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DETERMINANTS OF THE PROFITABILITY OF LIYU MICRO FINANCE INSTITUTION S.C

By:

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GENERAL MBA IN ACCOUNTING AND FINANCE PROGRAM

DETERMINANTS OF THE PROFITABLITY OF LIYU MICRO FINANCE INSTITUTION S.C

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ACRONYMS /ABBREVIATIONS

ANOVA: - Analysis of variance

GDP = Gross Domestic Product = Gross domestic product growth rate

LMFI= Liyu Micro Finance Institution

MFIs = Microfinance Institutions

NPL = Non Performing Lone

ROA= Return on Asset

SACCOs = Savings and Credit Co-operatives

S.C = share company

SPSS =Statistical Package for Social Science

VIF =Variance Inflation Factor

ABSTRACT

This study aims to investigate the determinant factors affecting the profitability of Microfinance Institutions (MFIs), focusing on the case of Liyu Microfinance Institution S.C. Various factors can affect MFI profitability, potentially leading to significant losses in financial performance, both for the institution and the country's economy at large. Therefore, this study examines the impact of the Debt Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, Inflation, and GDP Growth on MFI profitability. To achieve this objective, the study utilizes a quantitative approach, incorporating both descriptive and explanatory research designs. Secondary data spanning fifteen years, from 2008 to 2022, were collected from Liyu Microfinance Institution's audited financial reports, the National Bank of Ethiopia, and World Bank data. Descriptive statistics, including percentages and years, were used in the analysis, along with inferential statistics such as multiple regressions and correlation analysis. SPSS statistical software package version 26 was employed for data analysis. The study's results indicate that the Non-Performing Loan Ratio and GDP Growth have insignificant effects on Return on Assets (ROA), which is used to measure the company's financial performance or profitability. On the other hand, other determinant variables such as the Debt Ratio and Inflation Rate exhibit a significant negative impact on ROA. Interestingly, the Loan-to-Deposit Ratio demonstrates a significant positive effect on ROA.Based on these findings, the study recommends that Liyu MFI should balance its Loan-to-Deposit Ratio and ROA to achieve its desired level of liquidity and profitability. Additionally, the institution should review its current debt structure and explore options to optimize the debt ratio, such as debt refinancing or strategic debt reduction. These measures may prove instrumental in improving ROA and ensuring the long-term financial health of the organization.

Keywords*: Non performing loan ,Debt, Loan-to-Deposit*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The way MFIs obtain and manage funds significantly impacts their profitability. Efficient financing structures can positively affect their financial health. The need for MFIs is highly pronounced due to the fact that the poor are 'un bankable' in the views of the formal financial institutions, because the poor fail to bet collateral which these institutions put as a precondition for disbursement of a loan (Ashebir, 2017). More than 3 billion poor people seek access to basic financial services worldwide (Helms, 2006) and ignored by commercial banks for a long time. Micro finance institutions (hence forth abbreviated as MFIs in this study) expand the frontier of financial services by providing credit to those who are excluded from financial markets (Muriu, 2011).

MFIs are defined in terms of the following characteristics: targeting the poor (especially the poor women); promoting small businesses; building capacity of the poor; extending small loans without collateral combining credit with savings; and charging commercial interest rates (Dejene, 1998 cited in Dechasa Seifu, 2018). The recent trend of commercialization of MFIs even under lines a run for profits from the business conducted with customers who are poor (Sarah, 2011). Non-performing loans have the potential to hamper the profitability and sustainability of microfinance institutions, thus hindering their ability to fulfill their social and economic objectives. This section will discuss the problems associated with non-performing loans on microfinance profitability, emphasizing the key issues and implications (Stuti & Bansal, 2013). Profitability refers to the money that a firm can generate with the resources it possesses. The goal of most organizations is profit maximization (Niresh & Velnampy, 2014, as cited in OMMbongo, 2020). Profitability entails the ability to generate benefits from all the business operations of an organization, firm, and company (Muya & Gathogo, 2016). Profit typically serves as the entrepreneur's reward for their involvement. Profit serves as the primary motivator for entrepreneurs in conducting business. It is also utilized as an index for measuring business performance Ogbabu, (2009) as cited in Bongo, (2020).

Profitability, often represented by retained earnings, typically serves as a key source of capital generation. Unfortunately, some loans issued by Microfinance Institutions (MFIs) become nonperforming, eventually resulting in bad debts with adverse consequences for the institutions' overall financial profitability. Nonperforming loans, in general terms, refer to bad debts whose recovery is highly doubtful because they are not being serviced as required (CBK, 1997, as cited in Moses, 2014). The issue of loan defaults (NPLs) is increasingly becoming a problem that threatens the sustainability of Microfinance Institutions. The nonperforming loans ratio is measured by dividing the value of nonperforming loans by the total value of the loan portfolio (including nonperforming loans before the deduction of specific loan-loss provisions) Micro financial institutions grant loans, they expect the customers to repay the principal and interest on an agreed date. A credit facility is said to be performing if payment of both principal and interest are up to date in accordance with agreed repayment terms (Anita, 2018). The non-performing loans (NPLs) represent credits that the financial institutions perceive as possible loss of funds due to loan defaults. They are further classified into substandard, doubtful or bad debts. Bank credit in lost category hinders bank from achieving their set target (Kolapo et al., 2012). MFIs play a key role in poverty reduction by increasing access to financial services and loan products among the low-income households in the developing countries. In fact, MFIs are formed with a purpose of strengthening and encouraging direct involvement of groups and individuals in well-grounded businesses and upgrading their social and economic status by providing sustainable financial services and social supports. However, poor performance has continued to hit the banking sector despite the intermediation (Mung'aho, Ondiek, & Odhiambo, 2016).

In recent years, the issue of NPLs has gained increased attention globally due to its potential to disrupt the smooth functioning of financial institutions and dampen economic growth. The global financial crisis of 2008 revealed the vulnerability of banks to non-performing assets, leading to a greater emphasis on proactive management of NPLs (Alice & Jaya, 2016). Over the years, microfinance institutions have encountered hitches from different sources. The chief causes of these challenges are the careless ways of loan scrutiny of borrowers and counter parties, improper management of loan portfolios, and ignoring the overall economic indicators of the country or other situations that can result to decline in the credit level of a micro finance's counter parties (Ogunlade & Oseni, 2018).

The impact of non-performing loans on the microfinance sector cannot be underestimated. The prevalence of default not only leads to financial losses for microfinance institutions but also hampers their ability to serve the marginalized communities they aim to support. To overcome this challenge, it is imperative for microfinance institutions to implement robust risk management strategies, including thorough borrower assessments and diligent loan monitoring. Furthermore, close collaboration with regulatory bodies and industry stakeholders is essential in developing effective policies and practices to address the risks associated with non-performing loans. By taking proactive measures, microfinance institutions can continue to fulfill their crucial role in poverty alleviation and economic development, ensuring that their services reach those who need them the most.

This paper aims to fill the knowledge gap and present constructive results that could have wider implications, particularly in assessing the determinants of profitability for Liyu Micro Finance Institution.

1.2   Statement of the Problem

Microfinance plays a crucial role in promoting financial inclusion by providing access to financial services to un banked and underserved populations. MFI" s profits are also an important source of equity. If profits are reinvested, this may promote financial stability. Moreover, market sources of funding are accessible only to MFIs that have demonstrated that they can generate a profit (Dechasa Seifu, 2018). Maintaining financial stability is crucial for any organization, but it's especially important for MFIs dealing with vulnerable populations. Profits act as a buffer against unexpected losses, allowing MFIs to weather difficult economic conditions and maintain their operations. This stability protects both the MFI itself and its clients, who rely on access to financial services even during crises. Imagine a tightrope walker Profitability is like the balancing pole, keeping the MFI steady and preventing it from falling into financial hardship. This stability not only benefits the MFI itself but also inspires confidence in all those who rely on it, like the audience watching the tightrope walker.

Macroeconomic factors, such as recession, inflation, or political instability, can significantly impact the repayment capacity of borrowers, leading to a rise in non-performing loans.

Additionally, GDP factors, including income of society, unemployment, and unequal income distribution, can further exacerbate the problem, making it challenging for borrowers to repay their loans. Profitability is not just about maximizing gains for MFIs; it's about responsible financial management that ensures stability and benefits all stakeholders. Therefore, this research explores the factors affecting the financial profitability of microfinance on Liyu Microfinance Institution S.C. Empirical studies have shown that the research was conducted with different variables and in different contexts than those proposed in this study. The studies on Microfinance Institutions' (MFIs) determinants' profitability, particularly in the Ethiopian context, reveal significant knowledge gaps. While studies by Krishna (2022), K and Bojare (2012), and Jorgensen (2012) offer valuable perspectives, they predominantly draw from retail banking theories, lacking frameworks specifically tailored to MFI profitability. This underscores the urgent need for a conceptual framework considering the distinctive operational dynamics and socioeconomic factors inherent in Ethiopia's microfinance sector.

Yonas (2012) examined the financial sustainability of Ethiopian MFIs over six years but did not include external factors such as macroeconomic conditions and industry dynamics in the study. Similarly, Yohaness (2017) focused on the impact of capital structure on the financial performance of microfinance institutions in Ethiopia. However, both studies overlooked external factors, which limits understanding of MFI performance. This emphasizes the importance of future research integrating both internal operations and external variables to provide a more complete analysis.

Ashebir, (2017) and Dechasa, (2017) investigated the factors affecting the profitability of microfinance institutions in Ethiopia, with Ashebir focusing broadly on the country and Dechasa specifically examining the Southern Nations Microfinance Institution. Both studies identified a range of internal and external variables influencing profitability. However, it's worth noting that while Ashebir's study incorporated internal factors such as the debt ratio, loan-to-deposit ratio, and non-performing loan Dechasa's analysis did not include this particular variable. For this reason, the current study tried to fill the gap by considering internal and external factors affecting the profitability of Liyu MFIs as it is the first of its kind to the researcher's knowledge.

This study primarily aimed to identify factors affecting the profitability of MFIs in Liyu microfinance institutions. Specifically, it focused on the debt ratio, loan-to-deposit ratio, non-

performing loan ratio, inflation, and GDP, and their impact on MFIs' profitability, measured by Return on Assets (ROA). Therefore, the researcher sought to fill knowledge gaps regarding the effects of these critical factors, providing valuable insights for microfinance institutions in managing the factors that affect their profitability.

1.3   Hypothesis Development

Based on the theories and empirical studies the following hypothesis was developed to find out the factors affecting the financial profitability of Liyu microfinance institutions in Ethiopia.

Nitesh, (2017) conducted a study focusing on 148 observations from 22 commercial banks in Nepal spanning the years 2008 to 2014. The research employed regression models to assess the significance and impact of debt financing on the profitability of these Nepalese commercial banks. for his study found result the debt ratio has a negative significant effect on profitability.

Hypothesis 1: The debt ratio has a significant effect on the financial profitability of Liyu Microfinance Institutions in Ethiopia."

The research conducted by Margaretha and Zai (2013) and Christiano et al. (2014) corroborated previous findings on the influence of Loan to Deposit Ratio (LDR) on profitability, particularly Return on Assets (ROA). Both studies unveiled a noteworthy positive effect of LDR on ROA, indicating that as the Loan to Deposit Ratio increases, so does profitability, as measured by ROA. These findings underscore the potential benefits of maintaining a higher LDR in financial institutions, suggesting that it could contribute to enhanced financial performance. Effectively managing this ratio emerges as crucial for optimizing profitability, as it plays a pivotal role in balancing lending and deposit activities within institutions. Consequently, these insights emphasize the importance of strategic management practices aimed at optimizing the Loan to Deposit Ratio to bolster overall financial health and performance in the financial sector.

Hypothesis 2: There is a significant effect of loan to deposit ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

Previous research on the ratio of Non-Performing Loans (NPL) and Return on Assets (ROA) conducted by Prihartini and Dana (2018) focused on Bank Rakyat Indonesia, revealing a

significant negative direct influence of NPL on ROA distribution. This implies that as non-performing loans increase, the revenue reflected through ROA decreases. Similarly, Zuspita and Yadnya (2019) conducted research on public banks listed on the Indonesia Stock Exchange, finding that NPL had a significant negative effect on ROA for commercial banks in Indonesia for the period 2013-2015. These findings suggest that effective bank management should possess strong abilities in credit assessment, guarantee evaluation, and debtor monitoring to avoid accumulating bad loans that could negatively impact the bank's ROA through reduced interest income. Additionally, Peling and Sedana (2018) conducted research at BPD Bali Bank for the period 2009-2016, concluding that NPL had a negative and significant effect on ROA for PT. Bank Pembangunan Daerah Bali. This indicates that higher credit risk leads to lower income received by the bank.

Hypothesis 3: The non-performing loan ratio has a significant effect on the financial profitability of Liyu Microfinance Institutions in Ethiopia.

Inflation, characterized by a rapid and sustained increase in prices, has been identified as a significant factor impacting economic performance. Athanasoglou et al. (2008) highlight that inflation exerts a notable negative influence, particularly affecting the banking sector. Pasiourasa and Kosmidou (2007) corroborate this, finding that inflation and cyclical output have adverse effects on banking sector performance. However, their study reveals a nuanced picture: while domestic banks appear to anticipate and adjust to inflation levels by aligning interest rates accordingly, thereby enhancing profitability, foreign banks experience a disproportionate increase in costs relative to revenues.

This discrepancy suggests a differential impact based on the type of banking institution. Moreover, Staikouras and Wood (2003) emphasize the importance of distinguishing between anticipated and unanticipated inflation, as the effects on bank performance vary accordingly. These insights underscore the complexity of inflation's influence on the banking sector, necessitating careful consideration of contextual factors and adaptive strategies to mitigate its negative repercussions.

Hypothesis 4: The inflation rate has a significant effect on the financial profitability of Liyu Microfinance Institutions in Ethiopia.

