevant metrics that a particular microfinance bank holds compared to other players in the industry. Market share can be evaluated based on various factors, such as the number of clients served, loan portfolio size, total assets, or loan disbursements (Arabsalehi & Mahmoodi, 2012). A higher market share suggests that the bank has a significant presence in the market and is successful in attracting and retaining clients relative to its competitors (Kotler, Kartajaya, & Setiawan, 2017).

According to Calem & Robison, (2018) Loan quality refers to the overall health and performance of a loan portfolio or the quality of individual loans held by a financial institution, such as a microfinance bank. It reflects the likelihood of borrowers fulfilling their repayment obligations according to the agreed terms and conditions (Calem & Robison, 2018). Loan quality is a critical aspect for assessing the financial soundness and sustainability of microfinance banks and measures the extent to which loans granted by the bank are performing well or facing challenges in terms of repayment, delinquency, default, or loss (Berger & Udell, 2017). Loan quality can be evaluated using various indicators, such as the percentage of non-performing loans (NPLs), the loan loss provision ratio, the portfolio-at-risk ratio, or the collection efficiency ratio (Calem & Robison, 2018). A strong loan quality indicates that borrowers are repaying their loans in a timely manner, reducing the risk of loan defaults and associated financial losses.

1.1.2 Financial Performance

Liu, Wright and Filatotchev (2015) define financial performance (FP) as an organization's ability to meet financial goals through the use of strategic assets. Yasnur and Kurniasih (2017) affirm that financial performance results show an organization's ability to operate optimally and reduce wastage, maximize profitability and sustain growth. FP is the evaluation of a company's or financial institution's ability to generate profits, create value, and effectively manage its financial resources (Brigham & Houston, 2019). It assesses the overall financial health, profitability, and efficiency of an entity

Kolapo (2012) avers that measuring firm performance offers wide-scale benefits in terms of strategic approach, risk evaluation, as well as monitoring the firm's growth and direction (Dargge, 2016). Arabsalehi and Mahmoodi (2012) identify different indicators of an organization's FP, including Return on Assets (ROA) and Return on Equity (ROE), earnings per share (EPS), Net

Present Value (NPV). This study sought to measure FP using CBK's main measure, ROA which indicates the degree of efficiency and effectiveness of transforming assets into income sources (Arabsalehi & Mahmoodi, 2012).

1.1.3 Firm Level Factors and Financial Performance

As indicated, firm level factors are those distinct characteristics that define an organization such as their size, number of years in operation, number of employees and liquidity level (Agboklou & Ozkan, 2023), turnover, growth in sales and assets, leverage, debt performance, among others (Hermes & Hudin, 2018). However, these characteristics have different impacts on an organization's performance, with larger firms being more stable than smaller firms (Abubakar, Sulaiman, & Haruna, 2018). Studies such as Rizkiah (2019) show how microfinance efforts to extend credit to poor communities can negatively impact profitability in Bangladesh while in a global study involving 87 countries, Quayes (2015) was certain that social outreach does not impact profits. Within insurance firms, Abubakar et al. (2018) ascertained that liquidity risk has a low but negative and insignificant effect on their FP in Kenya while according to Abwao (2018), liquidity risk management has significant positive impacts on the returns of listed commercial banks.

In the study by Ha (2020), credit growth was associated with increased profitability in Vietnam and according to Mohammad, Chen and Ahmad (2019), MFIs can achieve dual goals of extending social outreach while still remaining sustainable. In Nigeria, however, while factors such as lending, capital adequacy, liquidity and bank efficiency significantly influence banks' performance, customer deposits had no statistical influence on banks' ROA and ROE. Most of the studies, however, point to a significant negative impact on the ratio of NPLs and affirm that banks have a balanced approach at managing core aspects of their organizations such as the asset quality, portfolio growth, expansion goals as well as social outreach to maintain their performance. This study sought to assess how various specific MFI characteristic influence the FP of MFIs in Kenya.

1.1.4 Microfinance Banks in Kenya

Microfinance banks are financial institutions that provide financial and non financial services to low-income groups and SMEs (Amfi, 2020). Microfinance banks exist to provide these key services to businesses and individuals who would be excluded from accessing formal financial institutions. The sector plays a key role in financial sector deepening and inclusion and in Kenya,

the Central Bank of Kenya (CBK) (2023) reports that they provide microfinance services to 45% of the informal sector.

The CBK (2023) is the country's regulator and it reports that it has licenced 14 microfinance banks as of May 2023. Three of the largest MFBs control 81% of the market share, five medium MFBs 17.6%, and six small MFBs, only 1.4% (Central Bank of Kenya, 2023). This study will focus on these registered firms. The CBK sets the minimum capital requirements for MFBs and monitors their financial performance (Association for Microfinance Institutions, 2022).

1.2 Research Problem

Microfinance banks are critical to the development of any economy and they have been ranked ahead of conventional banks, providing financial access to the poor in low-income households and businesses (Karanja, 2018). To achieve this, they need to have adequate structures and financial capacity (Mwangi, 2019). However, in Kenya, MFIs have been struggling, recently reporting performance declines according to the AMFI (2022) which reports that net interest margin declined from 10.1% in 2010 to 9.3% in 2019 to 8.9% in 2022. Moreover, the NPL ratio for Kenyan microfinance banks has been steadily increasing from 2.9% in 2010 to 3.5% in 2018 to 4.2% in 2022 (Central Bank of Kenya, 2023), signifying that the institutions are making less profit and struggling to collect the loans. Onyango and Gatumo (2022) link reduced MFI performance to low liquidity while according to Ngumo et al. (2020), capital adequacy and firm size have significant positive effects on MFI's ROA. Indeed, Dargge (2016) asserts that one has to deconstruct firms into their constituent elements to understand why their performances vary so differently.

Kitonyi (2019) affirms that there has been limited empirical examination into the causal nexus between firm characteristics and MFBs FP in developing economies. Previous studies by Christen et al. (2021) and Sharma and Narasimhan, (2019) have found that higher liquidity and deposit levels, a higher firm age and considerable total assets positively affect the FP of microfinance institutions. Studies by Zeller and Meyer, (2022) and Ganle and Ayim, (2017) revealed a positive relationship between asset quality, leverage, deposit levels and microfinance bank performance. Cull et al. (2019) determined that a higher market share has been associated with improved FP due to economies of scale and increased diversification. Hermes et al. (2015) established a negative relationship between firm age, borrowing, loan quality and FP (Klapper et al., 2018).

Despite the evidence from studies conducted in other countries, there is limited empirical research on the influence of these firm-level factors on the FP of microfinance banks in the Kenyan context. Existing studies provide inconclusive evidence or emphasize commercial banks (Onyango & Gatumo, 2022), and SACCOs (Mwangi & Wambua, 2016), overlooking the microfinance banks. Ngumo et al. (2020) focused on MFI's and ascertained that the institution's operational efficiency, capital adequacy, firm size improves FP while liquidity risk and credit risk have no significant effects. On the other hand, Njue (2020) deduced that liquidity management have a fundamental influence on MFIs ROE in Kenya while the asset quality and maturity gap had a negative but insignificant effect. Indeed, different factors can explain MFB's FP outcomes (Abuga, 2022; Abdulnafea, 2022; Alshatti, 2015). However, there still exists gaps that need addressing. Hence this research sought to answer reveal the relationship between firm-level factors and the MFB's profits in terms of ROA.

1.3 Objective of the Study

This study's objective is to establish the effect of Firm-Level Factors on the Financial Performance of Microfinance Banks in Kenya.

