# THE IMPACT OF INTEREST RATE SPREAD ON PROFITABILITY OF MICRO FINANCES IN NEPAL

A dissertation submitted to the Office of the Dean, Faculty of Management in partial fulfilment of the requirement for the Master's Degree

By:

Mamta Khadka
Campus Roll No./Batch: 837/077
Exam Roll Number: 35684/21
T.U. Regd. No.: 7-2-689-15-2014
Shanker Dev Campus
Specialization: Finance

Kathmandu, Nepal
August, 2024

# CERTIFICATE OF AUTHORSHIP

This is to certify that the work titled **Impact of Interest Rate Interest Spread in Micro Finances in Nepal** has been authored by me, Mamta Khadka. I confirm that the content of this work is my original creation and that any assistance I have received in its preparation is fully acknowledged and disclosed in the work. Additionally, I certify that this work has not been previously submitted for any other degree or diploma at any institution of higher education.

……

Mamta Khadka

Date:

# REPORT OF RESEARCH COMMITTEE

Miss Mamta Khadka has defended research proposal entitled **"Impact of Interest Rate Interest Spread in Micro Finances in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Mr. Joginder Goet and submit the dissertation for evaluation and viva voce examination.

……..
Joginder Goet
Dissertation Supervisor

Dissertation Proposal Defended Date
……

Dissertation Submitted Date
……

……
Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

Dissertation Viva Voce Date
……

# APPROVAL SHEET

We have examined the dissertation entitled **"Impact of Interest Rate Interest Spread in Micro Finances in Nepal"** presented by Miss Mamta Khadka for the degree of Master of Business Studies (MBS semester) and conducted the viva voce examination of the candidate. We hereby certify that the dissertation is acceptable for the award of degree.

……..
Joginder Goet
Dissertation Supervisor

**...**…….
Internal Examiner

……
Internal Expert

……
External Expert

……..
Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

……..
Asso. Prof. Dr. Krishna Prasad Acharya
Campus Chief

# ACKNOWLEDGEMENT

I would like to express my sincere thanks to all those who have helped and contributed to the completion of this dissertation.

First and foremost, I want to extend my heartfelt gratitude to my advisor**,** Joginder Goet, for his invaluable guidance, encouragement and insightful feedback throughout this research. His expertise and dedication played a crucial role in shaping this work.

I am also deeply appreciative of the faculty and staff of the Finance Department at Shanker Dev Campus, whose support and resources made this research possible.

I would like to acknowledge institutions that provided the necessary data and insights for this study. Without their cooperation, this research would not have been possible.

I want to recognize the unwavering support of my family and friends. Their encouragement and understanding gave me the strength to persevere during challenging times.

Lastly, I am grateful to my colleagues and fellow students for their friendship and support, which made this journey enjoyable and enriching.

Thank you all for your contributions and support.

……..
Mamta Khadka
Researcher
Shanker Dev Campus
August, 2024

# TABLES OF CONTENTS

# LIST OF TABLES

**Table No.** **Page No.**

# LIST OF FIGURES

# LIST OF ACRONYMS

| | |
|---|---|
| % | Percent |
| A. D. | Anno Domini |
| A/C | Account |
| AGM | Annual General Meeting |
| BFI | Banks and Financial Institutions |
| CLBS | Chhimek Lagubittiya Sanstha |
| CV | Coefficient of Variance |
| DLBS | Deprosc Lagubittiya Sanstha |
| DGR | Deposit Growth Rate |
| DSU | Deficit Spending Unit |
| F/Y | Fiscal Year |
| GDP | Gross Domestic Product |
| INF | Inflation Rate |
| IRS | Interest Rate Spread |
| Ktm | Kathmandu |
| LLBS | Laxmi Lagubittiya Sanstha |
| LnTA | Natural Logarithm of Individual Banks' Total assets |
| LIQ | Liquidity |
| LOA | Loan And Advances |
| MLBS | Mero Finances Lagubittiya Sanstha |
| MS | Micro Soft |
| NUBLS | Nirdhan Utthan Lagubittiya Sanstha |
| NIM | Net Interest Margin |
| NRB | Nepal Rastra Bank |
| POLS | Pooled Ordinary Least Square Method |
| RGDP | Real GDP Growth Rate |
| ROA | Return on Assets |

| | |
|---|---|
| ROE | Return on Equity |
| SSU | Surplus Spending Unit |
| SWLBS | Suryoday Womi Lagubitiya Sanstha |
| SWBL | Swabalamban Lagubittiya Sanstha |
| SD | Standard Deviation |

# ABSTRACT

This study examines the relationship between interest rate spreads and profitability in microfinance institutions (MFIs). It analyzes data from various MFIs to explore the factors that influence interest rate spreads, such as interest rate spread, (IRS) net interest margin, (NIM) credit risk (CR), size (LnTA), capital adequacy (CAR) and deposit growth rate (DGR) are independent variables and return on asset (ROA) and return on equity (ROE).

NIM and DGR positively influence ROA significantly ($p<0.05$), while CR has a significant negative impact ($p<0.05$). CAR, IRS, and LnTA influence ROA positively but insignificantly ($p>0.05$). CAR and CR negatively influence ROE significantly ($p<0.05$), while NIM has a significant positive impact ($p<0.05$). LnTA, IRS, and DGR positively influence ROE but insignificantly ($p>0.05$).

The findings suggest that higher interest rate spreads initially increase profitability, but can lead to diminishing returns due to higher default rates and customer attrition. On the other hand, lower spreads may improve customer retention but could compromise financial viability if not managed effectively. The study emphasizes the importance of balancing interest rate policies to optimize profitability while also promoting financial inclusion and customer satisfaction. The research provides valuable insights for policymakers and practitioners seeking to enhance the sustainability and impact of MFI



*Key Words*: *Interest rate spread, (IRS) Net interest margin, (NIM) Credit risk (CR), Size (LnTA), Capital adequacy (CAR), Deposit growth rate (DGR), Return on asset (ROA) and Return on equity (ROE).*

# CHAPTER-I

# INTRODUCTION

## 1.1 Background of the Study

The interest rate spread is defined as the difference between the interest rate charged to borrowers and the interest rate paid to depositors. It serves as an indicator of the profitability of banks and other financial institutions, reflecting their ability to charge higher rates on loans compared to what they pay on deposits (International Monetary Fund, 2019).