In assessing progress in economic development, one of the most informative indicators is the state of the Gross Domestic Product (GDP). Poor economic conditions can adversely affect the quality of loan portfolios within microfinance institutions (MFIs), leading to reduced profitability, as highlighted by Muriu in 2011. Conversely, improvements in economic conditions typically yield positive effects on MFI profitability. The growth of GDP and GDP per capita reflects the economic state during the observed period and the starting point of the economy, whether in recession or economic boom, and the level of poverty. A thriving economy creates job opportunities for the impoverished, whether in construction or self-employment, fostering a conducive environment for small business owners, as noted by Jorgensen in 2012. Consequently, the demand for credit tends to align with current economic development, as new business ventures and larger projects necessitate increased capital. However, it's worth noting that cyclical output fluctuations do not significantly impact MFI profits, as evidenced by Pasiourasa and Kosmidou in 2007. Despite this, there is limited evidence supporting economic development as a reliable predictor of MFI profitability. Thus, the expected direction of GDP's influence is deterministic, shaping the formulated hypothesis regarding its impact on MFI profitability. Khalid, (2020) his study found that the number of borrowers, capital-to-asset ratio operational efficiency, and GDP positively and significantly affect profitability

Hypothesis 5: The GDP growth rate has a significant effect on the financial profitability of Liyu Microfinance Institutions in Ethiopia.

1.4   Objective of the Study

1.4.1   General Objective

The main objective of this research was to examine factors affecting the financial profitability of Liyu microfinance institution in Ethiopia.

1.4.2   Specific Objective

This study attempted to achieve the following specific objectives

1. To evaluate the effect of debt ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

2. To examine the effect of loan to deposit ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

3. To investigate the effect of non-performing loan ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

4. To inspect the effect of Inflation rate on financial profitability of Liyu microfinance institutions in Ethiopia.

5. To assess the effect of GDP growth on financial profitability of Liyu microfinance institutions in Ethiopia.

1.5   Significance of the Study

The study findings will provide relevant input to Liyu Micro Finance S.C Company to make the necessary adjustments and improvements based on the recommendation of the study. In addition, this study will help to public service sectors, private sectors and policy makers can use the findings from to this study to design and implement practice of decrease factors affecting profitability of MFI.

Additionally, it may also offer a support or possible reference to other researchers who are fascinated to conduct extra study on related areas and it will enable the researcher to acquire good practice and to fulfill preconditions for graduation.

The study examined factors on the financial profitability of Liyu Micro Finance. Additionally explored potential measure scope of the study and strategies that can be implemented by Liyu Microfinance to effectively manage and control variables such as Debit ratio, loan to deposit ratio, non-performing loan ratio inflation and GDP and to discuss their effect on MFIs profitability which measured by Return on Asset (ROA). The research was conducted at Liyu Micro Finance Institution within the time framework from June 2008 to June 2022 and geographical scope confined Liyu Microfinance Addis Ababa head quarter. The research approach of this study is a quantitative approach and the researcher employed explanatory and descriptive research design for this thesis.

1.6   Limitations of the Study

This study did not end without problems, the main influences that donated to the limitation of the study. One limitation stems from the restricted availability of data which hinders the inclusion of additional variables. The other limitation was lack of generalizability.

The study focuses specifically on Liyu Microfinance and may not be applicable to other microfinance institutions or different contexts. The findings may not be generalizing to the broader microfinance sector. Conducting a comprehensive analysis of the factors contributing to non MFIs, their impacts, and potential solutions requires significant time and resources.

1.7   Organization of the Study

This paper organized in to five chapters. The first chapter dealt with the introductory part of the study. Which includes background of the study, significance of the study, statement of the problem, objectives of the study, scope and limitation of the project and organization of the paper are incorporated. The second chapter provides a brief literature review of the research topic. The research methodology and design are discussed in the third chapter. Chapter four deals with the analysis and interpretation of the findings, and finally, a summary of the major findings, conclusions, and recommendations is presented in chapter five.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In this chapter organized into different sub topics: definition of Micro finance, significant of non-performing loan, causes and determinates of non-performing loan etc. Empirical literature review and conceptual framework were briefly discussed.

2.1. Theoretical Literature Review

2.1.1. Definition of Microfinance Institution (MFIs)

The definition of Microfinance anticipated by different scholars and organizations are to some extent different from one another. However, the basic concepts of the descriptions are similar. Let's start from the terms microfinance and micro credit are often used interchangeably, it is important to define each term separately and thereby see what they cover. Microfinance is the practice of providing a variety of financial services that target low-income and poor clients whereas micro credit is one of the financial services namely the loans which include the act of providing loans of small amounts to the poor and other borrowers that have been ignored by commercial banks Accordingly, micro credit is just one type of service under microfinance.

Robinson (2001) define microfinance as all types of financial inter mediation services (savings, credit, funds transfer, insurance, pension remittances, etc.) offered to low-income households and enterprises in both urban and rural areas, including employees in the public and private sectors and those who are self-employed. Churchill & Frankiewkicz (2006) articulate microfinance as commonly associated with small, working capital loans that are invested in micro enterprises or income-generating activities. Hossain & Knight (2008) also defined microfinance as the supply of loans, savings, and other basic financial services to the poor and they noted that micro credit, a central theme of microfinance, is broadly recognized as the practice of offering small, collateral-free loans to members of cooperatives who otherwise would not have access to the capital necessary to begin small businesses.

Ledgerwood (1999) and Arsad (2005) defined it as the setting up of financial services (in the main saving and credit) to low income consumers. Jorgensen (2012) also tried to define MFI as an organization that make available the microfinance services to low income consumers.

Different institutions also define MFI in their own way. Microfinance institution is remarks more in the main as the provision of financial services to those left out from the formal financial system (UNCDF, 2002). Microfinance institutions, as defined by the Microfinance Information Exchange (MIX), offer a range of financial services tailored to low-income clients, with a particular focus on women. These clients typically have limited access to traditional financial services and lower incomes. Consequently, microfinance products tend to cater to smaller monetary amounts compared to conventional banking services. The suite of services provided by microfinance institutions includes loans, savings accounts, insurance, and remittance services. Microloans, a prominent offering, are often utilized for micro enterprise development and various other purposes aimed at fostering economic empowerment within underserved communities. The diversity of products and services offered in the financial sector reflects the dynamic nature of individuals', households', and enterprises' financial needs, particularly for those living in poverty. Microfinance institutions, which primarily serve this demographic, employ non-traditional methodologies to address these varied needs. These methodologies include group lending and forms of collateral not typically utilized by formal financial institutions. By adapting their approaches to meet the unique requirements of their clients, microfinance institutions play a crucial role in providing financial access and empowerment to underserved communities. Asian Development Bank (2000) defines; microfinance is the provision of a broad range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households and, their micro enterprises.

In a nut shell from all the above definitions, it is possible to conclude that MFI is financial service centered on the poor and the typical microfinance clients are low income employed persons or household based entrepreneurs, those do not have possibilities to practice in formal financial institutions.

2.1.2. Theories

Several theories have been advanced that seek to explain financial profitability and nonperforming loans as discussed below:

2.1.2.1. The Stakeholder Theory

The stakeholder theory developed by Freeman (1984) is based on the argument that apart from the shareholders, there are several agents who are affected by the actions and decisions taken by Micro Finance Institute. Stakeholders are parties that have an interest in an enterprise or project and include investors (shareholders), employees, customers, suppliers, government and communities at large.

Stakeholder theory asserts that Micro Finance Institute has a social responsibility that requires them to consider the interest of all parties affected by their actions. A stakeholder- based performance measure challenges managers to examine more broadly the value their firms are creating from the perspective of the stakeholders who are involved in creating it. It therefore gives managers the information they need to engage stakeholders where they are and enhance managerial ability to use such insights to create more value. At its core, this perspective is about creating a higher level of well- being for the stakeholders involved in a system of value creation led by the firm.

Stakeholder theory has been a subject of investigation by a number of people. Jensen (2001) provides a comprehensive review of corporate governance, with a particular focus on stakeholder theory. The authors note the presence of many parties interested in the well-being of the firm and that these parties often have competing interests. On one hand are the shareholders who may welcome investments in high yielding but risky projects. This may not go well with the credit providers especially when the company is in the verge of bankruptcy.

2.1.2.2. The Stewardship Theory

Stewardship Theory developed by Donaldson and Davis (1991 & 1993) is a new perspective to understand the existing relationships between ownership and management of the company.

Its main purpose is to address the underlying agency theory assumption that there exists a tension between the risk propensity of principals and their agents whereby agents focus their actions upon mitigating their personalrisks at the expense of the principal Mombo (2013).

The agency theory suggests that the owners must recognize this tension and prevent agent activity related to moral hazard by monitoring managers and developing mechanisms that align the interests of the agents with principals and prevent opportunistic actions by agents Arthurs (2003).

Stewardship theory has been introduced as a means of defining relationships based upon other behavioral premises, it defines situations in which managers are not motivated by individual goals, but rather are stewards whose motives are aligned with the objectives of their principals. This underlying assumption of commonality between managers and owners runs counter to the assumption of the individualistic, self-serving, opportunists that organizational economists have offered as the model of firm management in a market system Arthurs (2003).

2.1.2.3. The Financial Accelerator Theory

The financial accelerator theory developed by Bernanke and Gertler (1989) seeks to explain how small economic shocks have relatively large effects on the lending and borrowing activities. It relies on the interplay between economic agents' net worth and the external finance premium that arises due to asymmetric information between lenders and borrowers. Where economic agents' net worth is defined as the sum of liquid assets plus collateral value of illiquid assets less outstanding obligations and the external finance premium is defined as the difference between the cost of funds raised externally and opportunity costs internal to the firm (Bernanke, Gertler and Gilchrist, 1999)

The theory argues that the less the amount of his own wealth the borrower contributes to the project, the more his interests will diverge from the interests of the supplier of the external funds. Borrowers were more eager to undertake riskier projects. That is, projects that has a high probability of large return, but also those offering low returns. From the borrower's perspective these projects are preferred since the firms' losses in the cases when the project's return is low are limited to zero by legal regulation.

From the lenders' point of view, these projects are unfavorable since they bear all, or most of, the costs in the case of low project returns. The theory further indicates that due to economic shocks, the borrowers may not have the ability to borrow and are likely to avoid repayment of their loans.

2.1.3. Definition of Non-Performing Loans (NPLs)

Non-performing loans (NPLs) are a significant concern in the banking and financial sector. They refer to loans that borrowers have failed to repay according to the agreed terms and conditions, leading to deterioration in the loan quality and potential financial losses for the lender (Financial Stability Board, 2017).

The Financial Stability Board defines non-performing loans as "exposures where the borrower is past due on contractual payments by 90 days or more, or where doubt exists regarding the full recovery of principal and interest."(Financial Stability Board, 2017).

Non-performing loans are "exposures where the borrower is past due on payments for a specified period, usually 90 days or more, or where other defined criteria suggest that the borrower is unlikely to pay its credit obligations in full, without recourse by the lender to actions, such as realizing collateral"(Basel Committee on Banking Supervision, 2013).

Non-performing loans as "loans for which interest and principal payments are past due by 90 days or more, or where payments are less likely to be made in full compared to when they were contractually due" (International Monetary Fund, 2017).

Non-performing loans as "borrowers' exposures, where the contractual payments of interest and/or principal are more than 90 days past due or under similar conditions such as those occurred in the IFRS, exposure would be considered if the borrower is considered highly unlikely to pay its credit obligations or demands full recourse." (European Central Bank,2016).

2.1.4. Classification of Non-Performing Loans

Non-performing loans can be broadly classified into three categories based on their level of delinquency and recovery prospects (IMF, 2017).

Substandard Loans

Substandard loans are those that exhibit a significant degree of risk, with borrowers experiencing financial difficulties or demonstrating a deteriorating financial condition. These loans are considered non-performing, as they have a high probability of default. The recovery prospects for substandard loans are uncertain, requiring additional monitoring and provisioning by the lender (Altunbas, Y, et al, 2010).

Doubtful Loans:

An even higher level of risk compared to substandard loans characterizes doubtful loans. These loans have been delinquent for an extended period, and it is highly probable that the borrower will default. Lenders must make substantial provisions for doubtful loans due to the low likelihood of recovery.

Loss Loans:

Loss loans represent the most severe form of non-performing loans. These loans are considered irrecoverable, as they have been delinquent for an extended period without any possibility of recovery. Banks usually write off loss loans from their balance sheets, recognizing the loss as an expense (Berger, A. N., & DeYoung, R, 1997).

2.1.5. Significance and Impact of Non-Performing Loans (NPLs)

Financial Stability: High levels of NPLs can pose a threat to the stability of the banking sector. NPLs tie up bank resources and reduce profitability, which can weaken the capital base of banks and limit their ability to lend. This, in turn, can impact the overall health of the banking system (Smith et al. 2020).

Credit Availability: NPLs can lead to a decrease in credit availability as banks become more cautious in lending due to the risks associated with non-performing loans. This can affect businesses and individuals who rely on bank financing for investments, operations, and consumption (Smith et al. 2020).

Capital Adequacy: NPLs require banks to set aside provisions to cover potential losses. This affects the capital adequacy of MFI's and can limit their ability to expand their lending activities.

In severe cases, it may even require banks to raise additional capital to meet regulatory requirements.

Economic Growth: High levels of NPLs can hinder economic growth. NPLs tie up bank resources that could otherwise be used for new loans and investments, thus limiting the flow of credit to productive sectors of the economy. This can lead to lower investment, reduced business activity, and slower economic expansion (Mersland, R., &Strøm, R. Ø, 2009).

Financial Intermediation: NPLs can hamper the role of banks as financial intermediaries. Banks play a crucial role in channeling funds from savers to borrowers, facilitating economic activity. However, when banks are burdened with a high level of NPLs, their ability to perform this intermediation function is compromised (Berger, A. N., &DeYoung, R, 1997).