1.4 Value of the Study

The study will contribute to a deeper understanding of the microfinance sector in Kenya, particularly in relation to the factors influencing the MFB's FP. This knowledge can help policymakers, regulators, and industry participants make informed decisions, develop appropriate strategies, and implement effective measures to enhance the sector's stability and growth. The study's findings can have implications for policy and regulatory frameworks governing microfinance in Kenya. Regulators can utilize the research outcomes to shape policies that promote sound financial practices, encourage market competitiveness, and enhance the overall stability of the microfinance sector.

By identifying the firm-level factors that impact MFI's FP, the study can provide insights into areas that require attention and improvement. This information can guide microfinance institutions in implementing strategies to enhance their liquidity, deposit levels, market share, and loan quality, ultimately leading to improved financial performance. The study's findings can inform the decision-making process for various stakeholders. Investors, shareholders, and lenders can gain

insights into the key factors that drive financial performance in microfinance banks, helping them make more informed investment decisions or assess the creditworthiness of these institutions.

The study also adds to the available literature evidence on the factors that impact MFI's FP in Kenya. It can serve as a reference for future research and contribute to academic discussions on the topic. Researchers can build upon the findings to explore related areas or conduct comparative studies across different countries or regions

1.5 Scope of the Study

Contextually, the study will be limited to analyzing how Firm-Level Factors affect MFI's ROA. Specifically, the study focused on liquidity level, deposit level, market share and loans quality. The geographical scope of the study was limited to reviewing Registered Microfinance banks under CBK operating in Nairobi County. There are 14 microfinance banks licensed and operating in Kenya as of May 2023 (Central Bank of Kenya, 2023). The study adopted a quantitative methodological approach with panel regression analysis being employed in analysis. The time scope for the study covered the period 2012-2022 based on data from the available annual financial reports.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter outlines the literature that is relevant to the study in terms of theory and empirical review. The theories refer to the relationship between financial service providers, consumers and financial performance outcomes. The empirical literature review follows, reviewing the firm specific characteristics that influence performance outcomes. The chapter ends with a presentation of the conceptual framework.

2.2 Theoretical Foundation

2.2.1 Trade-Off theory

The trade-off theory emerged from the conversations surrounding Modigliani & Miller's theorem. It was first suggested by Kraus and Litzenberger (1963) and it sought to explain how businesses choose the debt level to maintain. Myers (1984) advanced the theory after observing that debt can shield earnings from corporate taxes hence increase firm income (Getahun, 2016). Trade-Off theory calls for stability when choosing how to finance an organization, stressing balance between bankruptcy and financial distress costs and tax saving possibilities emerging from debt. Essentially, it affirms that choosing the optimal capital structure is the trade-off between that managers must make regarding the potential advantages of advancing loans (the interest tax shields) and the costs of unmanageable debt (agency costs) (Getahun, 2016). This theory this avers that there's an optimal debt ratio for companies seeking financing options.

This theory explains the reality that firms use different means to finance their operations, explaining the benefits of using debt financing and identifying the cost associated with debt financing (Fadikpe, et al., 2022). The trade-off theory explains firm exposure to bankruptcy and agency cost against tax benefits associated with use of debt structures (Onyango & Gatumo, 2022). It affirms that businesses choose their capital structure through minimization of market imperfections, thus maximizing firm value. It explains why companies with more tax advantage use debt financing, highlighting the importance of balancing benefits generated from tax shields.

Walde (2022) notes that the main challenge facing firms that employ this approach is to determine the optimal debt level and predict the cost of financial distress which can include staff leaving,

stockholder infighting, among others. Walde (2022) asserts that past the optimal level, debt reduces marginal benefit and marginal cost increases. Firms assess this trade-off when selecting the amount of debt and equity to use when financing. Critics such as Ai, Frank and Sanati (2020) argue that the theory focuses too much on tax benefits and according to Sarkar and Zapatero (2003), the theory contradicts well-established empirical evidence and predicts a positive association between earnings and leverage. Despite the criticisms, the theory remains the dominant theory linking capital structures to organizational performance given each company has to balance between debt, tax shield and other costs.

MFI's exist to deliver social financial services and face a trade-off between debt and equity in their capital structure. The theory stresses on optimal combination of debt and equity, with MFI's determining whether to focus on social goals, financial goals or a mix of both. This theory has been used extensively to explain financing decisions among finance firms. Fadikpe, et al. (2022) used it in analysis of the MFI-social performance nexus, confirming that capital structure has a significant impact on decision making. Walde (2022) assessed the effect of macroeconomic variables and MFI's FP while Ertiro and Mohammed (2022) examined the internal factors affecting MFI performance.

The trade-off theory informs this study in several ways. It explains how firms determine interest rate on their loans, loan terms, the limits of debt financing, and subject to profitability, explains why MFI's target different debtors (depth against breadth). The trade-off theory explains the importance of using effective credit management techniques that balance the trade-off between liquidity and profitability. It explains why MFI's with a high marginal tax rate borrowed more than those with low marginal tax rate and why firms with high potential financial distress cost borrow less than those with a low cost of financial distress. Profitable firms on the other hand leverage their position of power to improve profitability (Walde, 2022). This study employed the theory to anchor liquidity, market share and firm size variables.

2.2.2 Agency Theory

Agency theory was postulated by Jensen and Meckling (1976) and it sought to explain the relationship between firm managements (agents) and principles (stakeholders) who have vested interest in the proper functioning of the financial system. The theory explains the potential conflicts that may arise between managers and shareholders, explaining that manager-shareholder conflicts

lead to agency costs of equity, while shareholders-debt-holder conflicts lead to agency costs of debt. In the absence of accurate market information, it identifies agency costs as the main source of conflict in any transaction. It explains the potential conflicts that may arise between managers and shareholders, explaining that manager-shareholder conflicts lead to agency costs of equity, while shareholders-debt-holder conflicts lead to agency costs of debt. Such conflicts emerge from a clash of interests whereby managements' focus on financial interests go against shareholder expectations of quality service delivery at affordable costs.

Jensen and Meckling (1976) used the theory in examination into the effect of insider ownership, dividend policy and debt policy (ratio) of debt on the performance of public firms in the US and affirmed that various factors influence debt ratio. They observed that for instance, a high number of insider owners could derail shareholder interests, while owner-managers had no significant agency costs. The theory is important when explaining agent decisions, and determining how to minimize the resulting gap in expectations. It asserts that agency costs can only be expelled through rigorous monitoring mechanisms. Jensen and Meckling (1976) assert that though monitoring may also add to the costs incurred, these are agency costs of equity and have more impacts on FP than lack of such mechanisms.

According to Jensen (1986) also ascribe to the notion that firm financing can be done through debt or equity and that there is an optimal debt ratio that maximizes the firm value. The agency theory was used in assessing how credit processes influence MFIs FP by Ndirangu, Buluma and Wanyoike (2019) and from their analysis, they observed that the theory compels managers to adopt the right credit processes to ensure they minimize the volume of loan defaults as this would improve the credit process to promote adequate interest income from the loans. Duffie (2020) used the theory to explain how MFI managers in big firms balance between focusing on social goals versus financial goals while Njue (2020) used the theory in analysis of the liquidity-profitability nexus, affirming that the presence of leverage makes managers divert cash into activities with high income potential. Cherono and Kavale (2021) affirmed that the quality, nature and frequency of loans and loan repayment, all influence MFIs financial outcomes.