Interest rate spread significantly impacts the profitability of microfinance institutions (MFIs) by influencing various aspects of their operations. A higher interest rate spread allows MFIs to generate higher revenue by charging borrowers relatively high interest rates while paying low interest rates on deposits or borrowing costs, directly translating into greater profit margins. This spread helps manage the cost of funds, ensuring that the acquisition cost of funds is lower than the interest earned on loans, which is crucial for profitability, particularly for MFIs reliant on borrowing (Hermes & Lensink, 2011).

A wider spread also aids in risk management by providing a buffer against defaults or delays in repayments, allowing MFIs to absorb losses without significantly affecting overall profitability. Maintaining an adequate spread is essential for operational sustainability, covering operating costs and enabling reinvestment to expand services and reach more clients. In competitive environments, a well-managed spread enhances MFIs' competitive positioning by allowing them to offer attractive rates to both borrowers and depositors while maintaining profitability (Rosenberg et al., 2009).

However, a higher spread can also burden borrowers, often low-income individuals and small businesses, potentially leading to higher default rates. Therefore, MFIs must balance profitability with their mission to provide fair and affordable financial services to underserved populations. In summary, the interest rate spread is a crucial determinant of MFI profitability, impacting revenue, cost management, risk mitigation, operational

sustainability, and competitive positioning, while necessitating a balance between financial and social objectives.

## 1.2 Problem Statement

Microfinance institutions (MFIs) in Nepal face significant challenges due to the impact of interest rate spreads on their profitability and sustainability. The narrow interest rate spread results in insufficient revenue to cover high operational costs, threatening their financial health. This limited spread restricts MFIs' ability to absorb losses from defaults and delays in loan repayments, complicating risk management efforts. Additionally, the constrained interest rate spread hampers these institutions' ability to attract and manage funds efficiently, affecting their overall profitability and growth potential. Intense competitive pressure to offer lower interest rates to borrowers and higher rates to depositors further reduces the spread and diminishes profitability. High interest rates imposed to maintain a profitable spread place a financial burden on low-income borrowers, potentially increasing default rates and affecting the institutions' long-term viability. Balancing the social mission of providing affordable financial services with the need to maintain profitability is a persistent challenge, impacting operational sustainability. Economic fluctuations in Nepal exacerbate difficulties in maintaining a stable interest rate spread, affecting profitability and resilience to financial shocks. Regulatory restrictions on interest rates further limit MFIs' ability to adjust their spreads, impacting their profitability and operational sustainability. High borrowing costs reduce the interest rate spread, impeding revenue generation and profitability. Finally, a constrained spread limits the ability of MFIs to reinvest profits for growth and expansion, hindering their capacity to serve a larger segment of the low-income population. These issues collectively highlight the complex interplay between interest rate spreads and the financial health of microfinance institutions in Nepal. A large number of studies have investigated the relationship between interest rate spread and profitability. However, there is far from being a consensus over the impact of interest rate changes on firm performance.

Banerjee et al., (2017) examined the impact of interest rate spread on bank profitability in Ghana. The research was motivated by ongoing concerns about high interest rate spreads

despite the liberalization of Ghana's financial sector in the early 1990s. The study aimed to empirically investigate this relationship using average annual data from 1992 to 2015, covering 28 commercial banks. The regression analysis, estimated through ordinary least square (OLS) methods, included six independent variables: return on assets (ROA), net interest income (NII), operating cost (OPC), total assets (TA) as a proxy for bank size, inflation (INFL), and GDP growth (GDPG). Data was sourced from the annual reports of the Bank of Ghana and the International Financial Statistics Yearbook. The empirical results indicated that bank-specific factors significantly influence the determination of interest rate spreads in Ghana's banking sector. Significant variables included ROA, NII, and OPC, while total assets (TA) were not found to be significant. Among macroeconomic variables, inflation was significant, whereas GDP growth rate was not. The study suggests that Ghanaian banks should explore new strategies to leverage government policies aimed at making the private sector a growth engine to market their products effectively.

Musah et al., (2018) examined the impact of interest rate spread on bank profitability in Ghana, aiming to examine the effect of interest rate spread on the profitability of commercial banks in the country. The study utilized net interest income (IntSp) and net interest margin (NIM) as measures of interest rate spread, while bank profitability was assessed using Return on Assets (ROA) and Return on Equity (ROE). Based on a sample of 24 banks over a ten-year period, the research employed a quantitative approach, utilizing panel regression analysis to establish the relationship between interest rate spread and bank profitability. The study relied on secondary data collected from the annual reports of commercial banks in Ghana, with information hand-collected from the selected banks' annual reports. The study identified several control variables, including bank size (SIZE), capital adequacy ratio (CAP), credit risk (CREDIT), customer deposit growth (GROWTH) and foreign ownership (OWN), as key determinants of bank profitability in Ghana. The results of the study revealed a positive and statistically significant association between interest rate spread and bank profitability in Ghana. This finding suggests that within the framework of the loanable funds theory, the demand for loans exceeds the supply, enabling banks to charge higher interest rates on lending relative to deposits, thereby increasing profitability.

These findings have significant implications for research on interest rate spread and government policies aimed at reducing interest rate spreads in Ghana. The study suggests that banks may only reduce interest rate spreads if it is in their financial interest to do so, as evidenced by the current practice of charging higher interest rates.

The focus of this study is to find out the impact of interest rate changes on the profitability in the context of Nepal by taking one listed commercial bank. Interest rate spread and indicators of profitability such as return on assets (ROA), return on equity (ROE) are discussed and examined to reflect practical scenario. The specific problems are as follows:

1. What are the existing positions of interest rate spread and profitability?
2. Is there any relationship between IRS, NIM, CAR, CR, LnTA and DGR with ROA and ROE?
3. Do the independent variable such as IRS, NIM, CAR, CR, LnTA and DGR impact on the ROA and ROE?

## 1.3 Objectives of the Study

The general objective of the study is to determine the impact of interest spread rate on profitability of commercial banks in Nepal. The specific objectives of the study are as follows:

1. To assess the existing positions of interest rate spread and profitability.
2. To examine the relationship of IRS, NIM, CAR, CR, LnTA and DGR with ROA and ROE.
3. To analyze the impact of independent variables such as IRS, NIM, CAR, CR, LnTA and DGR on ROA and ROE.