Confidence and Systemic Risk: High NPL ratios can erode public confidence in the banking system. This can lead to deposit withdrawals and losses of trust in the financial sector, which can further exacerbate the financial stability concerns. Moreover, the interconnectedness of banks and financial institutions can amplify the impact of NPLs, potentially leading to systemic risks (Johnson, R. 2018).

2.1.6. Effect of Nonperforming Loans on Financial Profitability

Nonperforming loans have an effect on the financial profitability of Institutions because loans are assets that need to generate returns for an organization and when loans given out are not recovered together with interest then it implies that more resources will need to be committed towards provision for nonperforming loans and additional costs was used in financing recovery efforts. These costs and provisions consume a huge portion of the profits earned by Micro Finance Institute thereby retarding their financial profitability Mombo (2013). The level of nonperforming loans in an organization determines how profitable that organization was. Mombo (2013) confirms that nonperforming loans in deposit taking microfinance institutions accountfor the greatest percentage of the variance in the profitability of these institutions.

Mwangi (2012) observed that there is an inverse relationship between the amounts of nonperforming loans and the financial profitability.

He further noted that when nonperforming loans are high, the financial profitability measured by

return on assetsis low. The reverse also happens when nonperforming loans are low.

2.1.7. Return on Asset

Return on Asset (ROA) is defined as the efficiency in asset utilization and shows how much net income is generated out of assets Twineyo-Kamugisha (2017). It indicates the ability of MFI management to generate profits by utilizing the available assets of the MFI. Factors used to measure the performance of banking sector are known as key performance indicators, i.e. profitability, return on assets (ROA), and return on equity (ROE), net interest margin, liquidity, etc. from these performance indicators, the researcher used ROA. Thus, if the ratio of ROA is high, it indicates that it is better performance in order to generate profit. Strong bank profitability measured in terms of ROA might result from high lending rate, fees and commission that lead bank growth in size and profitability. Therefore, ROA gives an idea as to how efficient management is at using its assets to generate earnings. One of the parameter to measure ROA were, come back on assets is an indicator of how successful an organization is compared to its complete assets. It gives a concept of the efficiency of the control in using its assets to generate earnings

2.1.8. Debit ratio (DR)

Total-debt-to-total-assets is a leverage ratio that defines how much debt a company owns compared to its assets (https;//www.investopian). Using this metric, analysts can compare one company's leverage with that of other companies in the same industry. This information can reflect how financially stable a company is. The higher the ratio, the higher the degree of leverage (DoL) and, consequently, the higher the risk of investing in that company. Increased Financial leverage potentially impacting profitability through interest expense.

2.1.9. Loan to Deposit (LD) ratio

Loan to Deposit (LD) ratio serves as financial institutions liquidity measure. It measures the funds that MFIs utilized into loans from the collected savings in the period under study (https;//www.investopian). It validates the association between loans and savings.

The relationship between a financial institution's stability and the interplay between its "stable" deposit base and gross loans (excluding interbank activity) is crucial. When the ratio of stable

deposits is low compared to loans, there's an increased reliance on volatile funds to cover illiquid assets. This heightened dependence on less stable funding sources amplifies the risk of illiquidity during periods of liquidity stress. Lund-Jensen's (2012) analysis, utilizing country-level data, highlights a clear association: a higher Loan-to-Deposit (LTD) ratio corresponds to an elevated probability of a banking crisis. Similarly, The Global Financial Stability Report (GFSR) in 2013, employing a bank-level panel regression, reinforces this finding, indicating that a higher LTD ratio is linked to an increased likelihood of bank distress. These insights underscore the importance of maintaining a stable deposit base to enhance financial resilience and mitigate the risk of liquidity-related crises.

2.1.10. Nonperforming Loans Rate

Nonperforming loans have an effect on the financial profitability of Institutions   because loans are assets that need to generate returns for an organization and when loans given out are not recovered together with interest then it implies that more resources will need to be committed towards provision for nonperforming loans and additional costs was used in financing recovery efforts. The financial viability of Savings and Credit Cooperative Societies (SACCOs) is significantly hampered by the substantial impact of costs and provisions, as highlighted by Mambo (2013). These financial obligations, such as loan defaults and non-performing loans, constitute a substantial drain on the profits generated by SACCOs, impeding their overall financial profitability. Mambo's research further emphasizes that the level of non-performing loans within an organization serves as a crucial determinant of its profitability. Specifically, in the context of deposit-taking microfinance institutions, nonperforming loans emerge as the primary factor influencing the variability in profitability.

This underscores the critical need for SACCOs to manage and mitigate non-performing loans effectively in order to enhance their financial sustainability and overall success in the microfinance sector.

2.1.11. Inflation

Inflation is a supported build in the normal cost of all merchandise and administrations processed in an economy (Nugraha, et al 2021). Money loses buying force throughout inflationary periods since every unit of money purchases dynamically fewer merchandise. Swelling is an ascent in

the general value level. There are two real reasons for expansion: Demand change, and supply change. Powerless and vacillating recuperation needs is a great solid dosage of swelling published ahead of time by the Fed/Treasury. The thinking behind that solution is that expansion and the desire of swelling might activate organizations sitting on crowds of money and families attempting to shore up their asset reports to begin using some of their money on ventures and shopper durables instead of watch the money devalue. Additionally, climbing costs, and the desire of climbing costs, might energize organizations, hesitant to grow yield and livelihood as a result of deficient interest, to do only that in the desire that costs might climb sufficiently to permit them to offer the included yield at a benefit. Inflation is defined as the percentage increases of a reference index, the Consumer Price Index (CPI), which is a representative of a common basket of goods and services (Mercurio, 2004).

The impact of inflation on an economy takes the form of restructuring of income. It harms savers as price increases, and purchasing power of savings depreciates. Saving account, insurance plans, annuities and other fixed value paper assets decrease in real value during inflation. Unexpected inflation profits borrowers at the expense of lenders. For the macro-economic managing, low levels of inflation are preconditions mostly in developing nations (Gill & Khan, 2010). Inflation can have a chain of negative significances for the economy. Initially, inflation wears down the purchasing power of the individuals and therefore, leads to a reduction in economic growth. It leads to rise in macro-economic unsteadiness as an inflationary atmosphere creates much ambiguity. Moreover, inflation has backsliding significance's on the poverty of a country's citizens.

Furthermore, inflation can hurt a nation's effectiveness by leading towards the appreciation of the national currency and a resulting overestimated exchange rate, which has an adverse impact on exports (Gill & Khan, 2010).

According to Fofack, (2005) in a study shows that inflationary forces influence the high level of compromised loans in African countries with variable exchange rate systems. According to this author, inflation is accountable for the prompt destruction of the equity of MFI and therefore higher credit risk in the MFI regions of these African countries. In this study, the research intends to find out the impact of inflation with relation of loan default or non-performing loans on ROA of Liyu MFI's.

2.1.12. GDP Growth

The study used GDP growth as a proxy of the Macroeconomic environment. Arguably, this is the most informative single indicator of progress in economic development. Poor economic conditions can worsen the quality of the loan portfolio, thereby reducing profitability. (https;//www.investopian)data bank. world bank.org. GDP growth can have a significant impact on microfinance profitability due to its influence on the overall economic environment. by creating job opportunities, fostering innovation, and boosting demand in various sectors. As the broader economy expands, individuals and businesses may witness improved financial conditions, leading to increased participation in financial services, including microfinance. Additionally, the influx of funds into the economy can enhance liquidity and credit availability, positively affecting the repayment capacity of microfinance clients. However, it's essential to note that the impact may vary depending on the specific circumstances, economic policies.

2.2.   Empirical Literature

Krishna, (2022) conducted a study focusing on the essential factors influencing the performance of microfinance institutions (MFIs) in Nepal. The primary objective of the study was to identify the key operational performance indicators of MFIs in the region. To achieve this goal, the study employed descriptive, correlational, and casual-comparative methodologies to identify the determinants affecting the performance of MFIs.

The study's findings revealed a strong correlation between MFIs' performance and several factors, including information technology, loan lending processes, and the regulatory environment he study also discovered that MFIs performance is significantly influenced by the loan lending system, regulatory environment, and information technology. The study discovered that the loan lending system, regulatory framework, information technology, loan lending system, employee motivation, management system, effective risk management, and regulatory framework have a positive link with the performance of MFIs and significantly affect it. Additionally, it shows that the operational effectiveness of MFIs in Nepal has no correlation with employee motivation, management system, and effective risk management. The study's findings will be helpful to all parties involved with MFIs, including investors, regulators, legislators, and

BFIs. According to the outcome, operational efficiency significantly affects the viability and continuation of service of Nepalese MFIs.

K, Bojāre ,(2017) research addresses the nuanced landscape of bank profitability in Latvia, aiming to fill gaps in existing literature concerning the impact of various factors across different bank business models and levels of systemic importance. By analyzing macroeconomic indicators and financial statements, the study employs a fixed effects cross-sectional weights panel model to draw conclusions. It highlights the predominant influence of factors such as the economic environment, inflation, interest rates, competition, and individual bank efficiency on profitability. The findings elucidate distinctions among bank business models, providing insights into Latvia's distinctive banking market dynamics and decision-making processes. Moreover, the study offers valuable implications for regulatory bodies, including the national supervisory authority and the European Central Bank, aiding in their analysis of bank profitability and assessment of systemically significant institutions.

Jorgensen, (2012) delved into a thorough examination of 879 microfinance institutions (MFIs) worldwide, aiming to unravel the intricate relationship between profitability and a myriad of operational factors. Employing data from the MIX database for the year 2009, the study scrutinized various determinants of profitability, utilizing Return on Assets (ROA) and profit margin as proxies, while also considering factors like outreach, financial structure, expenses, revenue, efficiency, portfolio quality, and peer group characteristics such as age, deposit-taking ability, legal status, and profit status.

The findings of the analysis unveiled a nuanced landscape where certain operational factors demonstrated noteworthy correlations with profitability metrics. Surprisingly, factors such as the number of active borrowers, cost per borrower, deposit size, and legal status exhibited a negative and statistically significant relationship with ROA. Conversely, factors like gross loan portfolio size, capital-to-asset ratio, gross loan-portfolio-to-asset ratio, operating expense-to-gross loan portfolio ratio, and the age of new MFIs were found to have a positive and significant impact on ROA. One of the pivotal insights gleaned from the study was the absence of a significant relationship between the yield on the gross portfolio and profitability. This critical revelation refuted the conventional notion that higher interest rates necessarily translate into increased profitability for MFIs. Instead, the analysis underscored the multifaceted nature of profitability in

microfinance, indicating that a host of operational dynamics beyond mere interest rates play pivotal roles in determining the financial health and sustainability of MFIs. Thus, Jorgensen's study provided valuable insights into the nuanced interplay between operational factors and profitability within the microfinance landscape, challenging prevailing assumptions and paving the way for more informed decision-making within the industry.

Muriu, (2011) seminal study, "What Explains the Low Profitability of MFIs in Africa," represents a ground breaking empirical investigation into the complex dynamics influencing the profitability of microfinance institutions (MFIs) across the African continent. Leveraging the Generalized Method of Moments (GMM) system and drawing from an extensive unbalanced panel dataset spanning from 1997 to 2008 and encompassing 210 MFIs across 32 countries, Muriu meticulously examined the determinants of MFI profitability. Through the lens of Return on Assets (ROA) and Return on Equity (ROE) as proxies for profitability, Muriu dissected factors across three primary domains: MFI-specific factors, macroeconomic influences, and institutional developments. Notably, his findings underscored the pivotal role of capitalization, size (economies of scale), and freedom from corruption as significant drivers of MFI profitability, exhibiting substantial positive correlations. Conversely, factors such as credit risk and efficiency were revealed to bear significant negative relationships with profitability. Intriguingly, while factors like gearing ratio, inflation, Gross National Income (GNI) per capita, and MFI age did not emerge as statistically significant determinants of profitability, Muriu's study illuminated a nuanced understanding of the intricate interplay between diverse factors shaping the financial performance of MFIs in Africa, thereby offering invaluable insights for practitioners, policymakers, and scholars alike.

Alemayehu, (2008) also studied in examine the performance of MFIs in Ethiopia by taking six institutions. The study focused on analysis of profitability and sustainability, asset and liability management, and efficiency and productivity of MFIs in Ethiopian using a descriptive analysis of data collected from audited annual reports of 6 microfinance institutions covering a period of five years (2002-2006). The result of the study showed that most of the MFIs were doing well in terms of Operational self-sufficiency and financial self-sufficiency though both operational and financial self-sufficiency declined with the size of the institutions. The analysis of asset and liability management also showed that most of them used their asset for undertaking primary

activity of lending. They also have a low cost capital which is below the commercial bank lending rate, but the debt to equity ratio was high in most of the cases. With respect efficiency large MFIs had a better operational efficiency than their small counter parts as measured by the ratio of operating expense to gross loan portfolio and cost of serving a single client. Yet, small ones were good in outreach measured by average loan size. In general, Alemayehu concluded that the sustainability of large and medium MFIs in Ethiopia were encouraging, but the case in small MFIs demands consideration for the fact their good outreach measures are not accompanied with good sustainability indicators.

Belayneh, (2012) study, focus was on examining the factors influencing the financial sustainability of microfinance institutions in Ethiopia. Utilizing a quantitative research approach, the study employed a balanced panel data set comprising 126 observations from 14 microfinance institutions over the period 2002-2010. The findings revealed significant correlations between microfinance breadth of outreach, depth of outreach, dependency ratio, and cost per borrower with the financial sustainability of these institutions. Notably, the study highlighted that factors such as capital structure and staff productivity did not show a significant impact on the financial sustainability of microfinance institutions in the Ethiopian context.