The theory gains relevance in situations such as microfinance financing whereby parties have conflicting interests, despite one party having more control. The theory explains the relationship between managers' risk nature and their investment choices, clearly showing how deterrence and

oversight promotes accountability within financial institutions. In this study, the agency theory anchored liquidity, deposits and loan quality given consumers' deposits are provided to borrowers.

2.3 Determinants of Financial Performance of MFIs

2.3.1 Liquidity and Financial Performance

Liquidity refers to the ease of converting assets into cash (Adrian & Shin, 2020). Firms use the CR indicators to measure liquidity. Thapa and Bhandari (2023) assessed Nepalese banks in analysis into the effect of risk management (capital adequacy ratio, CR, liquid assets ratio, non-performing loan (NPL), credit to deposit ratio and cash reserve ratio) on profitability. Regressions were applied in analysis with findings indicating that only CR improves profitability (ROA and ROE). Capital adequacy ratio has positive effects on ROA.

2.3.2 Deposit-Level and Financial Performance

Deposit level reflects the amount of funds or financial resources that individuals, businesses, or organizations have deposited with a financial institution (Allen and Gale, 2017). Ndayizeye (2018) analysed the relationship between deposits mobilization and FP of Rwandan MFIs. Employing a case study design and collecting data reported between 2013 and 2018 and regression results were that deposit mobilization has significant positive effects on ROA and ROE. Recommendations were for the institutions' management to diversify their deposit mobilization strategy to ensure they have adequate sources of depositors since deposit level is associated with improved financial returns.

2.3.3 Market Share and Financial Performance

Market share refers to the portion or percentage of the total market claimed by a company or brand within a specific industry or product category (Kotler, Kartajaya, & Setiawan, 2017). Shkodra (2019) examined the factors that influence MFI performance in Kosovo using data reported between 2007 and 2016. The study used descriptive approach and self-sufficiency, ROA and profit margin as indicators of performance. The analysis determined that internal firm factors have less significant influences on financial performance than external factors, with high interest rate limiting their capacity to extend loans to a large section of the economy, thus impacting their ability to expand. The study also reports a significant impact of age on FP.

2.3.4 Loan Quality and Financial Performance

Calem and Robison (2018) define loan quality as the overall health and performance of an institution's loan portfolio or the quality loans held by a financial institution. Loan quality can be expressed as a value of the total NPLs within an institution. Confirming that MFIs financial performance is deterred by poor financial management, Ndirangu, Buluma and Wanyoike (2019) investigated the influence of loans processes on profitability. Specific focus was on loan monitoring procedure, loan appraisal processes and loan policy quality, following the directions of the agency and information asymmetry theories. Using a descriptive survey research design, it was ascertained that the loan process components have significant effects on profitability as firms with more rigorous loan management were more profitable in the long-term.

2.3.5 Firm Size and Financial Performance

Firm size refers to the total value of a firms' assets (Witila & Ondabu, 2022). The researchers affirm that the log of total assets is a valid expression of a firm's size and in a systematic literature review of the factors determining the performance of MFIs, Hermes and Hudin (2018) observed that the size of the MFI's assets, age and financing sources, as well as internal governance and oversight all impact their performance outcomes, both financial and non-financial. The components of size identified were their total assets and total loan portfolio.

2.4 Empirical Review

This section reviews previous researchers' findings on the relationship between firm-specific variables and firm performance. The section presents studies on liquidity, deposits, market share, loan quality and firm size. The emerging gaps were then be addressed after.

2.4.1 Global Studies on Firm-Level Factors and Financial Performance

A global study involving 532 microfinance firms from 73 countries by (Adusei, 2022) sought after the effect of liquidity risk on the MFIs FP, taking into consideration the presence of credit risk. The study used panel regressions in analysis with findings indicating a significant negative effect. The study also reported that the effect is positive in presence of controlled credit risk, concluding a positive link between liquidity, credit risk and ROA. Akgün and Memiş Karataş (2021) study also involved multiple countries in analysis of the effect of working capital management (WCM) on profitability. Ordinary least squares (OLS) regression model was used in data analysis and

observations were that gross working capital has a negative effect on performance while liquidity (CR) exhibited strong impacts on ROA, ROE and pre-tax earnings.

Abdulnafea, Almasria and Alawaqleh (2022) assessed the impact of WCM and credit management policy on FP of Jordanian banks using data reported between 2017 and 2020. The analysis involved multiple regressions and findings were that there is a statistically significant relationship between WCM and FP. Moreover, a credit management policy dictating credit terms, cash transfer cycle, and payment period was essential to improving returns among banks.

Thapa and Bhandari (2023) assessed Nepalese banks in analysis into the effect of risk management (capital adequacy ratio, CR, liquid assets ratio, NPL, credit to deposit ratio and cash reserve ratio) on profitability. Regressions were applied in analysis with findings indicating that only CR improves profitability (ROA and ROE). Capital adequacy ratio has positively effects on ROA, while credit to deposit ratio, NPL ratio, cash reserve ratio and liquid assets ratio all have negative effects on ROA and ROE. The researcher Alshatti (2015) reviewed data reported between 2005 and 2012 from 13 commercial banks in Jordan in research into the liquidity-performance nexus in terms of ROE and ROA. Observations were that an increase in quick ratio and investment ratio to deposits increases profitability while an increase in capital ratio and the liquid assets ratio reduces profitability.

In the Philippines, Jacob (2016) sought after the effect of firm size and banks FP in a cross-sectional study. The indicator variables were cash deposits, number of branches and capital base. Analysis involved regressions and findings were that holding other factors constant, cash deposits, number of branches and capital base all have significant positive effects on the firms' FP. In Vietnam, Ha (2020) evaluated the credit growth-profitability nexus, focusing on people's credit funds. The study used a descriptive design that applied regressions on data reported between 2013 and 2018 and from the analysis, it was determined that while deposit growth and loan-to-deposit ratio improved credit growth, capital adequacy ratio negatively impact credit offered. Additionally, credit growth, debt-to-equity ratio and NPL ratio exhibited negative relationships with the funds' ROA. Amin et al., (2017) were also of the opinion that different components of firm growth impact profitability in research that found a positive effect of depth of outreach on profitability and a negative effect of breadth of outreach on profitability. The study used dynamic methods hence employed generalized method of moment (GMM) technique in analysis.

Shkodra (2019) examined the factors that influence MFI performance in Kosovo using data reported between 2007 and 2016. The descriptive study used self-sufficiency, ROA and profit margin as indicators of performance. The analysis determined that internal firm factors have less significant influences on FP than external factors, with high interest rate limiting their capacity to extend loans to a large section of the economy, thus impacting their ability to expand. The study also reports that age does impact FP. Chmelíková (2019) analyzed the factors impacting performance among European MFI suppliers, drawing on the theory of social capita. The study collected data reported between 2008–2015, and pursuing an econometric approach, used credit risk management, profits, loans extended and efficiency scores as measures of performance. According to the study's findings, social endeavors geared towards acquiring a larger number of customers drive FP. The study observed that firms with more depositors and social capital are more profitable.

Aktaruzzaman and Farooq (2023) investigated 1212 microfinance institutions from 106 developing countries in analysis on the association between board gender diversity, loan quality and the volume of nonperforming loans (NPLs). The study collected data reported between 2010 and 2018 and applied dynamic regressions. Findings were that gender diversification can be profitable since having a higher percentage of female borrowers' results in fewer NPLs. However, gender representation in boards had no significant effects on performance outcomes. Anshar (2023) focused on PT. Bank Rakyat Indonesia in analysis into the credit- profitability nexus, with specific focus on the effect of NPLs on profitability. Descriptive analysis led to the conclusion that an increase in the volume of credit increases the institution's profitability while the loans only have a negative effect when they become non-performing.