## 1.4 Significance of the Study

This study holds significant importance for managing interest rate spread in financial institutions, providing valuable insights into profitability evaluation and risk management. Its implications extend to various stakeholders, including banks, financial institutions, microfinance organizations, investors, creditors, academic researchers, and concerned stakeholders such as customers, suppliers, and government. The study aids in forecasting

interest rate spread, formulating plans and policies, identifying real financial positions for investment decisions, supporting academic pursuits, informing stakeholders about financial positions, determining lending and deposit rates, facilitating learning for new researchers, and providing a roadmap for policy formulation in Nepal's microfinance sector.

## 1.5 Limitations of the Study

The study focused to fulfill the partial requirement course of M.B.S. of T.U. It has some limitations. There have limited resources and it is difficult to explore researcher to find out new aspect. Reliability of statistical tools used and lack of research experience are the major limitation.The study is based on following limitations.

1. Limited resources hindered the exploration of new aspects within the research.
2. Reliability of statistical tools and lack of research experience posed major limitations.
3. The research focused solely on the interest rate practices of sample microfinance institutions.
4. Dependency on secondary data for analysis may impact result accuracy, contingent upon the reliability of available information.
5. The study exclusively employed quantitative analysis, neglecting qualitative variables.
6. It examined seven microfinance institutions in Nepal over an eight-year period (2015/16 to 2022/23).
7. The research overlooked other financial institutions like development banks, finance companies and commercial banks.

# CHAPTER-II
# REVIEW OF LITERATURE

This chapter highlights the literature that is available in concerned subject as to my knowledge, research work and relevant study on this topic, review of journals and articles and review of previous thesis concluding remarks and conceptual framework. This chapter also provides insight to the theories of interest rates which is relevant to this study.

## 2.1 Conceptual Review

Microfinance, as conceptualized by Muhammad Yunus, is a groundbreaking financial service model that caters to individuals who are typically excluded from mainstream banking systems due to their limited income or lack of collateral. This approach emphasizes providing small loans, savings, insurance, and other financial products that are tailored to the unique needs of low-income communities.

The main objective of microfinance is to empower individuals by giving them access to financial resources that can help them establish or expand small businesses, increase household income, and build assets. By offering these services, microfinance institutions seek to alleviate poverty, promote employment generation, and stimulate entrepreneurship among disadvantaged populations.

One of the key benefits of microfinance is its potential to drive economic development at the grassroots level. By enabling individuals to access capital and financial services, microfinance can spur local economic growth, enhance productivity, and create sustainable livelihoods within marginalized communities.

Furthermore, microfinance plays a crucial role in fostering financial inclusion by bringing underserved populations into the formal financial sector. Through initiatives such as microcredit, micro savings and microinsurance, individuals who were previously excluded from traditional banking services can now benefit from a range of financial products that meet their specific needs.

Overall, the impact of microfinance extends beyond financial empowerment—it also contributes to social mobility, gender equality, and community resilience. By equipping individuals with the tools and resources they need to improve their economic well-being, microfinance has the potential to transform lives and uplift communities that have been historically marginalized or underserved (Younus, 2003).

### 2.1.1 Brief History of Microfinance

The history of microfinance in Nepal is a narrative of progressive development, shaped by various government initiatives, the influence of international models, and the contributions of numerous organizations and researchers. Here is a detailed account of its evolution with references to notable writers and studies:

**1. Early Beginnings (1950s-1970s)**

**Credit Cooperatives**: The inception of microfinance in Nepal dates back to the establishment of credit cooperatives in the 1950s, aimed at providing small loans to rural farmers. This initiative marked the first significant step towards structured financial inclusion in the country (Sharma, 2007).

**Rural Development Programs**: In the 1970s, the Nepalese government initiated rural development programs like the Small Farmers Development Program (SFDP), under the Agricultural Development Bank of Nepal (ADB/N). These programs were designed to extend credit to small farmers, promoting agricultural productivity and rural development (Singh & Singh, 2014).

**2. Expansion and Institutionalization (1980s-1990s)**

**Grameen Model Influence**: The mid-1980s saw the introduction of the Grameen Bank model from Bangladesh, which significantly influenced Nepal's microfinance landscape. The establishment of Grameen Bikas Banks targeted rural and underserved communities with microcredit (Yadav, 2017).

**Emergence of MFIs**: During the 1990s, microfinance institutions (MFIs) began to emerge, supported by government policies that encouraged their formation. This period marked the formal institutionalization of microfinance in Nepal (Pokharel, 2009).

### 3. Legal and Regulatory Framework (2000s)

**Microfinance Policy Development**: The Microfinance Policy of 2008 was a landmark in providing a regulatory framework for the sector. It aimed to create a supportive environment for microfinance operations, ensuring their sustainability and effectiveness (Nepal Rastra Bank, 2008).

**Role of Nepal Rastra Bank (NRB)**: The central bank played a pivotal role in supervising and regulating MFIs, introducing directives to maintain sector stability and promoting healthy growth (NRB, 2012).

### 4. Growth and Diversification (2010s-Present)

**Increased Outreach**: The microfinance sector experienced significant growth, with an increase in the number of MFIs and expansion of services. These institutions began offering a wider range of financial products, including savings, insurance, and remittance services (Adhikari, 2015).

**Technological Integration**: The adoption of technology, such as mobile banking and digital financial services, enhanced efficiency and accessibility, contributing to greater financial inclusion (Poudyal, 2019).

**Impact of the 2015 Earthquake**: The devastating earthquake in 2015 highlighted the crucial role of MFIs in disaster recovery. They provided essential financial support to affected communities, showcasing their importance in times of crisis (Ghimire & Upreti, 2017).

### 5. Challenges and Future Directions

**Regulatory and Operational Challenges**: The sector faces ongoing challenges, including regulatory compliance, over-indebtedness, and maintaining sustainable operations while achieving social goals (Dhungana, 2018).

**Sustainability and Social Impact**: Ensuring the sustainability of MFIs and maximizing their social impact are key areas of focus. Balancing commercial viability with social objectives remains a critical challenge (Thapa, 2020).

Innovation for Inclusion: Future prospects involve leveraging technology to further enhance financial inclusion, diversifying financial products, and reaching more remote and underserved populations (Khanal, 2021).