Birhanu, (2007) tried to see the study in outreach and financial performance analysis of MFIs found that outreach of Ethiopian MFIs is increasing from 2003 up to 2007 on average by 22.9%.

Birhanu also concluded that the institutions financial sustainability is improving from time to time as measured in terms of ROA and ROE. Additionally, his study revealed that there is no trade-off between outreach and financial sustainability of Ethiopian MFIs. The study noted that the credit access of women is still limited (34%) and also default rate of some not all MFIs is increasing steadily so care should be taken. Finally, he concluded that Ethiopian MFIs are increasingly becoming profitable.

Yonas, (2012) study delved into the determinants of financial sustainability within Ethiopian microfinance institutions (MFIs), utilizing six years of data from twelve MFIs affiliated with AEMFI. His findings revealed three key insights. Firstly, he emphasized the critical importance of maintaining a high-quality credit portfolio, alongside the implementation of interest rates that are sufficiently elevated to ensure a reasonable profit margin, all underpinned by effective

management practices. This suggests that the fundamental pillars of financial stability within MFIs lie in their lending practices, pricing strategies, and overall operational management. Secondly, Yonas observed that the percentage of female clients within MFIs had a statistically insignificant negative impact on financial sustainability. This challenges the assumption that gender composition significantly influences MFI stability, highlighting the need for a nuanced understanding of the relationship between gender inclusion and financial performance in the microfinance sector. Finally, Yonas noted that while client outreach and the age of MFIs positively influenced financial sustainability, their impact was comparatively lesser. This implies that while expanding outreach and the longevity of MFIs contribute to their sustainability, other factors such as portfolio quality and interest rate management wield greater influence. In essence, Yonas study provides valuable insights into the multifaceted dynamics that underpin the financial sustainability of Ethiopian MFIs, shedding light on the interplay between lending practices, gender dynamics, outreach efforts, and institutional longevity in shaping their long-term viability.

(Yohannes, 2017) also try to study the effect of capital structure on financial performance of microfinance institutions in Ethiopia. Total populations of the study were 34 microfinance institutions and the sample selected was 18 microfinance institutes under category A and B only. Panel data analysis technique was in use and secondary data were collected for the period of 2010-2015.

ROE was used as a financial performance measure and debt to asset ratio (DTAR), interest coverage ratio and loan to deposit ratio as a capital structure variables and firm size and firm age were control variables. The finding shows that most of the microfinance institutions had employed high leverage and capital structure variables do have a positive relation with financial performance of microfinance institutions in Ethiopia. Finally, the study recommended that microfinance institutions in Ethiopia should employ more debt, which is up to optimal level in to their capital structure, so as to maximize their financial profitability.

Ashebir, (2017) study in Ethiopia aimed to decipher the factors influencing the profitability of microfinance institutions (MFIs), drawing data from 19 MFIs operating between 2004 and 2016. Employing a fixed effect model, the research analyzed a range of internal and external factors. The findings highlighted the significance of several internal factors including the age of MFIs,

gearing ratio, capital adequacy, and organizational efficiency, all positively impacting Return on Assets (ROA). Conversely, size and portfolio quality showed insignificant relationships with ROA. Among external factors, inflation had a significant negative effect on ROA, while real GDP growth remained statistically insignificant. Notably, market concentration emerged as a significant factor affecting ROA. The study underscored the importance of effective management considering both internal and external factors to enhance the profitability of microfinance institutions in Ethiopia

The study conducted by Dechasa, (2018) investigated the factors influencing the profitability of microfinance institutions (MFIs) in the Southern Nations, Nationalities, and People's Regional State (SNNPRS) during the period of 2009-2013. Utilizing quantitative research methods, including secondary document analysis and financial statement examination, the study employed a multiple linear regression model to analyze the profitability of MFIs, using Return on Assets (ROA) as the measure. The findings revealed that financing structure and MFI age positively impacted profitability, emphasizing the significance of a well-structured financing system and the experience gained over time. However, operating efficiency and size exhibited a negative influence, indicating the necessity for MFIs to streamline operations and possibly reconsider their scale. Additionally, while economic growth (GDP) displayed a positive coefficient, it was not statistically significant, suggesting that it did not directly affect MFI profitability.

The study concluded by recommending MFIs to focus on reducing operating costs and implementing effective credit management policies to enhance profitability.

2.3 Summery and Research Gap

The exploration of existing literature factors affecting profitability of Microfinance Institutions (MFIs), especially within the Ethiopian context, exposes numerous gaps in knowledge. While studies by Krishna, (2022), K, Bojare, (2012), and Jorgensen, (2012) provide valuable insights, they largely rely on retail banking theories due to the absence of well-established frameworks tailored specifically to MFI profitability. This highlights a critical need for a conceptualization that addresses the unique operational dynamics and socioeconomic factors inherent in the Ethiopian microfinance landscape. Consequently, the conceptualization of these gaps necessitates a nuanced understanding of the contextual intricacies shaping MFIs' financial

performance in Ethiopia. Key considerations include the regulatory environment, cultural norms, economic conditions, and the effectiveness of MFI operational models in reaching underserved populations. By developing a theoretical framework rooted in these contextual realities, future research can better elucidate the factors driving MFI profitability in Ethiopia, thereby informing policy interventions and operational strategies aimed at fostering sustainable financial inclusion and poverty reduction initiatives.

The literature review underscores a common trend in empirical studies focusing on Microfinance Institutions (MFIs), where internal factors are predominantly utilized to measure performance, neglecting the potential impact of external factors such as macroeconomic and industry-related variables. For instance, Birhanu's (2007) study on Ethiopian MFIs primarily examined internal factors, failing to capture determinants of profitability comprehensively. Similarly, Alemayehu, (2008) assessed the performance of six MFIs, emphasizing aspects like sustainability and efficiency but overlooking portfolio quality and external factors.

Yonas (2012) examined the financial sustainability of Ethiopian MFIs over six years but did not include external factors such as macroeconomic conditions and industry dynamics in the study. Similarly, Yohaness (2017) focused on the impact of capital structure on the financial performance of microfinance institutions in Ethiopia. However, both studies overlooked external factors, which limits our understanding of MFI performance.

This emphasizes the importance of future research integrating internal operations and external variables to provide a more complete analysis.

2.4 Conceptual Framework

Conceptual framework explains the main things to be studied, the key elements, or variables and the assumed relationship among them (Voughan 2008). Based on literature, the conceptual framework shown in the figure below is used for this study. The framework depicts performance as influenced by variables including:

Figure 2.1: Conceptual Framework
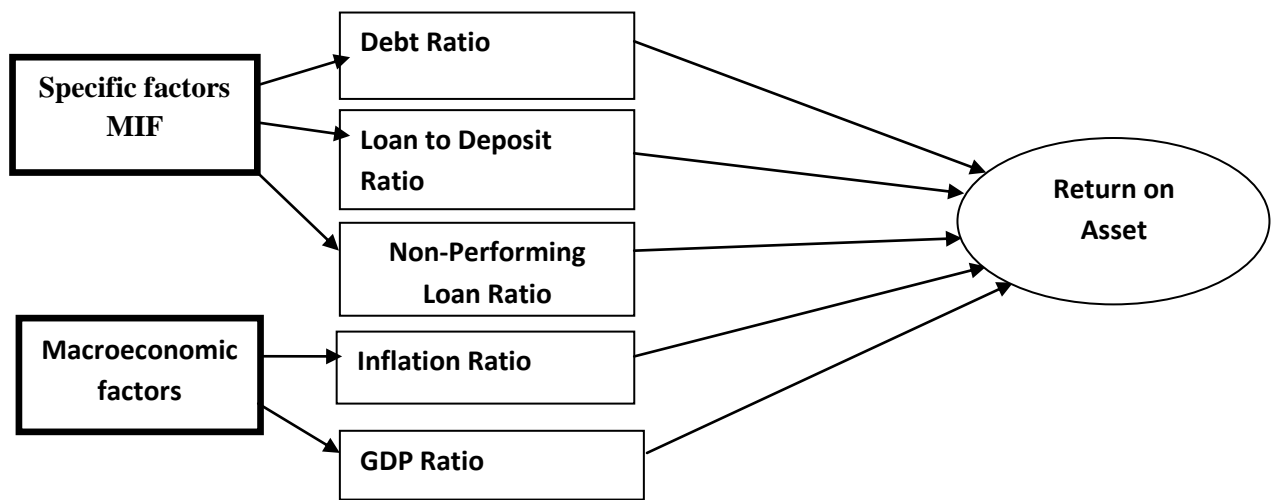
Conceptual frame work of the study adapted from Kalid (2020)

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CHAPTER THEREE

RESEARCH DESIGN AND APPROACH

Introduction

This thesis part discusses in-depth and overall description how research philosophy will conduct. It begins by research design, and it goes to, research approach, sampling design, target population, sampling size, sampling technique procedures, method of data collection, data analysis, reliability, validity and ethical considerations.

3.1. Research Approach

According to Saunders et al., (2009), there are three main research approaches namely quantitative approach, qualitative approach, and mixed approach. The quantitative approach involves the generation of data in quantitative form that can be subjected to rigorous quantitative analysis formally and rigidly. Thus, this study used a quantitative research approach to Examine factors affecting the profitability of Micro Finance in the Case of Liyu Micro Finance Institution S.C. Because quantitative approach helps to explore, present, describe and examine relationships and trends within data and as it also helps to collect results in numerical and standardized data.

3.2. Research Design

Research design is a blueprint for conducting study and it requires maximum control over factors that may interfere with the validity of the findings (Burns & Groove, 2010). This study adopted a descriptive and explanatory research design. According to Zikmund (2003), a descriptive research design is a research design concerned with establishing what is happening as far as a particular variable is concerned. It describes a population concerning important variables The explanatory research design is also used to determine the effects of variables on profitability of Microfinance institution.

3.3. Population of the Study

This study has used secondary data for the analysis and the data were collected from the annual reports of audited financial statements from Liyu Microfinance Institute respectively, National Bank of Ethiopia and World Bank Data. This study covers fifteen years' data from 2008 to 2022 G.C.

3.4. Data Source and Collection Method

Therefore, the data for the MFIs NPL and financial profitability indicator variables was obtained from audited financial statements of the respective MFIs. Thus, the data employed for fifteen years from 2008 to 2022 were collected from National Bank of Ethiopia and World Bank data. In order to avoid the risk of misrepresentation in the quality of data, the data is the audited financial statements mainly statement of financial position and profit & loss statement.

3.5. Variable Measurement, Instrument and Model

In this section, the summary of variables, their measure, and expected signs were discussed. The dependent variable in this study is Return on Asset (ROA) and explanatory variables are; total debt ratio, loan-to-deposit ratio, NPL rate, Inflation, and GDP growth. The selection measure for the dependent variable is Return on Asset (ROA), which is a proxy for MFI profitability, and for independent variables are detailed as follows.

3.5.1. Dependent Variables

To see the effect of capital structure determinants on the firm profitability the researcher uses two accounting based measurements of financial profitability (Return on Asset (ROA) and Return on Equity (ROE)) as dependent variables, which is Return on Asset (ROA). Even though there is no unique measurement of firm performance in the literature. ROA was chosen because it is important accounting based and widely accepted measures of financial profitability.

Return on Asset (ROA) is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources. According to (Ehrhardt & Brigham, 2009) the simplest way to determine ROA is to take net income reported for a period and divide that by total assets. Similarly, the (technical guide "Performance Indicators for Microfinance Institutions", 2003)

ROA are used as a measure of MFIs profitability, which further is an indicator of performance. ROA is a widely accepted measure of financial profitability, and is used in several studies. ROA is calculated using the following formula:

ROA = <u>**Net Incom**</u>

        Average Asset

3.5.2. Independent Variables

Debt Ratio (DR) the ratio of total liabilities to total assets is called the debt ratio, or sometimes the total debt ratio (https;//www.investopian). It measures the percentage of funds provided by sources other than equity: Assets can include both tangible Assets & intangible one. DR is calculated using the following formula:

        DR = <u>**Total liability**</u>

            Total Asset

Loan to Deposit (LD) ratio serves as financial institutions liquidity measure. It measures the funds that MFIs utilized into loans from the collected savings in the period under study (https;//www.investopian). It validates the association between loans and savings. LD is calculated using the following formula:

        LD= <u>**Total Loan**</u>

           Total Deposit

Non-Performing Loan Ratio: The non-performing loan ratio is the percentage of loans that are not being repaid. To calculate the non-performing loan ratio, you divide the number of non-performing loans by the total number of loans Mambo, (2013).

It explains that one of the factors that most strongly influence a MFI's profitability is non-performing loans, that is, a ratio that measures a MFI's credit risk. Non- performing loans generally occur because the debtor cannot pay the interest and principal of the loan so that the profit of a MFI is reduced.

$$\text{NPL Ratio} = \frac{\text{Non Performing Loan}}{\text{Total Loan}}$$

Inflation rate: it is a situation in which the economies overall price level is rising. It represents sustained and pervasive increment in aggregate price of goods and services resulting decline in purchasing power of money (Nugraha, et al 2021). Accordingly, when inflation is high and unexpected, it can be very costly to an economy.

At the same time, inflation generally transfers resources from lender and savers to borrowers since borrowers can repay their loans with in birr/USD that are worthless. It is determined as the general consumer price index.

This indicates that, as inflation increase, the cost of borrowing gets more expensive and deteriorates the quality of loan portfolio. In this study, the data shows an inverse relationship between inflation rate and ROA.

GDP growth: The study will use GDP growth as a proxy of the Macroeconomic environment. Arguably, this is the most informative single indicator of progress in economic development. Poor economic conditions can worsen the quality of the loan portfolio, thereby reducing profitability.

3.5.3. Model Specification

The study employs return on Assets (ROA) as dependent variables, and measures of firm 's financial profitability. I preferred ROA in my research on MFIs due to their comparability, focus on asset management, risk consideration, and simplicity, ROA was chosen because it is important accounting based and widely accepted measures of financial profitability. The independent (explanatory) variables in this study are the Debt ratio, Loan to Deposit ratio**,** non-performing loan ratio, Inflation rate and GDP growth.