Çollaku and Aliu (2021) researched on the NPL- profitability nexus within Kosovo banks, using data reported between 2010 and 2019. The study also included liquidity risk and bank size as control variables, employed multivariable linear regression and adopted a descriptive design. Findings were that NPLs have statistically significant negative effects on banks' ROA. On the other hand, Irawati, Maksum, Sadalia and Muda (2019) are of the opinion that NPLs have insignificant effects on banks' FP. The study investigated the effect of corporate governance factors and regulations, focusing on the CAR, NPL ratio and bank Size. While NPL had insignificant effects, the other variables all had positive influences.

Basit and Hassan (2017) used a descriptive explanatory research design when examining the effect of capital structure on performance of listed Pakistani firms. The study used data reported between 2010-2014 and relied on multiple linear regressions. Findings were that there is a significant correlation between EPS, ROE, ROA and capital structure, with capital structure influencing firm size and ROA, leading to conclusions that maintaining an optimal capital structure would improve profitability. Hermes and Hudin (2018) carried out a systematic literature review of the factors determining the performance of MFIs. Towards this, the researchers reviewed publications from multiple countries and observed that the most important determinants are the size, age, funding sources and the organizational governance quality. The components of size identified were their total assets and the value of their loan portfolios.

2.4.2 Regional Studies on Firm-Level Factors and Financial Performance

Regionally, Kajola et al., (2019) investigated the relationship between liquidity management and ROA of Nigeria's commercial banking sector, using Random effects generalised least squares in analysis of data reported between 2008 and 2017. The independent variables in the study were CR, loan to deposit ratio, deposit to asset ratio and liquidity ratio and from the analysis, CR and liquidity ratio had positive and statistically significant effect on ROA while no significant effect was found on loan to deposit ratio and deposit to asset ratio. Recommendations were for increased focus on management of liquidity (CR). Ndayizeye (2018) also sought after the relationship between deposits mobilization strategies and MFIs FP in Rwanda. The study used case study design that used data reported between 2013 and 2018 and regression results were that deposit mobilization improves FP significantly. Recommendations were for the institutions' management to diversify their deposit mobilization strategy.

In Nigeria, Aza (2021) examined the association between FP and customer deposit, capital adequacy, lending, liquidity and bank efficiency. Using descriptive design and panel data reported between 2009 to 2017, regressions revealed that customer deposit has insignificant effects on FP while capital adequacy, bank lending, liquidity and bank efficiency all positively influence ROA and ROE. Yahaya, et al. (2017) used panel data reported between 2005 and 2014 in research into the effect of competition on banks' ROA and ROE, stipulating that competition leads to lower moral hazard, adverse selection problems and less risky loan portfolios. Data analysis involved a multiple correlation and regression model and findings were that competition negatively effects

the banks' FP. Managers were recommended to ensure loan quality is maintained to maintain a healthy loan portfolio.

Regionally, MFIs expand through social endeavors Fadikpe, et al. (2022). The researchers collected data from 105 MFIs listed in 26 Sub-Saharan countries reported between 2011 to 2017. Generalized Method of Moment was used in analysis with findings indicating that firm expansion through customer acquisition has significant effects on return on equity. Moreover, female borrowers were reported to have a higher loan repayment rate hence recommendations were for MFIs to purposefully extend credit to women. Ertiro and Mohammed (2022) investigated the factors impacting MFI's FP in Ethiopia. Panel data reported between 2011 and 2018 were used and after regression analysis, it was ascertained that while age was a significant determinant, capital to asset ratio and debt to equity ratio had negative and statistically significant effects on MFI performance. Market concentration, operational efficiency, portfolio quality and size, on the other hand, had insignificant effects on ROA. Recommendations were to diversify mobilization strategies to collect adequate savings from depositors and use these funds to meet operational expenses.

Issangu (2020) carried out a case study in Tanzania on the affecting MFI's FP with specific focus on the quality of loan portfolio, institutional capacity, saving mobilization and outreach. The descriptive research investigated YETU Microfinance used descriptive and regressions in analysis with findings asserting that the size, nature, mode of delivery, rates of loan defaults and cost per borrower all have significant effects on the institutions' FP. Saving mobilization and outreach were also determined to increase savings and number of borrowers while at the same time negatively impacting performance by increasing the volume of non-repaid loans

Dube and Kwenda (2023) affirmed that MFIs face stiff consequences due to unhealthy loan portfolios in an analysis into the relationship between credit risk management (CRM) and MFI's FP in Southern Africa. The study used panel data reported between 2012 and 2018 and applied the GMM technique in analysis. Findings were that while CRM has negative and significant effects on MFI's ROA and ROE, operational efficiency had negative effects on ROA while personnel productivity ratio improved ROA. Log of total assets (size) had inverse effects on both ROA and ROE. Nelson and Peter (2019), on the other hand, opine that total debt ratio had a positive and significant effect on ROE in analysis into the relationship between capital structure and firm

performance. Descriptive statistics and regression technique were applied in data analysis revealing that short-term debt to equity ratio has negative and insignificant effect on ROE while long-term debt ratio had positive and insignificant effects. Recommendations were for MFIs to improve risk management efficiency through policies, procedures, and guidelines.

Agboklou and Ozkan (2023) found a link between firm size in terms of the number of depositors and FP in analysis into the factors influencing FP and financial sustainability among MFIs in Togo. The study used OLS in analysis of data reported between 1999–2018. Size was determined to have significant relationships with performance while depositors per borrower and the loan loss ratio had significant negative effects on FP. The number of depositors per borrower ratio, on the other hand, was determined to positively influence operational sustainability.

2.4.3 Local Studies on Firm-Level Factors and Financial Performance

Locally, Njue's (2020) evaluation into the effect of liquidity management on MFI's FP, collecting data reported between 2012 and 2016. Analysis involved descriptive and inferential statistics and findings were that liquidity management dictating asset quality and maturity gap had a negative but insignificant effect on MFI's FP, leading to recommendations that the bank limits loans so that they do not exceed customer deposits. Onyango and Gatumo (2022) also focused on local investment banks in analysis the effect of liquidity risks on FP. Using an explanatory sequential mixed methods and descriptive and inferential analysis, results were that liquidity risk negatively impacts ROA and ROE. Recommendations were for increased diversification of income sources. Buseretse (2015) used regressions in analysis of the effect of liquidity on profitability. The study used the ratio of loans to deposits to measure liquidity and from the analysis, it was ascertained that liquidity does influence profitability but the relationship is there is weak and negative. Recommendations were to maintain optimal liquidity levels.

Cherono and Kavale (2021) investigated the influence of firm size on MFI's FP with specific focus on the effect of customer deposits, capital base, loans and number of branches. The descriptive study used regressions when carrying out analysis and it was observed that not all accounts have positive effects on financial outcomes. Moreover, account activity in terms of frequency of deposit activities was noted to influence financial outcomes. The institutions were recommended to open many branches to businesspeople who usually make frequent loan requests and pay frequently as well. Owago's (2021) analysis was on the effect of market expansion strategies on MFIs FP. The

study used a descriptive design and used the value of total loans and deposit accounts as indicators of financial inclusion and from the regression analysis, it was ascertained that financial inclusion strategies do not translate to improved FP.