### 2.1.2 Interest Rates

Interest is the cost of borrowing while the interest rate is the rate expressed as a percentage of the total sum borrowed for a stated period of time. All business organizations or individuals are responsive to the interest rate of banks and financial institutions in one-way or another. Interest rate structure is the relationship between maturity and yield in order to determine how the bond portfolio behaves in matching maturity structure. The change in interest rate with correct adjustment influences the portfolio return. Thus, interest rate structure and its level depend upon the behavior of the yield curve, composition of maturity structure, sensitivity of the change in the interest rate and default risk involved in matching the level of interest rate and relationship with yield curve.

According to Saunders (1999), an interest rate is a price, and like any other price, it relates to a transaction or the transfer of a good or service between a buyer and a seller. This special type of transaction is a loan or credit transaction, involving a supplier of surplus funds, i.e., a lender or saver, and a demander of surplus funds, i.e., a borrower. Interest was used in the study to relate to additional money received as payment for a loan that is calculated as a fraction of the amount borrowed and is used to make a profit from the transaction.

### 2.1.3 Reason of an Increase in Interest Rates

1. **Political Short-Term Gain**: Lowering interest rates can give the economy a short-run boost. Under normal conditions, most economists think a cut in interest rates will only give a short-term gain in economic activity that will soon be offset by inflation. The quick boost can influence elections. Most economists advocate independent central banks to limit the influence of politics on interest rates.
2. **Deferred Consumption**: When money is loaned the lender delays spending the money on consumption goods. Since according to time preference theory people prefer goods

now to goods later, in a free market there will be a positive interest rate.

3. **Inflationary Expectations**: Most economies generally exhibit inflation, meaning a given amount of money buys fewer goods in the future than it will now. The borrower needs to compensate the lender for this.
4. **Alternative Investments**: The lender has a choice between using his money in different investments. If he chooses one, he forgoes the returns from all the others. Different investments effectively compete for funds.
5. **Risks of Investment**: There is always a risk that the borrower will go bankrupt, abscond, die, or otherwise default on the loan. This means that a lender generally charges a risk premium to ensure that, across his investments, he is compensated for those that fail.
6. **Liquidity Preference**: People prefer to have their resources available in a form that can immediately be exchanged, rather than a form that takes time to realize.
7. **Taxes**: Because some of the gains from interest may be subject to taxes, the lender may insist on a higher rate to make up for this loss.
8. **Banks**: Banks can tend to change the interest rate to either slow down or speed up economy growth. This involves either raising interest rates to slow the economy down, or lowering interest rates to promote economic growth.
9. **Economy**: Interest rates can fluctuate according to the status of the economy. It will generally be found that if the economy is strong then the interest rates will be high, if the economy is weak the interest rates will be low (Chaudhary, 2021).

## 2.2 Theoretical Review

Interest rate theory encompasses various models and concepts that explain how interest rates are determined and how they behave in different economic contexts. Here's a detailed overview of the primary theories and their implications:

### 1. The Classical Theory

The classical theory posits that interest rates are determined by the supply and demand for loanable funds. This theory is grounded in the following key points:

Supply of Loanable Funds: Comes from savings. Higher savings rates increase the supply of loanable funds.

**Demand for Loanable Funds**: Comes from investments. Businesses demand funds for capital investments, and individuals may demand loans for consumption

**Equilibrium Interest Rate:** The intersection of the supply and demand curves for loanable funds determines the equilibrium interest rate (Brigham & Ehrhardt, 2017).

**2. Keynesian Theory**

Developed by John Maynard Keynes, this theory emphasizes the role of liquidity preference and monetary policy in determining interest rates:

**Liquidity Preference**: Individuals prefer liquidity (holding cash) over investing in bonds or other securities due to uncertainty about the future.

**Interest Rate Determination**: The interest rate adjusts to equate the demand for money (liquidity preference) with the supply of money.

**Role of Central Banks**: Central banks influence interest rates through monetary policy, adjusting the money supply to manage economic activity (Keynes, 1936).

**3. Loanable Funds Theory**

This theory, closely related to the classical theory, also focuses on the supply and demand for loanable funds but incorporates more factors:

**Sources of Funds**: Includes savings, hoarding, dishoarding, and disinvestment.

**Uses of Funds**: Includes investments, consumption, and government borrowing.

**Interest Rate as a Price**: The interest rate is viewed as the price of credit, balancing the demand for funds by borrowers and the supply of funds by savers (Brue & Grant, 2012).

**4. Fisher Effect**

Proposed by Irving Fisher, this theory relates nominal interest rates to real interest rates and expected inflation:

**Nominal Interest Rate (i):** The observed interest rate, not adjusted for inflation.

**Real Interest Rate (r):** The interest rate adjusted for inflation.

**Expected Inflation ($\pi$):** The rate of inflation anticipated over the period of the loan.

**Fisher Equation:** $(1+i) = (1+r)(1+\pi)$

This equation states that the nominal interest rate is the sum of the real interest rate and expected inflation (Fisher, 1930).

**5. Expectations Theory**

This theory explains the term structure of interest rates (the relationship between interest rates and the maturity of debt securities):

**Forward Rates**: Future interest rates implied by current long-term and short-term rates.

Interest Rate Expectations: Long-term interest rates reflect the market's expectations of future short-term interest rates.

**Yield Curve**: The shape of the yield curve (normal, inverted, flat) reflects expectations about future interest rates and economic activity (Miskin, 2015).

**6. Liquidity Preference Theory (of the Term Structure)**

A refinement of the expectations theory, this theory suggests that investors demand a premium for holding longer-term securities due to higher risks:

**Liquidity Premium**: Longer-term bonds are riskier (due to interest rate risk and inflation risk), so investors require a higher return.

**Upward Sloping Yield Curve**: Even if future short-term rates are expected to remain stable, the yield curve might slope upward due to the liquidity premium (Miskin, 2015).

**7. Market Segmentation Theory**

This theory posits that the market for loans is segmented based on the maturity of debt instruments:

**Separate Markets**: Each segment (short-term, medium-term, long-term) operates independently with its own supply and demand conditions.

**Interest Rates by Segment**: Interest rates are determined independently within each segment without influencing other segments (Miskin & Eakins, 2018).

**8. Preferred Habitat Theory**

A combination of the expectations and market segmentation theories, it suggests:

**Preferred Habitats**: Investors have preferred maturities (habitats) but can be induced to move to other maturities with adequate risk premiums

**Interest Rates Reflect Preferences**: The yield curve reflects both interest rate expectations and the risk premiums for deviating from preferred habitats (Modigliani & Sutch, 1966).