Thus, the general model for this study as is mostly found in the literature is represented by,

$$\text{Yit} = \alpha + \beta \text{Xit} + \mu \text{it}$$

With subscript i denote the cross-section and t representing the time-series dimension.

Where:

Y   is the dependent variable

α   is the intercept term (constant variable)

ß   is the coefficient of independent variable

X   is the independent variable.

μ   is the error terms.

i   is the number of firms.

t   is the number of time periods.

Therefore, the general models which incorporate all of the variables to test the hypotheses of the study were:

Model   ROA i, t= α + ß1(DR)+ ß2(NPL)+ ß3 (LDR)+ ß4(Inf)+ ß5(GDP)+ µit

Where, "i" denote the studied microfinance institutions and "t" represent the time period.

α………………………………. Constant

ß1…. ß5 ………………………. coefficient of independent variable

ROA i, t …………………………. return on asset of ith on the year t

DR……………………………….is debt ratio

NPL………………………………is Non Performing loan

LDR…………………………... is loan to deposit ratio

INF……………………………is Inflation rate

GDP…………………………... is Growth Domestic Products

µit……………………………Error term which is assumed to have a normal distribution.

3.6. Data Analysis Method

To achieve the objectives, the study, panel data of Liyu microfinance institutions for fifteen years (2008 to 2022) financial data were used. This is because of that panel data has the advantage of contains more informative data as it consists of both the cross-sectional information, which captures individual variability, and the time-series information, that captures dynamic natures of the data. Data analyzed was done using descriptive and inferential statistics. In the analysis of the descriptive statistics, the mean, standard deviation, would be used while multiple regressions, correlation analysis formed part of the inferential statistics. SPSS statistical software package version 26 was used.

3.7. Diagnostic Test

The researcher used diagnostic tests to ensure regression assumptions are not violated. The study carried out Autocorrelation, heteroscedasticity and multicollinearity test. Autocorrelation was detected using Durbin Watson statistics. Values of -2 or +2 suggest that the data set has no autocorrelation.

In the presence of heteroscedasticity, the variance of the variables will not be constant over time and where large differences between the highest and lowest observation exists and will question the validity of the regression model (Kennedy, 2011). Furthermore, Kennedy claims that grouped or average data can create heteroscedasticity. If the groups are not equal in size and the slope of the coefficients is random rather than fixed across observations, the random component of this gets embodied in the error term and creates heteroscedasticity (Kennedy, 2011). Additionally, multicollinearity was detected using variable correlation matrix and VIF. Chapter four will display the results.

3.7.1. Test of Significance

The study used R^2 to determine how change in financial profitability is Financial Profitability of MFI's. Analysis of Variance (ANOVA) was done by comparing the value of F calculated in the NOVA table and that F critical from the F table. P values were interpreted as 5% level of significance.

3.8. Ethical Considerations

Bryman and Bell, (2011) states that ethical issues revolve around four main principles: harm to participants, lack of informed consent, invasion of privacy and deception. The researchers of this study identify these principles as guidelines to make sure that a proper ethically acceptable research is conducted. Hence, this study used data from the organization based on the formal letter of application were taken. This means that legally acquired. The purpose is also to conduct an ethically acceptable study. Therefore, in accordance with the ethical principles, no individual organization name or organizational number will be disclosed. It is done, even though, the information used comes from publicly available sources. The organizations are aware that their information might be used for academic research purposes only.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter deals with the presentation, interpretation and analysis of data collected from Liyu Microfinance Institute annual publications of the National bank of Ethiopia (NBE) and world economic reports. The audited financial statements of the MFI's over the study period have been attained from National Bank of Ethiopia. It is responsible for maintaining the audited financial statements of Liyu Microfinance Institute operating in the country and regulates their operating activities. Basically, the country's macroeconomic report, the balance sheet and income statements were the main sources of the relevant data to address the stated objectives of the study.

This chapter deals with the analysis and interpretation of data following the researcher methodology dealt in the chapter. In the course of analysis, data gathered from the various sources have been inserted in the tabular form according to homogeneous nature. The various tables prepared for the analysis purpose have been shown in annexes. Using financial and statistical tools, the data have been analyzed the result of the analysis has been interpreted keeping in mind the conventional standard with respect to ratio analysis and other factors while using other tools.

The study selected return on asset (ROA) as measure of the MFI's Financial profitability while Debt ratio (DR), Loan to Deposit ratio (LDR), non-performing loan ratio (NPL), Inflation rate (INF) and GDP growth. The Empirical results from quantitative data analysis using SPSS statistics 26 as well as presenting results from descriptive statistics, correlation matrix and regression results are the study main statistical tool.

4.1. Ratio Analysis

Ratio analysis has been used or employed to assess the financial health, operating result and growth of the sampled banks. In order to analyse and interpret the tabled data, the following

ratios have been used: Debt ratio (DR), Loan to Deposit ratio (LDR), non-performing loan ratio (NPL), Inflation rate (INF), GDP growth, and Profitability Ratio.

4.1.1. Debt Ratio (DR)

Debt Ratio (DR) the ratio of total liabilities to total assets is called the debt ratio, or sometimes the total debt ratio. A company's debt ratio can be calculated by dividing total debt by total assets. A debt ratio of greater than 1.0 or 100% means a company has more debt than assets while a debt ratio of less than 100% indicates that a company has more assets than debt.
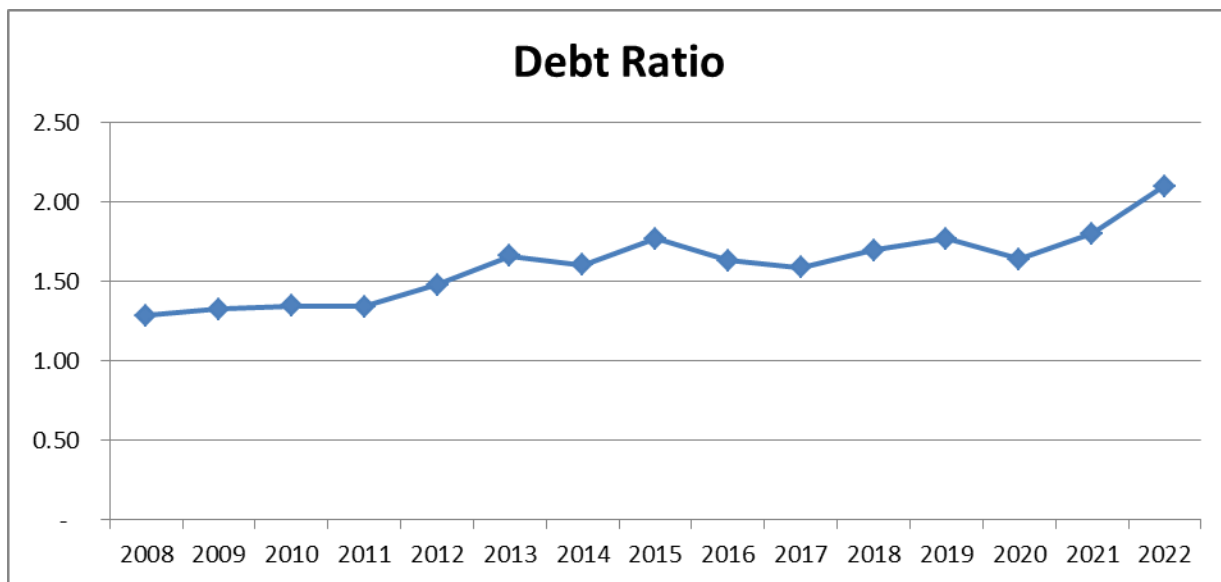
Figure 4.1: Debt ratio

Source: Secondary data (2023)

The debt to asset variable used to represent the proportion of MFI's asset/operation financed by debt, hence used as one measure of the MFIs. Goyal (2013), and Arkhavien (1997) found statistically significant negative relationship between profitability and leverage. Hence taking into account the earlier empirical studies and the nature of financing structure of Microfinance industry in Ethiopia, negative relationship with profitability was expected.

The debt ratio is expressed as a percentage and can range from 0% to 100% or higher. A higher debt ratio indicates a greater proportion of debt relative to assets. The above figure indicates that the last 15 years' debt ratio analysis shows increasing at increasing rate. Specifically, from 2020

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to 2022 result shows the maximum debt with in the fifteen years' company's activity. It suggests that a higher debt ratio suggests that the MFI has a higher financial risk and is more reliant on borrowed funds.

It indicates that a significant portion of the MFI's assets is financed by debt, which can increase the risk of insolvency if the MFI faces financial difficulties or economic downturns. A significant increase in the debt ratio may indicate a more aggressive financing strategy or potential financial instability, while a decreasing trend may suggest a more conservative approach or improved financial health.

4.1.2. Loan to Deposit (LD)

Loan to Deposit (LD) ratio serves as financial institutions liquidity measure. It measures the funds that MFIs utilized into loans from the collected savings in the period under study. The ratio specifies the proportion of total deposits invested in loans and advances. High ratio means the greater use of deposits for investing in loans and advances. Nevertheless, very high ratio shows poor liquidity position and risk in loans on the contrary; too low ratio may be the causes of idle cash or use of fund in less productive sector. It is calculated by dividing the total outstanding loans by the total deposits held by the institution.
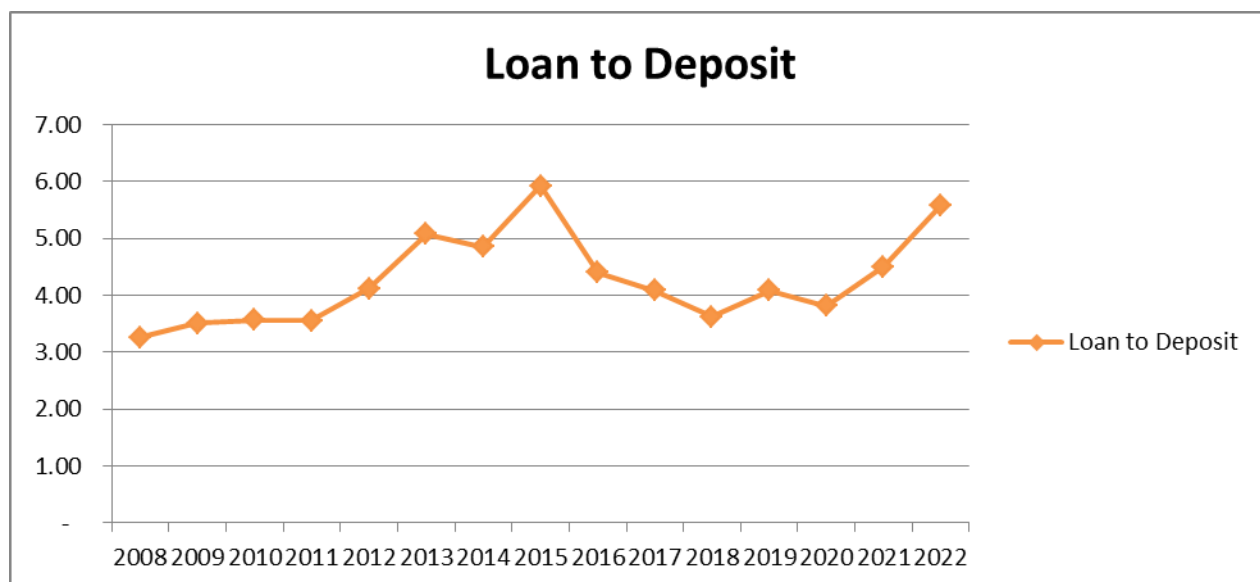
Figure 4.2: Loan to Deposit

Source: Secondary data (2023)

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Interpreting loan-to-deposit data involves understanding the implications of different ratios. If the loan-to-deposit is less than 100%, it indicates that the institution is lending out a smaller portion of its deposits.

This suggests that the institution may have excess liquidity and is not fully utilizing its available funds for lending purposes. It may be more conservative in its lending practices or may have a lower demand for loans from borrowers. However, the above figure indicates that the ratio was greater than one. When the loan-to-deposit exceeds 100%, the institution is lending out more funds than it has in deposits. This suggests that the institution relies on other funding sources, such as borrowing from different banks or raising capital in the market, to meet the excess lending demand. A high loan-to-deposit may indicate a more aggressive lending strategy or a larger appetite for risk.