Confirming that MFIs FP is deterred by poor financial management, Ndirangu, Buluma and Wanyoike (2019) investigated the influence of loans processes on profitability. Specific focus was on loan monitoring procedure, loan appraisal processes and loan policy quality, following the directions of the agency and information asymmetry theories. Using a descriptive survey research design, it was ascertained that the loan process components have significant effects on profitability as firms with more rigorous loan management were more profitable in the long-term. Abuga (2022) researched on the NPL ratio-technical efficiency relationship in Kenya and used Data Envelopment Analysis in analysis. Regressions involved the banks' NPLs, total loan to total assets ratio, total assets, equity to total assets ratio, and non-interest expenses to total assets ratio. NPLs had negative but insignificant effects on efficiency indicators. However, conclusions were that investment into loan recovery, customer appraisal, credit score monitoring and using private credit collection agencies reduce NPL level which is good for business.

Kathuri (2022) evaluated the effect of NPLs on profitability of deposit taking MFIs in Kenya. The study was guided by the moral hazard and asymmetry theories, and adopted a descriptive design. Regression results were that the firms have a high percentage of NPLs which was not only impacting their profits, but also ability to expand. Hence NPL had an indirect effect on the institution's profits. Debt-to-equity ratio had negative and significant effects while liquidity had insignificant effects. Recommendations were for the institutions to maintain an optimal level of NPLs in their portfolio, reduce debt levels in their capital structure, increase deposit mobilization and reduce liquidity.

Odongo (2016) evaluated the effect of operational growth on MFIs profits in a study that employed a descriptive research design. Results of the regressions were that branch network, and number of new customers has positive effects on FP. Wityla and Ondabu (2022) carried out examination into the effect of firm size, liquidity, leverage, cash reserves and asset tangibility on MFI's operational efficiency in Kenya. A Panel data regression model was used in analysis, revealing that firm size and asset tangibility improved operational efficiency while liquidity, leverage and cash reserve had insignificant negative effects. These findings led to the conclusion that the firms have to

embrace asset tangibility and expand the number of branches as this ensures they can use debt to generate income.

On the other hand, according to Karugu, Muturi and Muathe (2020), firm size moderates the effect of the relationship between market risk and FP. The study used the Dynamic Capabilities theory and Modern Portfolio Theory, relying on data reported between 2014 and 2018. The study also called on the firms to ensure they have an optimal portfolio of assets. From these findings, there is still ambiguity with regards to what and how different factors influence microfinance firms' profits. This study sought to fill this gap by analyzing the effect of liquidity, deposit level, market share and loan quality on ROA, including firm size as a moderating variable to discern how these factors influence the differences in performance across firms with different quality of assets.

2.5 Summary of the Research Gaps

The studies above provide insight into how different firm specific factors influence performance outcomes. However, the findings differ from one region to another and from one type of company to another. Moreover, some studies only look at one factor and do not include other factors that may influence performance outcomes. The following gaps inform the current study. The studies by Akgün and Memiş Karataş (2021) and Adusei (2022) were based on an analysis of multiple countries from around the world. Additionally, Akgün et al., (2021) employed OLS regressions in analysis while the current relied on linear regressions, a methodological gap. Another method gap emerges from the study by Jacob (2016) which employed a cross-sectional design while the current employed a descriptive design. Conceptual gaps emerge from the analysis made by Ha (2020) which only investigated the relation between credit growth and profitability. Cherono and Kavale (2021) also presented a conceptual gap having used number of branches and frequency of deposits to measure firm size and deposits mobilization. The current employed the log of total assets as firm size and volume of deposits instead of deposit frequency.

Issangu (2020) presents a contextual gap given the study in question adopted a case study design that focused on the loan management process adopted by one organization. Aktaruzzaman and Farooq (2023) also present a contextual gap in their study which investigated inclusion efforts and their impact on MPL volume. This study did not specify financial outcomes but on an indicator of loan quality and screening mechanisms. Basit and Hassan (2017) and Abdulnafea, Almasria and Alawaqleh (2022) also present a contextual gap having investigated performance drivers in listed

firms and banks respectively. These gaps was addressed through an analysis into the effect of liquidity, market share, firm size, deposits and loan quality affect the FP of listed deposit-taking MFIs.

2.6 Conceptual Framework

A conceptual framework is a diagrammatical representation of the hypothesized relationship between the study variables. The firm-level factors that was considered in the survey are the liquidity, deposits, firm size, market share and loan quality which inform the independent variables while the dependent variable FP was measured by ROA.

Independent Variables

Dependent Variable

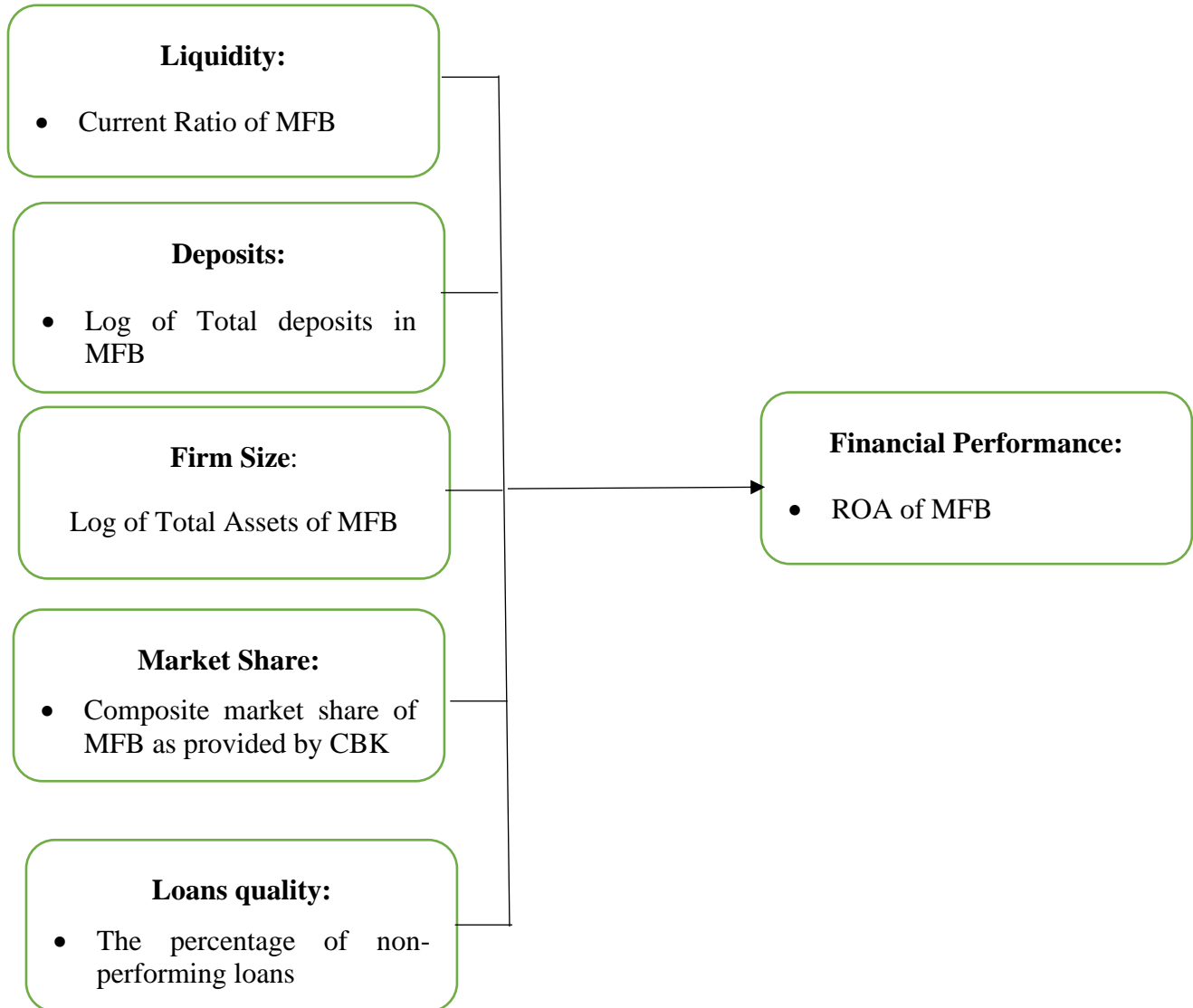


Figure 2.1 Conceptual Model

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The third chapter for this study concentrated on presenting the methodological plan that directed the study. It presents the research design, research population, data collection instruments, data collection procedures and the data analysis procedures.