**9. Conclusion**

interest rate theories provide frameworks to understand how interest rates are determined and behave in different economic contexts. From classical supply and demand dynamics to more complex considerations of expectations, liquidity preferences, and market segmentation, these theories collectively help explain the factors influencing interest rates and their implications for borrowers, lenders, and policymakers.

## 2.2.1 Importances of profitability of Micro Finances

Interest rate spread, the difference between the interest rates charged on loans and the interest rates paid on deposits, plays a crucial role in the functioning and sustainability of microfinance institutions (MFIs). Its importance can be understood through various dimensions:

**1. Sustainability and Profitability of MFIs**

**Revenue Generation**: Interest rate spread is a primary source of revenue for MFIs. The spread helps cover operational costs, administrative expenses, and risks associated with lending to underserved and often high-risk populations.

**Financial Viability**: A positive interest rate spread ensures that MFIs can sustain their operations over the long term. Without adequate spreads, MFIs may struggle to cover their costs, which can threaten their existence (Morduch et al., 2009).

**2. Risk Management**

**Credit Risk Coverage**: Higher interest rate spreads compensate for the higher credit risk associated with lending to low-income borrowers who may not have traditional credit histories or collateral.

**Operational Risk**: MFIs often operate in challenging environments with higher operational risks. The interest rate spread helps to mitigate these risks by providing a financial cushion (Ledgerwood, 1999).

### 3. Expansion and Outreach

**Scaling Operations**: Adequate spreads enable MFIs to expand their services to more underserved areas. They can invest in technology, infrastructure, and human resources to reach a larger client base.

**Innovative Products**: With sufficient revenue from interest spreads, MFIs can develop and offer a wider range of financial products and services, such as savings, insurance, and remittances, tailored to the needs of their clients (Hermes & Lensink, 2011).

### 4. Economic and Social Impact

**Empowerment and Development:** By maintaining a sustainable operation through adequate interest rate spreads, MFIs can continue to empower low-income individuals and small businesses, fostering economic development and poverty alleviation.

**Financial Inclusion**: Interest rate spreads allow MFIs to maintain and grow their client base, contributing to greater financial inclusion. This inclusion is essential for integrating marginalized populations into the formal economy (Helms & Reille, 2004).

### 5. Balancing Affordability and Sustainability

**Client Affordability**: While ensuring sustainability, MFIs must balance the need for adequate spreads with the affordability for their clients. Excessively high spreads can lead to borrower over-indebtedness and can be counterproductive to the mission of microfinance.

**Regulatory Considerations**: Many countries have regulations on interest rate spreads to protect borrowers from usurious rates. MFIs must navigate these regulations while maintaining their financial health (Karlan & Zinman, 2010).

6. **Impact on Borrower Behavior**

**Repayment Rates**: The level of interest rates can affect borrower behavior. High spreads might increase the cost of borrowing, potentially affecting repayment rates and increasing default risks.

**Savings Incentives**: Competitive interest rates on deposits can encourage clients to save more, thereby enhancing the MFI's liquidity and ability to lend (Hermes & Lensink, 2007).

7. **Market Dynamics**

**Competition**: Interest rate spreads are influenced by market competition. In competitive markets, spreads may narrow, pushing MFIs to optimize their efficiency and cost management.

**Economic Conditions**: Macroeconomic factors such as inflation, economic growth, and monetary policy also impact interest rate spreads. MFIs must adapt to these changing conditions to maintain their financial stability (Lilia, 2023).

**Conclusion**

Interest rate spread is fundamental to the operation and success of microfinance institutions. It ensures their sustainability, enables risk management, supports expansion and innovation, and contributes to broader economic and social goals. However, achieving the right balance in setting interest rate spreads is critical to ensuring that microfinance remains both effective for borrowers and viable for MFIs.

### 2.2.2 Financial Performance Measures

Measuring the profitability of microfinance institutions (MFIs) involves assessing various financial metrics to gauge their financial health and performance. Here are some key indicators commonly used to measure microfinance profitability:

1. **Return on Assets (ROA):** ROA measures the profitability of an MFI relative to its total assets. It indicates how efficiently the MFI is using its assets to generate profits. A higher ROA suggests better profitability (Julia, 2019).

2. **Return on Equity (ROE):** ROE measures the profitability of an MFI relative to its equity. It reflects the return generated for the MFI's shareholders or investors. A higher ROE indicates better profitability and efficient use of equity capital (Julia, 2019).
3. **Net Interest Margin (NIM):** NIM is the difference between the interest income earned from loans and other financial assets and the interest expenses paid on deposits and borrowings. It represents the MFI's net income generated from its core lending activities relative to its interest-earning assets (Addai et al, 2016).
4. **Operating Expense Ratio:** This ratio measures the efficiency of an MFI in managing its operating expenses relative to its total assets or total revenue. A lower operating expense ratio indicates better cost management and higher profitability (Abusharbeh, 2023).
5. **Portfolio Yield:** Portfolio yield measures the average interest rate earned on the MFI's loan portfolio. It reflects the effective interest rate charged to borrowers and contributes to the MFI's overall revenue and profitability (Rana & Mia, 2018).
6. **Portfolio at Risk (PAR):** PAR measures the percentage of the MFI's loan portfolio that is at risk of default or delinquency. While not a direct measure of profitability, managing PAR effectively is essential for preserving the quality of the loan portfolio and minimizing losses, which ultimately impacts profitability (Abusharbeh, 2023).
7. **Cost-to-Income Ratio:** This ratio measures the proportion of operating expenses to total income generated by the MFI. A lower cost-to-income ratio indicates more efficient operations and higher profitability (Globe, 2019).
8. **Gross Loan Portfolio Growth:** This metric measures the growth rate of the MFI's loan portfolio over a specific period. While not a direct measure of profitability, sustainable loan portfolio growth is essential for generating revenue and achieving long-term profitability (Surender, 2013).
9. **Operating Self-Sufficiency (OSS):** OSS measures the ability of an MFI to cover its operating expenses from its operating revenue, primarily generated from interest income. A higher OSS indicates greater financial sustainability and profitability (Julia, 2019).

10. **Financial Sustainability:** Financial sustainability assesses whether an MFI can cover its costs and generate profits over the long term while maintaining its social mission. It considers various financial ratios, including profitability indicators, to evaluate the MFI's ability to remain viable and continue serving its clients effectively (Kinde, 2012).