4.1.3. Non-Performing Loan Ratio

The non-performing loan ratio is the percentage of loans that are not being repaid. NPL rate is the major indicator of Microfinance financial profitability. It is the ratio of nonperforming loan to total loan and advance which measures the extent of credit risk of Microfinance. In this case, the Microfinance was exposed to risk when NPL rate is increase.
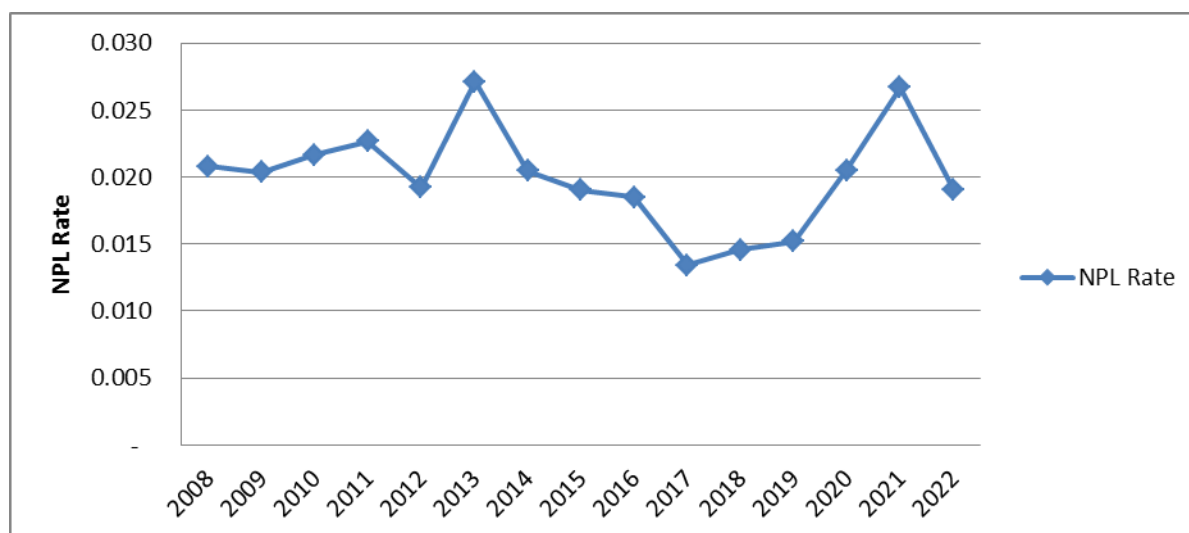
Figure 4.3: NPL Rate
Source: Secondary data (2023)

A non-performing loan (NPL) is a loan in which the borrower has not made repayments of principal and/or interest for at least 90 days. When a bank is unable to recover non-performing loans, it can repossess assets pledged as collateral or sell off the loans to collection agencies. Poor management can imply week monitoring for both operating cost and credit quality of customers, which will include high levels of capital losses. This may be expressed in the form of follow-up problem, poor ratio analysis, collateral estimation and registration problem etc. However, the above data indicates that NPL rate fluctuate year to year. In 2013 and in 2021 the ratio it was reached above 0.025 or 2.5%. However, in 2017 it was reached 0.015 or 1.5%. It suggests that Liyu Microfinance Institute has been a practiced a better repaid rate. NPLs results from the weaknesses in the administration and supervision of the financial system of which commercial banks are a part of a study by Bonin and Huang ,(2001) hold that that the probability of crises in banking industry worsens if financial risks are not eliminated as soon as possible. Microfinance institutes are required by law to report their ratio of non-performing loans to total loans as a measure of the Liyu Microfinance institutes' level of credit risk and quality of outstanding loans. A high ratio means that the Microfinance institutes is at a greater risk of loss if it does not recover the owed loan amounts.

4.1.4. Inflation Rate

Inflation rate is a situation in which the economies overall price level is rising. It represents sustained and pervasive increment in aggregate price of goods and services resulting decline in purchasing power of money.
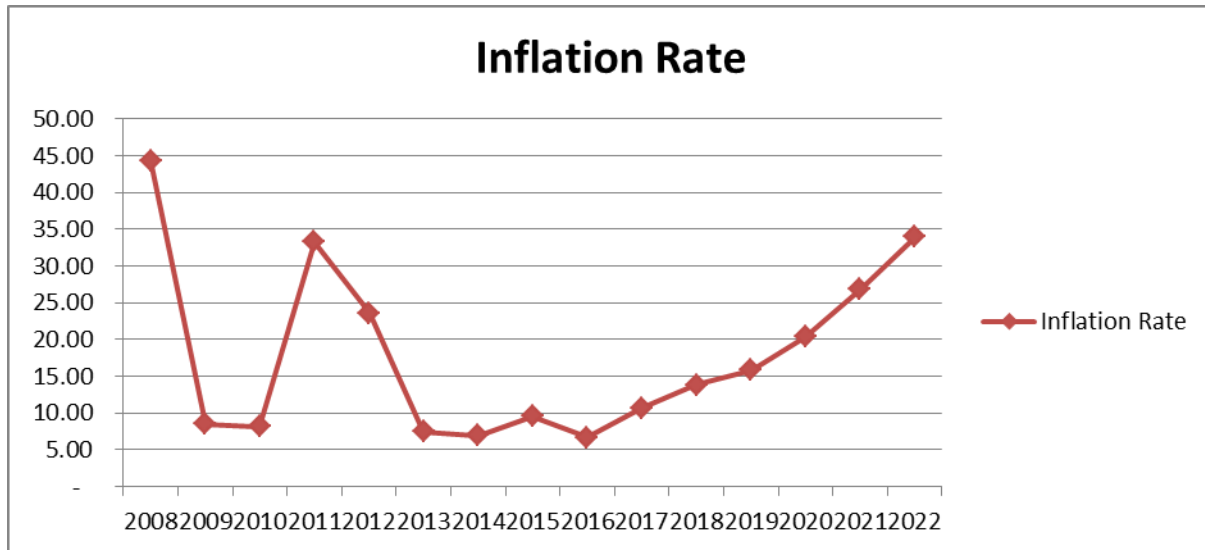
Figure 4.4: Inflation Rate

Source: Secondary data (World Bank data, 2023)

It is a situation in which the economies overall price level is rising. It represents sustained and pervasive increment in aggregate price of goods and services resulting decline in purchasing power of money. Accordingly, when inflation is high and unexpected, it can be very costly to an economy. At the same time, inflation generally transfers resources from lender and savers to borrowers since borrowers can repay their loans with in birr/USD that are worthless. It is determined as the general consumer price index. This indicates that, as inflation increase, the cost of borrowing gets more expensive and deteriorates the quality of loan portfolio. However, this study depict that the data shows a direct relationship between inflation rate and ROA. For example, the above figure 4.4 depicted that from 2016 until 2022 continuing the inflation rate at increasing rate, which is the inflation increase from 6.63 to− 33.94 percent's. In 2008, the inflation rate was reached the maximum, which was 45%. It was due to the world big economic crises in 2008. Then after, it was fluctuated from the year to year. However, from 2016 until 2022, continuously increase the inflation rate. It implies that inflation can have a significant impact on microfinance institutions (MFIs) and their clients. Inflation can lead to an increase in the cost of goods and services, which can reduce the purchasing power of MFIs' clients.

This can lead to a decrease in demand for loans and a decrease in the ability of clients to repay loans. Inflation can also lead to an increase in the cost of funds for MFIs, which can reduce their profitability.

4.1.5. GDP Growth

The study will use GDP growth as a proxy of the Macroeconomic environment. Arguably, this is the most informative single indicator of progress in economic development. Gross Domestic Product (GDP) is a measure of the economic activity of a country. It is the total value of goods and services produced within a country's borders in a given period.
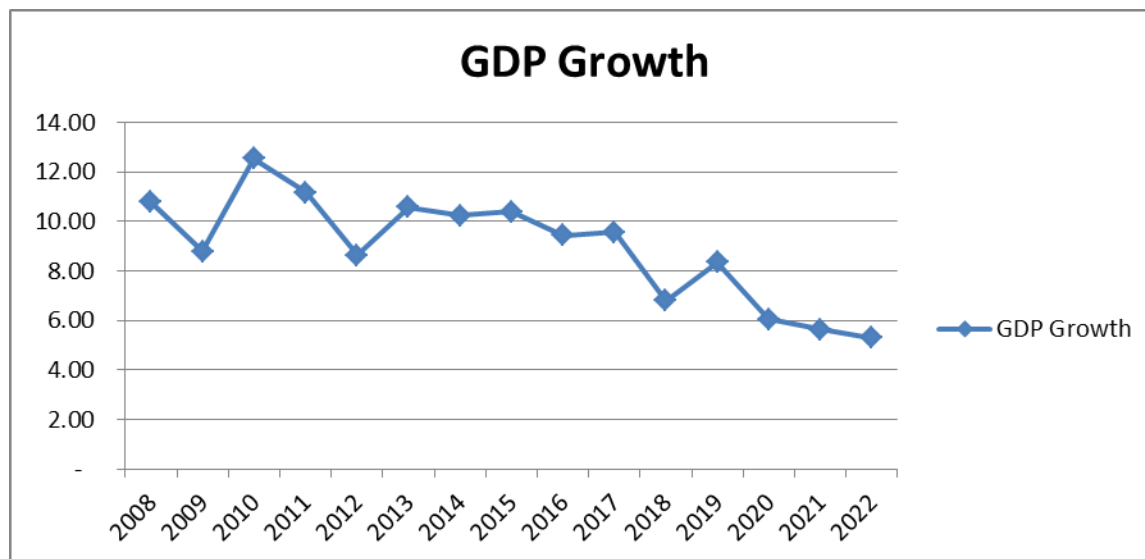
Figure 4.5: GDP Growth

Source: Secondary data (World Bank data, 2023)

From the collected data present evidence, the ROA is explained by GDP growth rate as one predictor variable in Microfinance Institution. Their results demonstrate in the average the GDP growth is positively associated to the profitability of organization, suggesting that the improvement in GDP leads in real economy to increase profit, quite consistent with the theory; the results that we found show a significant and positive relationship between the growth rate of GDP, and NPL, whereas GDP and ROA had a positive relationship.

An increase in GDP usually leads to greater flows of household income and a rise in profitability.

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In this study, GDP growth rate is negatively associated with NPL rate of Liyu Microfinance institution. This means; when GDP increases NPL rate decreases and vice versa. And GDP growth rate positively associated with ROA (see table 4.5). The result is similar to those obtained by Louzis et al. (2010) for the case of Greek Microfinances institution and Bofondi and Ropele (2011) for Microfinance institution. GDP can have a significant impact on microfinance institutions (MFIs) and their clients. A study conducted in India found that GDP growth had a positive impact on the outreach of MFIs, as it increased the demand for financial services. Another study conducted in Bangladesh found that GDP growth had a positive impact on the profitability of MFIs, as it increased the demand for loans and reduced the cost of funds. However, the impact of GDP on MFIs can vary depending on the country, the type of MFI, and the characteristics of its clients.

4.1.6. Return on Asset (ROA)

Means with in operation how generate income with sacrifices its assets efficiently, many researchers use return on asset one of the financial performance indicators. Return on asset in mathematical form is net income divided by total assets. Return on Asset (ROA) is defined as the efficiency in asset utilization and shows how much net   income is generated out of assets. ROA stands for Return on Assets. It is a financial ratio that measures the profitability of a company or organization by calculating the amount of net income returned as a percentage of the total value of its assets. In the context of microfinance institutions (MFIs), ROA is used to measure the financial performance of MFIs.
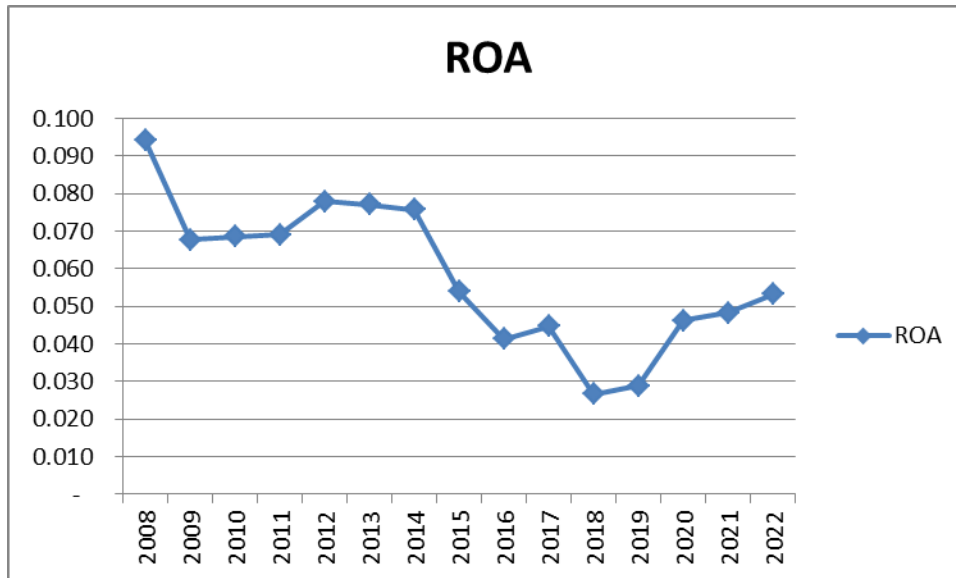
Figure 4.6: ROA

Source: Secondary data (Liyu Microfinance institutions financial report)

It indicates the ability of Microfinance institutions management to generate profits by the available assets of the Microfinance institutions. Factors used to measure the performance of Microfinance institutions sector are known as key performance indicators, i.e. profitability, return on assets (ROA), and return on equity (ROE), net interest margin, liquidity, etc. from these performance indicators, the researcher used ROA. Thus, if the ratio of ROA is high, it indicates that it is better performance in order to generate profit. Strong Microfinance institutions profitability measured in terms of ROA might result from high lending rate, fees and commission that lead bank growth in size and profitability. Aymen. M & boubaker. A (2020) and Jeevarajasingam. N (2014) use return on asset and return on equity is prominent financial indicators of profitability.

Therefore, ROA gives an idea as to how effective management is at using its assets to generate earnings. One of the parameter to measure ROA were, come back on assets is an indicator of how successful an organization is compared to its complete assets. It gives a concept of the efficiency of the control in using its assets to generate earnings. The above figure result indicated that in 2018 the Liyu Microfinance institutes had been the list profitability in the fifteen years. However, from 2019 – 2022 was indicated that the institutes profitability increase at increasing rate.

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It indicates that a high percentage of ROA indicates that an MFI is generating a high level of profit relative to its assets. This can be an indication of good financial health and can help to attract investors and donors. However, a high ROA can also indicate that an MFI is taking on too much risk or charging high interest rates to its clients. Therefore, it is important to consider other factors such as the quality of the loan portfolio, the level of outreach, and the social impact of the MFI when evaluating its performance.