3.2 Research Design

The research design describes the blueprint followed during the duration of a research project, including the definition and selection of participants, data collection instruments and analytical approach (Gupta & Gupta, 2022). This study adopted a descriptive research design that was critical in answering the question how and why which is ideal in this type of study (Patel & Patel, 2019). The design supported the adoption of quantitative approach in estimating the magnitude of effect between the study variables.

3.3 Population and Sample

The population of interest for this study was drawn from the 14 registered microfinance banks regulated by the Central Bank of Kenya. A census was conducted as the sample size was small.

3.4 Data Collection

The study utilized quantitative panel research data that was extracted using a data extraction tool (Appendix I). The use of panel data is informed by the nature of the research variables considered in this study. The quantitative data (continuous measure) was extracted from the annual bank supervision report provided by the CBK. The study extracted research data from the registered MFBs between the period 2012-2022. The research used secondary data. Prior to extracting the research data, the supervisor guidance was sought to ensure the data collection instrument is satisfactory. Secondly research approval was obtained from the Graduate School of the University of Nairobi. Necessary research permit from the were obtained.

3.5 Data Analysis

The collected research data was edited for any errors and completeness before conducting the analysis. The quantitative data was analyzed using Stata 18 analytical software. The study used

both descriptive and inferential analysis, with descriptive analysis focusing on the mean, maximum, minimum, standard deviation, and number of observations. The inferential analysis involved both correlation and panel regression. Before conducting the regression tests the following diagnostic checks was adopted; autocorrelation, collinearity, normality, heteroscedasticity tests. Further Hausman specification tests were applied to select whether fixed or random panel regression was applied. The test of significance of the interaction between the predictor variables relied on the $P > |z|$ with a significance of 5% (.05) being utilized in testing of the research hypothesis. The results were presented using charts and tables. The following regression model was estimated;

$$FP = \beta_0 + \beta_1 LQ + \beta_2 DP + \beta_3 MS + \beta_4 LQTY + \beta_5 FS + + \mu t \dots\dots\dots (1)$$

Where;

FP = financial performance, LQ = liquidity, DP = deposits, MS = market share, LQTY = loan quality, FS = firm size, μt = error term in model, $\beta_0 - \beta_5$ = beta coefficients of the model.

Table 3.1 Variable Measurement

Variable	Type of Data	Measurement	Type of Analysis
Liquidity	Panel data (2012-2022)	Current ratio of MFB	Quantitative (Descriptive, correlation and panel regression)
Deposits	Panel data (2012-2022)	Log of Total deposits in MFB	Quantitative (Descriptive, correlation and panel regression)
Firm size	Panel data (2012-2022)	Log of Total assets in MFB	Quantitative (Descriptive, correlation and panel regression)
Market share	Panel data (2012-2022)	Composite market share of MFB as provided by CBK	Quantitative (Descriptive, correlation and panel regression)
Loan quality	Panel data (2012-2022)	Percentage of non-performing loans	Quantitative (Descriptive, correlation and panel regression)
Financial performance	Panel data (2012-2022)	Return on Assets	Quantitative (Descriptive, correlation and panel regression)

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter focused on the presentation of the study results from the analysis of the extracted quantitative data. The main components of the chapter were the summary of descriptive analysis, the diagnostics tests, correlation analysis and the panel regression analysis. Lastly, the findings were discussed in line with the empirical literature reviewed in the study.

4.2 Descriptive Analysis

The research sourced data from 14 registered MFBs in Kenya with information obtained from the annual supervision reports of the CBK. The summary of the extracted data is presented below in Table 4.1 using means, maximum, minimum and standard deviation. These descriptive measures were deemed appropriate as they are the common measures of central tendency utilized in presentation of quantitative data.

Table 4.1 Summary of Descriptive Analysis

Variable	Obs.	Mean	Std. Dev	Min	Max
Return on Assets	136	-.0743	.1295	-.5838	.0390
Liquidity ratio	136	.5041	.7593	.01	7.2
Deposits level	136	8.6667	.9147	6.9030	10.3604
Firm size	136	9.0296	.8191	7.6532	10.5072
Market share	136	8.8241	15.2075	-.2	67.21
Loan quality	136	.4883	1.4748	0	15

Source: Research Data (2023)

Generally, the results demonstrated on average the microfinance banks had an average return on assets of -7.4% showing the emerging financial performance within the industry. During the time

period under review the highest ROA was 3.9% indicating the firms were having problems in being more productive and improving the profitability from the utilization of their assets. Results showed average liquidity was at 50.41% which was above the statutory minimum of 20% which was an indication the institutions were highly liquid.

Further the average levels of deposits level (8.6667) and firm size (9.0296) revealed the firms have seen an improvement in the deposit mobilization as well as improvement in their total assets. The market share was on average 8.8241% demonstrating the MFBs have substantially improved their customer base within the intensely competitive financial services industry in Kenya. Lastly, the level of non-performing loans was on average at 48.83% which was above statutory requirements demonstrating the firms are facing a lot of problem in recouping their loans in the market which is of deep concern in maintaining regulatory thresholds.

4.3 Diagnostic Analysis

The survey relied on secondary research data which was tested for standard diagnostic checks to ensure suitability for adoption in the inferential analysis.

4.3.1 Collinearity Test

The aim of the multicollinearity tests is to check the whether the selected predictor variables are linearly dependent on each other. The study applied the variance inflation factor and tolerance values in the test.

Table 4.2 Collinearity Test

Variable	VIF	1/VIF
Liquidity ratio	1.46	0.6869
Deposits level	2.38	0.4201
Firm size	2.17	0.4608
Market share	2.92	0.3422
Loan quality	1.08	0.9297
Mean VIF	2.002	

Source: Research Data (2023)

The findings in Table 4.2 revealed that the adopted independent variables had VIF values that were under 10; further the tolerance values (1/VIF) were above 0.1. These two measures showed there was no collinearity issues in the selected variables thus they can be applied in the regression analysis.

4.3.2 Heteroscedasticity Test

Further, the study conducted the heteroscedasticity tests. Heteroscedasticity happens when the regression residuals are heteroskedastic. That is, for all observations, the residual variance is not constant. The study applied the Breusch–Pagan/Cook–Weisberg test.

Table 4.3 Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
chi2(1) = 20.70
Prob > chibar2 = 0.000

Source: Research Data (2023)

The findings above showed Prob > chibar2 = 0.000 which was significant (less than .05) thus indicating constant variance which confirms there was no heteroscedasticity errors in the research model.