By analyzing these profitability indicators, microfinance stakeholders, including investors, regulators, and MFI management, can assess the financial performance and sustainability of microfinance institutions.

### 2.2.3 The role of microfinance Institutions

Microfinance plays a crucial role in promoting financial inclusion, poverty reduction, and economic development, especially in underserved communities and developing countries. Here are some key roles of microfinance: (Wikipedia).

1. **Financial Inclusion**: Microfinance provides access to financial services for individuals and businesses who are excluded from traditional banking systems due to factors like low income, lack of collateral, or remote location. By offering services such as microloans, savings accounts, and insurance, microfinance institutions (MFIs) enable underserved populations to participate in the formal financial sector.
2. **Poverty Alleviation**: Microfinance empowers low-income individuals and households to generate income, build assets, and improve their standard of living. By providing small loans to entrepreneurs and small businesses, microfinance enables them to invest in income-generating activities, such as agriculture, trade, or small-scale manufacturing, leading to poverty reduction and economic empowerment.
3. **Women's Empowerment**: Microfinance has a significant impact on women's empowerment by providing them with access to financial resources, entrepreneurship opportunities, and decision-making power within their households and communities. Women comprise a large proportion of microfinance clients, and access to microloans and other financial services enables them to start businesses, invest in education and healthcare, and break the cycle of poverty.

4. **Entrepreneurship and Job Creation:** Microfinance fosters entrepreneurship and job creation by supporting small businesses and microenterprises, which are vital drivers of economic growth and employment generation, particularly in rural and marginalized areas. By providing capital and financial literacy training, microfinance empowers individuals to start or expand their businesses, creating livelihood opportunities for themselves and others in their communities.
5. **Social Impact**: Beyond financial benefits, microfinance has broader social impacts, including improved access to education, healthcare, and housing for microfinance clients and their families. By promoting financial resilience and social inclusion, microfinance contributes to social cohesion, community development, and poverty reduction at the grassroots level.
6. **Resilience to Shocks**: Microfinance can help individuals and communities build resilience to economic shocks, natural disasters, and other crises by providing access to savings, insurance, and emergency loans. In times of hardship, microfinance institutions play a vital role in providing financial assistance and support to affected populations, helping them recover and rebuild their lives and livelihoods.
7. **Sustainable Development**: Microfinance supports sustainable development by promoting economic diversification, environmental sustainability, and social equity. By investing in small-scale agriculture, renewable energy, and environmentally friendly businesses, microfinance contributes to sustainable livelihoods and environmental conservation, aligning with the principles of inclusive and green growth.

Overall, microfinance plays a multifaceted role in promoting inclusive and sustainable development, empowering individuals and communities, and fostering economic resilience and social progress. By addressing the financial needs of the underserved and marginalized, microfinance contributes to building more equitable and prosperous societies.

## 2.3 Empirical Review

This section presents the review of related literature in order to establish a basis for the investigation of the impact of interest rate spread on the profitability in Nepalese

commercial banks. The review covered previous empirical studies conducted in various countries on this subject.

Lilia (2023) analyzed the impact of interest rate fluctuations on Tunisian bank profitability from 2010 to 2021. The research aimed to analyze how changes in interest rates affect the profitability of Tunisian commercial banks, considering factors such as duration gap between assets and liabilities. The findings revealed that Tunisian banks generally have a duration gap, with their asset portfolio's average maturity exceeding that of their liabilities. This suggests vulnerability to market conditions, as profitability is negatively correlated with interest rate variations. The study utilized the Seemingly Unrelated Regressions (SUR) technique to analyze performance measures like interest margin, operational expenses, and gross operating income in response to lagged factors, current market rates, and rate volatility. The results underscored the importance for Tunisian banks to address interest rate risk amid financial liberalization, competition, and dynamic market conditions.

Azumah et al., (2023) analyzed the impact of banking sector reforms on interest rate spread in Ghana from 2008 to 2020. Utilizing a quantitative approach and secondary data, the study focused on 19 universal banks in Ghana, selected based on operational years and availability of information. The research employed an unbalanced panel-data dynamic-equation regression model, with net interest margin (NIM) as the dependent variable and various bank-specific and macroeconomic factors as independent variables. The findings indicated that bank size, profitability, GDP growth rate, and inflation significantly influenced Ghana’s bank interest rate spread. The study recommended addressing industry-specific issues, enhancing institutional systems, such as governance and supervision, and maintaining stability in the political environment to mitigate interest rate spread. Furthermore, policymakers and regulators were advised to emphasize enterprise risk management practices to mitigate credit risk and other forms of risk in Ghana’s universal banking industry. The study's insights provide valuable implications for designing competitive policies and regulatory changes to enhance the competitiveness of Ghana's universal banking industry. Additionally, future research could explore the determinants of

interest spread by analyzing deposit and lending rates separately and considering all banks and specialized deposit-taking institutions in Ghana.

Windsor et al., (2023) analyzed the impact of interest rates on bank profitability, focusing on periods of low or negative rates. Using new confidential bank-level data from 10 banking systems spanning two decades up to the end of 2019, the analysis revealed that declining interest rates lead to a reduction in banks' net interest margins. However, the effect was smaller than previously estimated, with a 100 basis point fall in short-term interest rates resulting in a 5 basis point decline in net interest margins in the short run, on average across countries. The study also found substantial cross-country differences in the effects of lower interest rates on profitability. Notably, the effect on net interest margins was larger than on asset returns, suggesting that banks can mitigate the impact of lower rates on overall profitability through various means, such as reduced debt-servicing burdens and lower provisions for loan losses. The findings emphasize the importance of assessing the magnitude of this effect for policymakers and researchers, particularly in low interest rate environments, where nonlinear effects may occur near the effective lower bounds.