4.2. Assumption Test for Regression Analysis

4.2.1. Multicollinearity Test

Multicollinearity test is used to detect whether col linearity exist among the independent variables in the model or not, because if correlation exists between independent variables, there is in the state of multicollinearity problem. In this case, the regression will end up with an inaccurate result and led to invalid conclusion. Correlation coefficient between two variables ranges from perfect positive correlation to perfect negative correlation (-1 to +1). It also defined as dependence of one variable upon another. There are two types of multicollinearity: perfect multicollinearity and near multicollinearity. Near multicollinearity is arise when there is non-negligible but not perfect relationship between two or more of the explanatory variables. On the other side, perfect multicollinearity occurs when there is an exact relationship between two or more variables. In this case, it is not possible to estimate all of the coefficients in the model.

Therefore, the table below presents the correlations among the independent and dependent variables. In addition, multicollinearity tested using variance of inflation factor (VIF) to make it further clear.

According to Cooper & Schindler, (2009) a correlation result of above 0.8 should be considered as a problem of multicollinearity. The correlations result between the independent variables is shown in the above table are below 0.80, which indicates that multicollinearity is not a problem for this study.

Table 4.1: Collinearity Diagnostics

				Variance Proportions					
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Debit Ratio	Loan to Deposit	NPL Rate	Inflation Rate	GDP Growth
1	1	5.624	1.000	.00	.00	.00	.00	.01	.00
	2	.273	4.543	.00	.00	.00	.00	.73	.00
	3	.067	9.194	.00	.01	.02	.00	.01	.12
	4	.026	14.771	.00	.00	.00	.77	.08	.06
	5	.010	23.454	.07	.02	.28	.00	.17	.04
	6	.001	81.536	.93	.97	.70	.22	.00	.78
a. Dependent Variable: ROA									

Also as shown in Table 4.1, the entire values of the variance inflation factor (VIF) were all $< .05$. Based on the finding, it can therefore be inferred that there was no multicollinearity in the data.

4.2.2. Autocorrelation Test

This also an important assumption from classical linear regression assumptions, that errors are uncorrelated with one another. If the errors are correlated with one another, it would be stated that they are auto correlated. Autocorrelation was detected using Durbin Watson statistics. Value of -2 or +2 suggested that the data set has no autocorrelation. The findings are shown in table.

Table 4.2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.908[a]	.824	.727	.010147748354891	2.092
a. Predictors: (Constant), GDP Growth, NPL Rate, Loan to Deposit , Inflation Rate, Debit Ratio					
b. Dependent Variable: ROA					

The study used 15 observations with 5 explanatory variables for the model. As presented on the above, the DW result values were 2.009 its round to +2 in models was in the range. Therefore, we can conclude that there were absences of autocorrelation problem. The test indicates that there is no autocorrelation, it means that the error terms are independent and that the regression model is valid.

4.2.3. Test for Heteroscedasticity

Heteroscedasticity is a statistical concept that refers to the unequal scatter of residuals or error terms in regression analysis. Specifically, it refers to the case where there is a systematic change in the spread of the residuals over the range of measured values. To test for heteroscedasticity, the researcher used scatter plot as shown in figure 4.7.
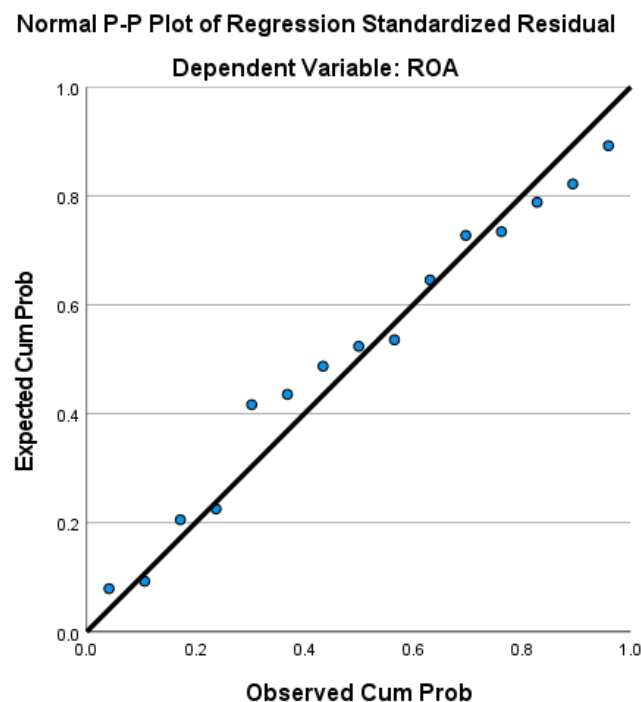
Figure 4.7: Scatter plot

Source: Secondary data (2023)

The presence of heteroscedasticity can lead to biased and inefficient estimates of the regression coefficients, which can affect the validity of the statistical inference.

Figure 4.7 shows that all the data points are spread relatively with the same patter. It can be deduced from this observation that there was no heteroscedasticity.

4.2.4. Normality Test

A normality test is a statistical test that is used to determine whether a sample data has been drawn from a normally distributed population. Normality tests are typically performed to verify whether the data involved in the research have a normal distribution.
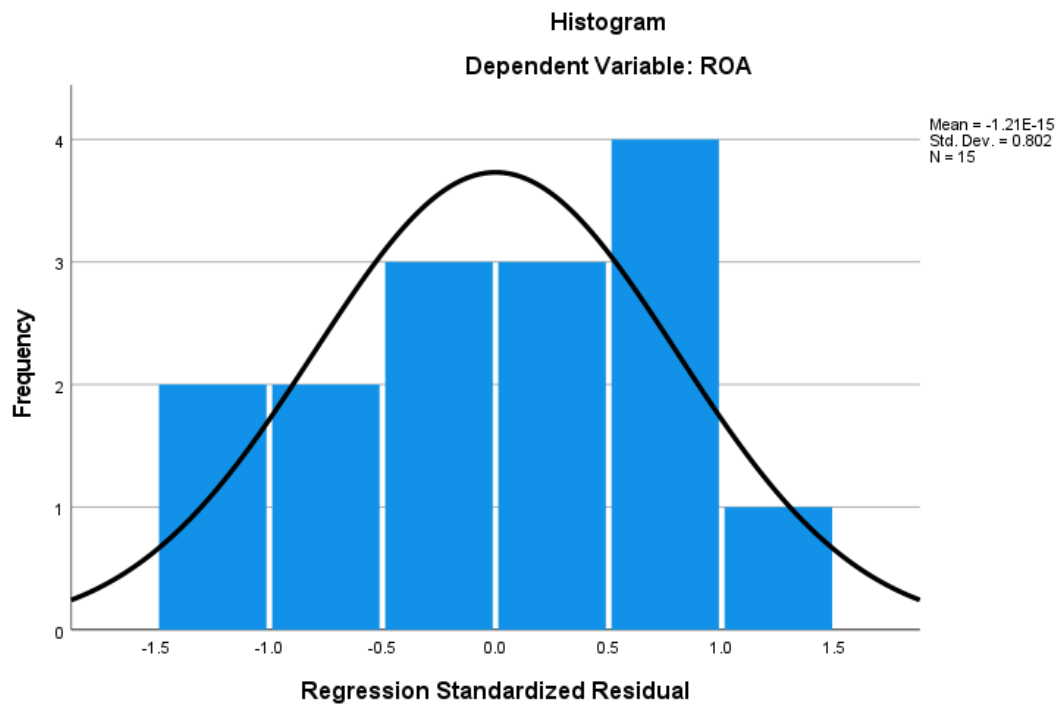
Figure 4.8: Normality Test

Source: Secondary data (2023)

The above figure 4.8 indicates that the data is normal that are found between +2 and -2. the normality test indicates that the data are normally distributed, it means that the data can be analyzed using parametric tests.

4.3. Inferential Analysis

In order to draw significant and meaningful interpretations and conclusion on the collected and analyzed data, it was important to carry out inferential analysis. This requires the use of correlation and regression analysis.

4.3.1. Correlation Analysis

To establish how capital structure and financial performance were correlated and to check the significance of the variables introduced in the model, a correlation analysis was conducted. In order for the variables to be valid, the correlation between them should not exceed 0.8 (Kennedy, 2011). The sign of the correlation coefficient determines whether the correlation is positive or negative (direct or indirect); whereas, the magnitude of the correlation coefficient determines the strength of the correlation.

Accordingly, the closer the correlation coefficient to + 1, the stronger the positive correlation would be and closer to - 1, it indicates a stronger negative correlation in between variable. Nevertheless, if the coefficient of correlation approaches to zero (0) it tells us, there would be little or no linear relationship exists among the variable.

In order to evaluate the relationship between variables and Financial profitability measured by ROA, a Pearson Product Movement Correlation Coefficient is conducted with the result shown in the matrix below.

Rule of thumb for interpreting the size (strength) of a Pearson correlation coefficient (Parvez, 2016).

➢ .90 to 1.00 (-90 to -1.00) Very strong high positive (negative) correlation
➢ .70 to .90 (-.70 to -.90) Strong positive (negative) correlation
➢ .50 to .70 (-.50 to -.70) Moderately strong positive (negative) correlation
➢ .30 to .50 (-.30 to -.50) weak positive (negative) correlation
➢ .00 to .30 0.00 to -30) negligible correlation

Table 4.3: Correlations

Correlations		Debit Ratio	Loan Deposit	to NPL Rate	Inflation Rate	GDP Growth	ROA
Debit Ratio	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	15					
Loan to Deposit	Pearson Correlation	.749**	1				
	Sig. (2-tailed)	.001					
	N	15	15				
NPL Rate	Pearson Correlation	-.127	.138	1			
	Sig. (2-tailed)	.652	.624				
	N	15	15	15			
Inflation Rate	Pearson Correlation	-.029	-.212	.167	1		
	Sig. (2-tailed)	.918	.448	.551			
	N	15	15	15	15		
GDP Growth	Pearson Correlation	-.675**	-.173	.119	-.251	1	
	Sig. (2-tailed)	.006	.537	.671	.367		
	N	15	15	15	15	15	
ROA	Pearson Correlation	-.576*	-.095	.543*	.297	.545*	1
	Sig. (2-tailed)	.025	.736	.036	.282	.035	
	N	15	15	15	15	15	15

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

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

Source: Secondary data (2023)

Correlation matrix table indicates that debt ratio (r= -576, p=.025) had a negative significant correlation with financial profitability measured by ROA. This relationship indicates that moderately strong negative relationship with the dependent variable. Loan to deposit (r = -095, p = .736) had a negative and insignificant correlation with financial profitability measured by ROA. As per the above rule of thumb this relationship indicates that negligible correlation with the dependent variable. Loan performing loan rate (r = 543, P = .036) had a significant correlation with financial profitability measured by ROA. This relationship indicates that moderately strong and positive relationship with the dependent variable. Inflation rate (r = 297, P = .282) had an insignificant correlation with financial profitability measured by ROA. This relationship indicates that negligible correlation with the dependent variable. The last variable GDP rate, it indicates (r = 545, P = .035) had a significant correlation with financial profitability measured by ROA. This relationship indicates that moderately strong and positive relationship with the dependent variable.

4.3.2. Regression Analysis

Regression analysis is a statistical method used to determine the relationship between a dependent variable and one or more independent variables. It can be used to assess the strength of the relationship, model the future relationship, and forecast the future values of the dependent variable.

In a regression analysis, the dependent variable is also known as the response variable, while the independent variable is also known as the predictor variable. The goal of regression analysis is to find the best-fit line that describes the relationship between the dependent variable and the independent variable(s).

4.3.2.1. Model Summary

A model summary in research is a brief description of the statistical model used to analyze the data. It typically includes information about the variables included in the model, the statistical tests used to assess the significance of the variables, and the goodness-of-fit of the model.

The model summary is an important part of any research study because it provides readers with a clear understanding of the statistical methods used to analyze the data and the results of those analyses.

Table 4.4: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908[a]	.824	.727	.010147748354891

a. Predictors: (Constant), GDP Growth, NPL Rate, Loan to Deposit , Inflation Rate, Debit Ratio

b. Dependent Variable: ROA

Source: Secondary data (2023)

Table reveals that correlation coefficient (R) of the model is 0.824[a], it indicates that a weak association between financial strength and all the variables considered in the study. Coefficient of determination (R^2) of 0.824; in model shows that changes in financial performance of microfinance is explained by the variable considered while 17.6 % can be attributed by other dynamic forces not incorporated in the model.

In order to determine the overall significance of the regression model, it was important to carry out an analysis of variance at 5% level of significance as indicated in table.

4.3.2.2.   ANOVA

Analysis of Variance (ANOVA) is a statistical method used to test differences between two or more means. It is similar to the t-test, but the t-test is generally used for comparing two means, while ANOVA is used when you have more than two means to compare. ANOVA is based on comparing the variance (or variation) between the data samples to the variation within each particular sample. If the between-group variance is high and the within-group variance is low, this provides evidence that the means of the groups are significantly different.

ANOVA is typically used in experimental research to determine whether there are any statistically significant differences between the means of different groups. It is also used in regression analysis to test the significance of the regression coefficients.

Table 4.5: ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	5	.001	8.456	.003[b]
	Residual	.001	9	.000		
	Total	.005	14			

a. Dependent Variable: ROA

b. Predictors: (Constant), GDP Growth, NPL Rate, Loan to Deposit , Inflation Rate, Debit Ratio

Source: Secondary data (2023)

The F-value is a measure of the ratio of the variance between groups to the variance within groups. A large F-value indicates that there is a significant difference between the means of the groups being compared. The p-value is a measure of the probability of obtaining the observed F-value by chance aloan. If the p-value is less than 0.05, it is generally considered statistically significant.

The finding from table indicates that $F_{calculated}$ = 8.456 while $F_{critical}$ =0.000. Since $F_{calculated}$ >$F_{critical}$, it can be assumed that there was fitness in the overall model. Change in financial profitability can significantly explained by change in variable considered. The significances of the individual variables of the study were determined by their p values. The interpretation of significance was conducted at 5% level of significance.