4.3.3 Autocorrelation Test

The research further conducted the autocorrelation test to determine if there was any serial correlation that may affect the correct prediction of the model. The study applied the Wooldridge test for autocorrelation and results are shown below.

Table 4.4 Autocorrelation Test

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 13) = 6.608$$

$$\text{Prob} > F = 0.0233$$

Source: Research Data (2023)

The Wooldridge test was preferred due to the unbalanced nature of the data and the results above lead to rejection of the null hypothesis thus showing there was serial correlation in the data and this was solved by applying robust (VCE) commands in the regression model.

4.3.4 Hausman Specification Test

The research further conducted the Hausman specification test to determine whether the random or fixed effects model will be applied in the panel regression analysis. The results are presented in Table 4.5 below.

Table 4.5 Hausman Specification Test

Model 1. Fitted for Return on Assets

Variable	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b- V_B)) S.E.
Liquidity ratio	.0151	.0086	.0064	.0034
Deposits	-.0191	-.0707	.0516	.0184
Firm size	.1310	.1929	-.0619	.0270
Market share	.0005	-.0015	.0021	.0013
Loan quality	-.0010	-.0029	.0018	.0013

Chi Sq. Statistics = 12.93

Prob>chi2 = 0.0241

Source: Research Data (2023)

From the findings above the resulting Prob>chi2 obtained was 0.0241 which was less than .05 indicating the preferred model for analysis is the fixed effect model. Thus, the regression analysis was conducted using a fixed effects panel regression.

4.4 Correlation Analysis

The research applied correlation tests to establish the direction of association (+/-) between the study variables. The matrix is presented in the table below.

Table 4.6 Correlation Test

	ROA	Liquidity	Deposits	Firm size	Market share	Loan quality
ROA	1.0000					
Liquidity	-0.0187	1.0000				
	0.8290					
Deposits	0.4499*	-0.3375*	1.0000			
	0.0000	0.0001				
Firm size	0.5520*	-0.1808*	0.9592*	1.0000		
	0.0000	0.0351	0.0000			
Market share	0.3273*	-0.1452	0.7621*	0.8090*	1.0000	
	0.0001	0.0917	0.0000	0.0000		
Loan quality	-0.2611*	-0.1024	-0.1332	-0.1819*	-0.1195	1.0000
	0.0024	0.2410	0.1264	0.0362	0.1706	

Source: Research Data (2023)

The analysis showed a weak negative insignificant effect of liquidity ($r = -0.0187$, $\text{sig} = .8290 > .05$) while deposits had a weak positive and significant effect MFBs ROA ($r = 0.4499^*$, $\text{sig} = .000$). Findings showed a moderate positive relation between firm size ($r = 0.5520^*$, $\text{sig} = .000$) and weak positive significant association between market share ($r = 0.3273^*$, $\text{sig} = .000$) and the ROA. Lastly, loan quality had a weak and negative effect on ROA ($r = -0.2611^*$, $\text{sig} = .0024$).

4.5 Panel Regression Analysis

The results of the Hausman specification tests showed that the suitable model to be selected for the study was the fixed effects regression model. The study thus applied the model to predict the

magnitude of relationship between firm-level factors and financial outcome within MFB firms in Kenya.

Table 4.7 Panel Regression Results

ROA	Coefficient	Std. Error	t	P> t
Liquidity	.0151234	.0207682	0.73	0.468
Deposits	-.0191033	.0468762	-0.41	0.684
Firm size	.1310887	.0585179	2.24	0.027
Market share	.000562	.0018323	0.31	0.760
Loan quality	-.0010827	.005364	-0.20	0.840
_cons	-1.103941	.2501337	-4.41	0.000

Weighted Statistics

R-sq:	Number of obs =	133
within = 0.1410	Number of groups =	14
between = 0.4153	F(5,114) =	3.74
overall = 0.3176	Prob > F =	0.0036

Source: Research Data (2023)

The panel regression results showed an overall r-squared = 0.3176 which signified that 31.76% of the changes in the MFB's ROA can be predicted by the selected firm-level factors. The coefficient $F(5,114) = 3.74$, $\text{Prob} > F = 0.0036 < .05$ indicating there is a statistically positive and significant relationship between firm-level factors and FP of MFBs. From the above the resulting regression model can be plotted as below;

$$FP = -1.1039 + .0151LQ + -.0191DP + .1310FS + .0005MS + -.001LQ + .2501 \dots \dots \dots (1)$$

4.6 Discussion of Findings

H₀₁ There is no statistically significant effect of liquidity on the financial performance of microfinance banks

The regression coefficient for liquidity level was .0151 with a t = 0.73, P>|t| = 0.468>.05 which led to the acceptance of the null hypotheses that there was no significant effect of liquidity ratio on the MFB financial performance. The findings from this study were consistent with results from Njue’s (2020) who noted that Liquidity had a negative but insignificant effect on MFI’s FP. Additionally, Onyango and Gatumo (2022) also revealed that liquidity risk negatively impacts financial firms’ profitability.

The study findings were however disputed by Adusei, (2022) who observed that liquidity measures (current ratio) exhibited strong impacts on ROA, ROE and pre-tax earnings. Abdulnafea, Almasria and Alawaqleh (2022) also found a statistically significant relationship between liquidity and FP. Thapa and Bhandari (2023) also noted that only liquidity improves profitability (ROA and ROE). Alshatti (2015) further observed that an increase in liquidity ratio increases profitability. Kajola, Sanyaolu, Alao and Ojunrongbe (2019) found that liquidity as measured in both CR and liquidity ratio had a positive and statistically significant effect on ROE. Buseretse (2015) ascertained that liquidity does influence profitability but the relationship is there is weak and negative.

H₀₂ There is no statistically significant effect of deposit ratio on the financial performance of microfinance banks

The regression coefficient yielded for deposits ratio was -.0191 with a t = -0.41, P>|t| = 0.684>.05 which led to the acceptance of the null hypotheses that there was no significant effect of deposits ratio on the MFB’s FP. The study findings were also supported in Nigeria by Aza (2021) who revealed that customer deposit has insignificant effects on FP

The findings were however not supported by Jacob (2016) whose analysis revealed that holding other factors constant, cash deposits had a significant and positive effect on the firms’ financial performance. Ha (2020) further determined that deposit growth had significant and positive relationships with credit growth. Ndayizeye (2018) also revealed that deposit mobilization has

significant positive effects on FP. In Kenya, Cheronno and Kavale (2021) observed that account activity in terms of frequency of deposit activities was noted to influence financial outcomes.

H₀₃ There is a statistically significant effect of firm size on the financial performance of microfinance banks

The regression results had coefficient for firm size .1310 with a $t = 2.24$, $P > |t| = 0.027 < .05$ which led to the rejection of the null hypotheses. Hence the study affirmed there was a significant effect of firm size on the MFB financial performance. Improving the firm size will lead to positive improvement in ROA by .131 (13.1%).

The study findings were supported by Amin et al., (2017) who found a positive effect of the size of the firm on profitability. Additionally, Fadikpe, et al. (2022) findings indicated that firm expansion through customer acquisition has significant effects on return on equity. Agboklou and Ozkan (2023) found that size was determined to have significant relationships with performance while depositors per borrower and the loan loss ratio had significant negative effects on FP outcomes which was in line with the study. Witila and Ondabu (2022) also revealed that firm size and asset tangibility improves firms' operational efficiency.

On the other hand, the study was not in line with Ertiro and Mohammed (2022) who applied regression analysis and ascertained that firm size had insignificant effects on ROA.