Bhandari (2023) examined the effect of credit Performance and interest spread on profitability of commercial banks in nepal. Using panel least squares regression model, the study analyzed the impact of credit performance and interest spread on bank profitability. The dataset comprised balance panel data from sixteen commercial banks spanning from 2013 to 2021, with 128 observations. Explanatory variables included non-performing loan ratio (NPLR), credit to deposit ratio (CDR), interest rate spread (IRS), capital adequacy ratio (CAR), customer deposit growth rate (CDGR), and bank size, while return on assets (ROA) served as the dependent variable. The study employed both descriptive and causal comparative research designs. Descriptive design was used to explain the characteristics of variables, while causal comparative design examined the effect of explanatory variables on the dependent variable. Stratified sampling was utilized to select a subset of banks. The regression model revealed that NPLR had a negative and statistically significant impact on ROA, whereas IRS had a positive and statistically significant impact. CDR showed a

positive but statistically insignificant impact. Additionally, capital adequacy ratio, customer deposit growth rate, and bank size significantly influenced ROA. The study concluded that strong credit performance and interest rate spread contribute to increased bank profitability.

Shreshtha (2022) examined the determinants of interest rate spread (IRS) in Nepalese commercial banks using panel data from 25 banks spanning 2013/14 to 2020/21. The study examined various bank-specific determinants including return on assets (ROA), management efficiency (ME), capital adequacy ratio (CAR), asset quality (AQ), credit risk (CR), and operational efficiency (OE), as well as macroeconomic determinants such as inflation (INF) and gross domestic product growth rate (GDP). Employing a random effect model, the research identified ROA, CR, ME, and OE as major bank-specific determinants, and INF and GDP as significant macroeconomic determinants of interest rate spread.
The study concluded that both bank-specific and macroeconomic factors influence the interest rate spread of Nepalese commercial banks. It recommended that policymakers consider these factors when formulating spread-related policies. Specifically, bank-specific factors like ROA, CR, ME, and OE were found to positively influence IRS, while macroeconomic factors such as INF and GDP also had a significant impact. However, higher inflation and GDP growth rates were associated with increased IRS. The study did not find evidence of a significant relationship between capital adequacy ratio and asset quality with IRS in Nepalese commercial banks. Therefore, authorities should focus on managing inflation rates and improving bank efficiency to influence IRS positively.

Ishaq et al., (2022) examined the relationship between interest spread and the profitability of the banking sector in Pakistan. They employed advanced time-series econometric procedures and utilized three different measures of bank profitability: return on assets, return on equity, and earnings per share. The results indicated that lending rates positively influence the financial performance of commercial banks, while deposit interest rates have a negative impact on profitability. An increase in interest spread tends to boost banks' profits across all three measures of profitability. Additionally, the study considered the role of macroeconomic factors such as economic growth and inflation but found them to have

insignificant effects on banking sector performance. The findings suggest strong policy implications, emphasizing the importance of prudent management decisions in setting deposit and lending rates, as well as implementing effective credit risk management practices to maintain asset quality and reduce non-performing loans.

Lopez-Penabad et al., (2022) analyzed the impact of negative interest rate policy (NIRP) on the profitability and risk-taking of banks in the European banking sector, analyzing data from 2,596 banks across 29 European countries between 2011 and 2019. The objectives were to examine how NIRP affects key financial performance indicators, specifically net interest margin (NIM) and return on assets (ROA), and to analyze the broader consequences on bank profitability and operational efficiency. Using a static modeling approach, the researchers found that NIRP significantly decreases bank profitability, with a 14.5 basis point reduction in NIM and an 18.5 basis point decrease in ROA. The negative effects are amplified when interest rates are already negative, putting additional pressure on NIM. This reduction in NIM indicates lower earnings from lending compared to funding expenses, while a lower ROA reflects diminished efficiency in asset utilization for profit generation. Prolonged periods of negative interest rates compound these difficulties, prompting banks to take on higher risks to maintain profit levels. The study highlights the challenges NIRP poses to bank profitability and the potential risks to financial stability, emphasizing the need for strategic adjustments in asset and liability management and careful policy considerations to support the financial health of banks during negative interest rate periods.

Ullah (2022) examined the interest rate spread (IRS) of commercial banks in Bangladesh from 1976 to 2020. The study aimed to analyze the level and trends in interest rate spreads and document the key macroeconomic and market determinants influencing them. It had four specific objectives: analyzing the effects of money supply on interest rate spread, discussing the movement and trends of interest rate spreads, examining the relationship between lending interest rate and various economic indicators, and evaluating the efficiency of the commercial banking sector for economic growth and development. The analysis utilized time series data from Bangladesh Bank and other sources, employing

statistical tools such as bar graphs, pie charts, and line diagrams. The findings revealed fluctuations in lending interest rates over the years, indicating an unstable trend in the Bangladesh banking sector.

Acharya and Vyas (2022) examined the effect of interest rates on the profitability of commercial banks in Nepal. The study analyzed the impact of interest rate spread on Nepalese commercial banks' profitability using data from mid-July 2011/12 to 2020/21. The objective was to determine the influence of interest rate changes on bank profitability, utilizing financial information collected from annual reports published on company websites. The study included twenty-six commercial banks, excluding Rastriya Banijya Bank due to its full government ownership and significant management influence. Three dependent variables of firm performance were considered: Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS), with Interest Rate Spread (IRS) as the main independent variable. Control variables for firm performance included Capital Adequacy Ratio (CAR), Total Deposit to Total Assets (TDTA), Shareholders Equity to Total Assets (SETA), Total Deposit to Shareholders Fund (TDSF), Total Lending to Total Assets (TLTA), and Net Interest Income to Total Assets (NIM). The research adopted a quantitative research method, reporting descriptive statistics and using panel data regression models to examine the relationship between IRS and profitability. The results indicated a positive impact of interest rate spread on firm performance, with a one percentage increase in IRS associated with a 0.137% increase in ROA, 1.37% increase in ROE, and 8.11% increase in EPS.

Anjom (2021) examined the factors influencing the interest rate spread of listed conventional commercial banks in Bangladesh from 2011 to 2019. Bank-specific, industry-specific, and macroeconomic factors were analyzed using a descriptive quantitative research design. The study employed Pooled Ordinary Linear Regression analysis and the random-effect method to investigate the impact of these factors on interest rate spread. Findings revealed that credit risk, operating costs, and liquidity risk positively affected interest rate spread, while factors such as net interest income, capital adequacy, return on assets, and market share had a negative relationship. Additionally, inflation was found to

positively impact interest rate spread, while GDP growth had mixed effects. The study suggests that banks should prudently assess credit risk to determine loan interest rates appropriately, considering factors such as deposit rates, operating costs, and liquidity risk. However, the study acknowledged limitations such as a small sample size and the exclusion of recent macroeconomic shocks like COVID-19, suggesting avenues for further research.