4.3.2.3. Regression Coefficients

A regression coefficient is a measure of the strength and direction of the relationship between the independent variable(s) and the dependent variable. It represents the change in the dependent variable for a one-unit change in the independent variable, holding all other variables constant.

Table 4.6: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.114	.060		1.900	.090
Debit Ratio	-.109	.037	-1.235	-2.923	.017
Loan to Deposit	.021	.008	.875	2.696	.025
NPL Rate	1.044	.819	.207	1.275	.234
Inflation Rate	.001	.000	.397	2.556	.031
GDP Growth	-.001	.002	-.062	-.227	.826

Source: Secondary data (2023)

The subsequent equation becomes;

$$Y = 0.114 - 0.109\ DR + 0.021 LDR + 1.044 NPLR - + 0.001 INF - 0.001 GDP + \mu it$$

Where, "i" denote the studied microfinance institutions and "t" represent the time period.

α……………………………… Constant

ß1…. ß5 ………………………. coefficient of independent variable

ROA i, t ………………………. return on asset of ith on the year t

DR……………………………...is debt ratio

LDR…………………………... is loan to deposit ratio

NPLR…………………………. is Non Performing Loan ratio

INF… …………………….……is Inflation

GDP……...…………….………is Gross Domestic Product

μit………………………….Error term which is assumed to have a normal distribution.

4.4. Discussion on Regression Results

The previous sub-section highlighted the regression analysis results of the study, and this section discusses the general result of each explanatory variables based on general linear regression results indicated in the table 4.8 above. Hence, the following discussions present the relationship between explanatory variables and profitability.

4.4.1. Effect of Debt Ratio on Financial Profitability of MFIs

The regression output presented in table 4.6 above indicates that debt ratio had a beta coefficient of -.109 with the p-value of 0.017 in the model, had a significant effect on profitability of MFIs in Liyu MFIs'. As the amount of debt increases by one birr, on average, each birr of shareholder's investment incurs a net loss of birr -.109 after tax. Therefore, the hypothesis suggesting that the debt ratio does have a significant effect on the financial performance of MFIs is accepted. Therefore, the hypothesis **Ho1** found that there is negative significant effect of debt ratio on financial profitability of Liyu microfinance institutions in Ethiopia. The study conducted by Victoria Duff, (2020) that suggests increased debt has the potential to lower revenues as more money is spent servicing that debt. If it is spent to increase production and production leads to significantly increased revenues, increased debt may increase ROA.

That depends on whether the debt burden is so costly it cuts into net income. If revenues rise as a result of debt financing of production, but net income falls due to increased expense, ROA declines. Another study by Merko and Habili, (2023) measured the impact of interest rates, exchange rates, and inflation on the performance of commercial banks in Albania. The estimation results reveal that the interest rate variability has a high impact on the financial factor ROA. In contrast, the variability of the exchange rate harms it. The effect of variable nominal effective exchange rate (NEER) on ROA is low, and inflation negatively influences it. Therefore, the effect of debt ratio on ROA is dependent on the context and how the debt is used. It is important to note that these studies were conducted in specific contexts and may not be generalization to other contexts.

4.4.2. Effect of Loan to Deposit Ratio on Financial Profitability of MFIs

The result of regression model table 4.6 indicated that loan to deposit ratio had significant effects on financial performance measured by ROA with Beta Coefficient B=0.021 p value = 0.025. It shows that every 1-birr change in Liyu MFIs loan to deposit ratio keeping other things constant had a consequent change of 21 cents (Beta Coefficient = 0.021) On the Return on Asset in the same direction, the reason could be that the costs or interest paid to depositors were less than the interest income from outstanding loans financed by deposit sources. Therefore, the study found that the hypothesis is accepted. Thus, Ho2 there is positively significant effect of loan to deposit ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

4.4.3. Effect of Non-Performing Loan rate on Financial Profitability of MFIs

As indicated by the regression results, the coefficient of the Non-Performing Loan Ratio (NPLR), beta coefficient, was 1.044, and the p-value of 0.234 showed an insignificant effect on financial performance measured by ROA at a 5% level of significance for ROA. This suggests that, holding other independent variables constant, a unit increase in NPLR will result in a 1.044 increase in ROA. Therefore, the study found that the hypothesis (Ho3) should be rejected.. Therefore, there is insignificant effect of non-performing loan ratio on financial profitability of Liyu microfinance institutions in Ethiopia.

4.4.4. Effect of Inflation Rate on Financial Profitability of MFIs

As indicated in regression table 4.6 above, the inflation factor significantly affects Liyu Microfinance Institution's financial profitability measured by ROA. The coefficient of the inflation variable in the regression result was 0.001, with a p-value of 0.03. Thus, the finding can be interpreted as a significant increase in MFIs' profitability rates due to inflation. Therefore, the study accepts the hypothesis (Ho4), suggesting a significant effect of the inflation rate on the financial profitability of Liyu Microfinance Institutions in Ethiopia.

According to a study by Merko and Habili, (2023) inflation has a negative influence on the financial factor ROA. The study measured the impact of interest rates, exchange rates, and inflation on the performance of commercial banks in Albania.

The estimation results reveal that the interest rate variability has a high impact on the financial

factor ROA. In contrast, the variability of the exchange rate harms it. The effect of variable nominal effective exchange rate (NEER) on ROA is low, and inflation negatively influences it.

Therefore, inflation can be detrimental to the profitability of a Liyu MFIs as it reduces the purchasing power of money and increases the cost of goods and services. This can lead to a decrease in the return on assets (ROA) of a Liyu MFIs.

4.4.5. Effect of GDP Growth on Financial Profitability of MFIs

From regression analysis shows in table 4.6 there is a negative relationship and insignificant effect of GDP growth and financial profitability of microfinance institutions.

Hence, in the model beta coefficient of (GDP) is -.001 with a p value of 0.821. This indicate that, holding other independent variables constant at their average value, when GDP growth of the country increased by one unit, return on asset would be decreased by .001 units. Therefore, the study rejects the hypothesis stating that GDP growth does not significantly affect the financial profitability of Liyu MFIs. Hence, it was found that there is no significant effect of GDP growth on the financial profitability of Liyu Microfinance Institutions in Ethiopia.

However, the effect of GDP growth on ROA (return on assets) has been studied in various research papers that have different result with this. A study of selected quoted manufacturing firms in Nigeria found that GDP growth rate had a significant effect on ROA. Another study on commercial banks found that GDP growth had a statistically significant and positive effect on ROA, ROE, and NIM (net interest margin). It suggests that it is important to note that the relationship between GDP growth and ROA may vary depending on the industry, country, and other factors.

4.5. Hypotheses Testing

Table 4.7: Result Summary of Hypotheses Test

Explanatory Variables	Hypothesized Effect	Actual effect	Status of Hypothesis	Tool Used
Debt Ratio	Significant	Significant	Failed to reject	Regression
Loan to deposit Ratio	Significant	Significant	Failed to reject	Regression
Non-Performing loan rate	Significant	Insignificant	reject	Regression
Inflation	Significant	significant	Failed to reject	Regression
GDP growth	Significant	Insignificant	reject	Regression

Source: Research Data (2023)

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

This study is to assess Factors affecting profitability of Micro finance in Liyu Microfinance Institute the time serious data were used 2008-2022 financial reports of the Liyu Microfinance Institute. This research uses secondary sources of data; the data comes from the Institute financial statement from their annual reports additional the total observation of the research is 15. Descriptive, correlation and regression analysis is done; the data is manipulated in SPSS version 26. The following are conclusions based on the findings of the study.

Debt ratio is a measure of how much a company owes relative to its total assets. It indicates how leveraged a company is and how well it can cover its debt obligations. Return on assets (ROA) is a measure of how profitable a company is relative to its total assets. It indicates how efficiently a company uses its assets to generate income. The effect of debt ratio on ROA was found significantly negative effect. Based on this it can possible to conclude that a Liyu MFIs uses debt to finance profitable investments that increase its income more than its interest expenses. This can happen when a company uses debt to finance unprofitable investments that decrease its income more than its interest savings.

Loan to deposit ratio (LDR) is a measure of a MFI's liquidity, which compares its total loans to its total deposits. It indicates how much of the MFI's funds are tied up in loans that are not easily convertible to cash. The study found that a higher LDR, which mean a high loan-to-deposit, may indicate a more aggressive lending strategy or a larger appetite for risk. Based on this it can conclude that the Liyu MFI's is more exposed to liquidity risk, which is the risk of not being able to meet its obligations or fund its operations.

The effect of NPL rate on ROA was found that insignificant. However, some studies have found a positive or significant relationship between NPL rate and ROA, meaning that a higher NPL rate does not necessarily affect the MFI's profitability.

Therefore, the effect of NPL rate on ROA is not consistent across different banks and countries, and it may depend on how the MFI's manages its NPLs and other factors that influence its profitability.

The descriptive study found that the MFI's have been a high repaid rate. Based on the NPLs results it can conclude that Liyu MFI's have been the strong in the administration and supervision of the financial system.

The significant effect of inflation on ROA is that it reduces the real value of the assets and the company's income, thereby lowering its profitability and efficiency. Inflation also affects the cost of capital and a company's interest expenses, further impacting its ROA. The extent to which inflation affects ROA depends on the inflation rate and the type of assets and income a company possesses. Studies have shown a higher inflation rate to have a significant effect on ROA. Consequently, it can be inferred that Liyu MFI's financial profits have decreased

The insignificant effect of GDP growth on ROA means that the changes in the gross domestic product (GDP) of a country do not have a strong or consistent impact on the return on assets (ROA) of the MFI's in that country. GDP is a measure of the total value of goods and services produced in a country over a period of time, usually a year or a quarter. ROA is a measure of the profitability and efficiency of a MFI, which compares its net income to its total assets. This study found that and other related study finding shows that there is an insignificant effect of GDP growth on ROA. Therefore, it can be concluded that recommending Liyu MFI's reliance on GDP growth is not advisable.

As shown the finding of the study and triangulated with other researcher finding, the effect of debt ratio on ROA depends on many factors and cannot be generalized for all companies. Therefore, Liyu MFI's should carefully consider the benefits and costs of using debt to finance its operations and investments. Therefore, it is recommended to carefully manage debt levels and consider strategies to mitigate the effects order to improve ROA. It is advisable for Liyu MFI to prudently manage their debt levels. This can be achieved through strategies such as optimizing capital structure, reducing reliance on debit financing and exploring alternative financing options. Risk management strategies are needed for Liyu Micro Finance Institution to mitigate the adverse effects of high debt levels on profitability.

This may include optimize credit risk exposure. This can be achieved through strategies such as optimizing capital structure, reducing reliance on debt financing, and exploring alternative financing options.

Additionally, closely monitoring and adjusting debt levels in response to changing market conditions can help mitigate the adverse effects on ROA and improve overall financial performance."

The significant effect of LDR on ROA is that it reflects the trade-off between liquidity and profitability for a MFI's. A MFI with a high LDR may have a higher ROA, because it is lending more money and earning more interest income. However, it also faces a higher liquidity risk, which may reduce its ROA if it has to borrow money at a higher cost or sell its assets at a lower price to meet its cash needs. A MFI's with a low LDR may have a lower ROA, because it is lending less money and earning less interest income. However, MFI's faces a lower liquidity risk, which may increase its ROA if it can invest its excess funds in other profitable opportunities or avoid losses from asset sales. The optimal LDR for a MFI's depends on its risk appetite, its cost of funds, its return on assets, and the market conditions. Therefore, it can recommend that a Liyu MFI's should balance its LDR and ROA to achieve its desired level of liquidity and profitability. Liyu MFI management should advocate robust asset liability management practices to align the maturity profiles of assets and liabilities, thereby mitigating mismatches in cash flows. They should closely monitor the composition and maturity of loan and deposit portfolios to minimize liquidity risks and optimize interest rate spreads. Additionally, they should implement effective deposit mobilization strategies to support sustainable lending operations and maintain adequate liquidity .Encouraging micro finance institution to explore innovative approaches for attracting and retaining depositors, such as offering competitive interest rates expanding outreach efforts and leveraging technology, is also crucial Based on the study, it was found that the Non-Performing Loan (NPL) rate has an insignificant effect on the Return on Assets (ROA) of Liyu MFIs. Therefore, it is possible to conclude that Liyu MFI's NPL rate does not require any specific recommendations.

One of the factors that may affect the financial performance of microfinance institutions (MFIs) is inflation, which is the general increase in the prices of goods and services over time. Inflation can reduce the real value of the assets and income of MFIs, which lowers their profitability and efficiency.

Inflation can also affect the cost of capital and the interest expense of MFIs, which may further impact their return on assets (ROA). To increase ROA in the face of inflation, MFIs may consider the following recommendations:

✓ Adjust the interest rates on loans and deposits to reflect the inflation rate and the risk premium. This can help MFIs to maintain or increase their net interest margin, which is the difference between the interest income and the interest expense. MFIs should also monitor the market conditions and the demand and supply of funds to determine the optimal interest rates that can attract and retain customers while ensuring profitability.

✓ Diversify the sources and types of income and assets. This can help MFIs to reduce their dependence on interest income and fixed assets, which may lose value due to inflation. MFIs can explore other income-generating activities, such as fee-based services, insurance, remittances, and savings products. MFIs can also invest in variable assets, such as equity, commodities, or foreign currency, which may appreciate in value due to inflation.

✓ Hedge against inflation risk. This can help MFIs to protect their assets and income from the adverse effects of inflation. MFIs can use various financial instruments, such as futures, options, swaps, or index-linked bonds, to hedge against inflation risk. MFIs can also use inflation-indexed loans and deposits, which adjust the principal and interest payments according to the inflation rate, to hedge against inflation risk.

✓ Improve operational efficiency and productivity. This can help MFIs to reduce their operating costs and increase their output, which can enhance their profitability and ROA. MFIs can use various strategies, such as automation, digitization, innovation, training, and quality control, to improve their operational efficiency and productivity.

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