H₀₄ There is no statistically significant effect of market share on the financial performance of microfinance banks

The regression coefficient for market share was .0005 with a $t = 0.31$, $P > |t| = 0.760 > .05$ which led to the acceptance of the null hypotheses that there was no significant effect of market share on MFB's FP. The study findings were in line with Owago's (2021) analysis which ascertained that financial inclusion strategies including higher market share do not translate to improved FP.

Chmelíková (2019) made opposite observations, reporting that social endeavors geared towards acquiring a larger number of customers have significant positive effects on ROE. Further, Dube and Kwenda (2023) affirmed that market share has negatively impacts MFI's ROA and ROE. Further, Odongo (2016) results indicated that expansion in market share, operational capital, branch network, and customers served significantly improves FP.

H₀₅ There is no statistically significant effect of loan quality on the financial performance of microfinance banks

The regression coefficient yielded for loan quality was -.0010 with a $t = -0.20$, $P > |t| = 0.840 > .05$ which led to the acceptance of the null hypotheses that there was no significant effect of loan quality on the MFB FP.

The study findings were corroborated by Aktaruzzaman and Farooq (2023) who noted that the volume of nonperforming loans (NPLs) had no significant effects on performance outcomes. Anshar (2023) also concluded that credit increases the institution's profitability but only under paying borrowers since NPLs can significantly undermine the lenders' sustainability. Irawati, Maksum, Sadalia and Muda (2019) were also of the opinion that NPLs have insignificant effects on banks' FP. Abuga (2022) researched on the effect of NPLs and they were determined to have negative but insignificant effects on efficiency indicators.

Findings from the study were however not supported by Çollaku and Aliu (2021) whose findings were that NPLs have statistically significant negative effects on banks' ROA. Issangu (2020) findings also assert that the size, nature, mode of delivery, loan default rate, and cost per borrower all have significant effects on the institutions' FP. Ndirangu, Buluma and Wanyoike (2019) ascertained that the loan process components have significant effects on profitability as firms with more rigorous loan management were more profitable in the long-term. Kathuri (2022) also observed that NPL had an indirect effect on the institution's profits.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides conclusions that can be drawn from the findings. The chapter begins with a presentation of the summary of findings then proceeds to highlight the main conclusions before making recommendations that can be used to increase the financial performance of MFIs. The chapter concludes with a presentation of the areas suggested for further research work.

5.2 Summary of the Study

This study evaluated the effect of Firm-Level Factors on MFI's financial performance in Kenya with specific focus on the effect of liquidity level, deposit level, firm size, market share and loans quality.

Correlation results from the analysis showed a weak negative insignificant effect of liquidity on FP while deposits had a weak positive and significant effect on the ROA. Findings further showed a moderate positive relation between firm size and FP and weak positive significant association between market share and FP. Lastly, loan quality had a weak and negative relation with the FP of the MFBs.

The results from the regression analysis revealed a statistically positive and significant relationship between firm-level factors and MFB's FP. The effect of liquidity ratio and market share was positive but insignificant, loan quality had no significant effect, while firm size had a positive and significant effect.

5.3 Conclusions

The first objective was on the effect of liquidity ratio on MFB's FP and the results led to the conclusion that liquidity presented an insignificant effect on the FP of microfinance banks in Kenya. The findings suggest that MFBs in Kenya may have effective liquidity management practices in place. They can be able to maintain sufficient liquidity to meet short-term obligations and disburse loans without significantly compromising their FP. This indicates prudent liquidity risk management within the sector.

Objective two was on the impact of deposit levels on MFB's FP in Kenya and findings were that deposit level had a negative and insignificant effect. The findings suggest that the size of the deposit base does not significantly impact MFB's ROA.

Objective three was on the effect of firm size on the FP of MFBs in Kenya and conclusions were that firm size positively and significantly affects the institutions' ROA. The study's findings suggest that larger MFBs in Kenya tend to have better FP. The study concluded that this positive relationship can be attributed economies of scale, enhanced operational capabilities, and a broader customer base. Larger MFBs can benefit from economies of scale. Larger MFBs may have the capacity to offer a wider range of financial products and services that can attract a more diverse customer base and generate additional revenue streams.

The fourth objective was on the impact of market share on ROA and FP. The results led to the conclusion that market share presented an insignificant effect on the FP of microfinance banks in Kenya. This implies that other factors and strategies play a more substantial role in determining financial success in this sector. The insignificant effect of market share may also reflect a competitive environment in which market share alone does not guarantee improved FP.

Findings on the last objective regarding the impact of loan quality on the FP and formed the basis of the conclusion that loan quality had a negative and insignificant. These findings suggest that loan quality does have significant effects on microfinance institutions' ROA.

5.4 Recommendations

The study research established an insignificant effect between liquidity and the FP of Kenyan MFBs. Recommends emerging from this finding was that MFBs should continue to maintain the comprehensive risk management approach. They should continue to ensure that they have adequate liquidity to meet short-term obligations, while also assessing and managing other risks. MFBs should also consider sharing best practices within the industry. Collaboration and sharing of successful strategies can benefit all institutions and help drive improvements in FP across the sector.

The study recommends that since deposit levels do not significantly impact FP, microfinance banks should diversify their sources of revenue. This can be achieved by offering a broader range of financial products and services, such as insurance, remittances, or financial education, which can generate fee-based income and enhance overall FP. Additionally, the study recommends that

even though deposit levels may not be a primary driver of FP, retaining and attracting customers remain crucial. The MFBs should focus on building strong customer relationships, providing exceptional service, and developing tailored financial products to encourage deposit growth and customer loyalty.

Based on the conclusion that firm size can improve FP, recommendations were that smaller MFBs consider developing strategic growth plans aimed at increasing their size. These strategies may include mergers, acquisitions, or partnerships with other financial institutions to capture the benefits of increased scale. The study further suggests that larger MFBs should leverage their expanded capacity to offer a broader range of financial products and services since diversification can attract a more diverse customer base, generate additional revenue streams, and enhance overall FP. As MFBs grow in size, they should also focus on maintaining or enhancing operational efficiency. This can involve investing in technology, streamlining processes, and optimizing resource utilization to maximize economies of scale.

Market share had an insignificant effect and recommendations were for MFBs to shift their focus and emphasize the quality of financial products and services. High-quality offerings can attract and retain customers, even in a competitive market where market share is not a primary driver of FP. Further recommendations were for MFBs to develop strategies for differentiation that set them apart from competitors. This could include specialized financial products, innovative delivery channels, or unique marketing approaches that resonate with your target audience.

Finally, the study concluded that loan quality had an insignificant effect on FP. Based on this conclusion, the study recommends that MFBs should continue to maintain a holistic approach to risk management. This is because, while loan quality may not be a primary driver of FP, effective credit risk assessment and monitoring processes are essential to ensure the stability of the loan portfolio and overall financial health.

5.5 Area for Further Studies

The study was only focused on firm level factors and their effect on FP. Further research can be conducted on other factors including technological innovations (such as mobile banking, digital wallets, and blockchain), regulatory changes and macroeconomic factors, such as inflation rates, exchange rates, and GDP growth and their effect on the FP of these institutions. Additional research could also be conducted on customer behaviour and financial inclusion patterns within

the microfinance sector. This would be by analysing how customer preferences, usage of financial products, and financial literacy impact the performance of microfinance institutions.

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APPENDICES

Appendix I: Data Extraction Tool

Variable	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
LQ											
DP											
MS											
LQTY											
FS											
FP											