Kathayat (2021) examined the determinants of interest rate spread among commercial banks in Nepal, focusing on large licensed banks from 2015 to 2020. Using secondary data and statistical analyses, the study found that credit risk, operation cost, and liquidity risk collectively explained 83.5% of the interest spread variation. The study revealed significant positive correlations between interest spread and credit risk, operation cost, and liquidity risk. However, credit risk had a weak negative effect on interest rate spread. The findings suggest that government intervention, particularly through the Central Bank of Nepal, is needed to develop policies guiding optimal interest rate spreads to enhance loan uptake and improve commercial bank performance.

Ronoh (2021) examined the relationship between interest rates, spread, and the financial performance of commercial banks in Bomet County, Kenya. The study aimed to investigate whether interest rate regulation affects bank profitability and lending behavior. Using a survey research design, data was collected from 142 credit officers working in commercial banks in Bomet County. The findings indicated that commercial banks' profits did not increase with an increase in interest rates, and they became more sensitive to lending after the introduction of interest rate regulation. The study concluded that interest rate regulation negatively affected bank profitability, liquidity, and lending capacity, exposing banks to increased lending risks. Additionally, the study recommended that commercial banks adopt monetary policies to exploit enhanced liquidity and channel it into competitive lending to improve financial performance. Moreover, the government was advised to maintain low inflation and borrowing rates while encouraging savings through investment policies. The study also recommended further research to explore the relationship between interest rate spread and financial performance, considering additional financial and accounting variables and the prevailing macroeconomic situation.

Feyen and Huertas (2020) examined the Bank Lending Rates and Spreads in Emerging Markets and Developing Economies (EMDEs). Their analysis, based on data from 140 EMDEs, reveals declining trends in nominal lending interest rates and lending-deposit interest rate spreads between 2003 and 2017, with variations across regions. Less economically and financially developed countries tend to have higher lending rates and spreads, primarily driven by higher spreads rather than deposit interest rates. Factors influencing nominal lending rates include inflation, public debt, policy interest rates, overhead costs, nonperforming loans, non-interest income, credit bureau coverage, and time to resolve insolvency. Illustrative decompositions of nominal lending rates show relative differences across regions, with rising public debt and nonperforming loans pushing rates up, offset by reductions in inflation, policy interest rates, overhead costs, and improvements in the business environment. Additionally, a common global factor has played a significant role in the downward trend of nominal lending rates since the global financial crisis.

Sunni et al., (2020) examined the determinants of interest rate spread in selected deposit money banks in Nigeria over a 10-year period from 2009 to 2018. Employing an ex-post facto research design, the study focused on bank-specific factors, industry-specific factors, macroeconomic factors, and governance risk factors. Thirteen commercial banks were selected for analysis, and data were sourced from their annual reports, CBN bulletins, NDIC, and National Bureau of Statistics. The study utilized the Generalized Method of Moments (GMM) approach and found that interest rate spread is influenced by bank-specific and macroeconomic factors, primarily risk aversion, interest risk, operating costs, monetary policy rate, and inflation. The study recommends internal resolution discipline for highly capitalized banks to curtail excessive risk-taking, revisiting the threshold on monetary policy rate settings, ensuring cost-effectiveness in bank operations, and implementing transparent executive compensation models. On the other hand, the study on the movement and impact of interest rates on the profitability of the banking system in Albania covers a 10-year timeframe, organized into periods before, during, and after the financial crisis. It hypothesizes that decreasing interest rates positively affect income from

interest due to negative levels of Gaps and increased spread towards average assets. The study utilizes empirical analysis with secondary quantitative and qualitative data to identify factors affecting the profitability of the banking system in Albania, emphasizing the importance of minimizing open Gaps for efficient profitability increase in the financial system.

Karki (2020) analyzed the impact of interest rate spread (IRS) on the profitability of Nepalese commercial banks, focusing on Nepal Investment Bank Ltd. The study aimed to determine the relationship between IRS and profitability, using return on assets (ROA) and return on equity (ROE) as proxies for profitability. Secondary data from annual reports of Nepal Investment Bank Ltd. from fiscal year 2066/67 to 2075/76 B.S. were collected. Regression analysis and descriptive statistics were employed to analyze the relationship between IRS and profitability. The study found a direct relationship between IRS and profitability, suggesting that an increase in IRS leads to higher profitability. The findings suggest the importance for Nepalese commercial banks to maintain an optimal level of IRS to attract both depositors and debtors. This study provides valuable insights for banking practitioners and serves as a reference for future research on similar topics.

Beutler et al., (2020) analyzed the impact of interest rate risk on bank lending, using regulatory data on the net interest rate risk exposure of Swiss banks. Their research aimed to analyze how interest rate fluctuations affect banks' lending behaviors, the impact of nominal interest rate changes on economic capital and loan growth trends, and the degree to which nominal interest rate increases lead to reduced cumulative loan growth. They also examined the role of economic capital in absorbing potential losses and its influence on lending capacity. Utilizing a descriptive study design with multiple regression analysis, the researchers found that a one percentage point rise in nominal interest rates reduces cumulative loan growth by approximately 30 basis points after one year. This decline is attributed mainly to decreased economic capital resulting from higher interest rates. Banks with greater exposure to interest rate fluctuations experience more pronounced effects on loan growth. Higher interest rates reduce economic capital, leading to more cautious lending practices. The study highlights the significant role of interest rate risk in loan

growth reduction following interest rate shocks and underscores the importance of effective risk management strategies. The findings suggest that regulatory frameworks and internal risk management procedures should focus on monitoring and mitigating interest rate risk to protect economic capital and sustain lending capacity. Understanding the nuances of interest rate risk can help formulate more effective monetary policies that balance inflation control with economic activity and bank lending.

Ibenyenwa et al., (2020) examined the relationship between interest rate components and deposit money banks' (DMBs) credit to the domestic economy in Nigeria and South Africa from 1991 to 2018. Employing an ex-post facto research design, data was sourced from the World Bank Database and Knoema. While interest rate components in Nigeria showed no significant long-run or short-run relationship with DMBs' credit ratio to the domestic economy, South Africa exhibited a significant relationship. Specifically, in Nigeria, only the real interest rate (RIR) significantly influenced domestic credit provided by the banking sector, while in South Africa, four interest rate components—deposit interest rate (DIR), interest rate spread (IRS), lending interest rate (LIR), and risk premium on lending rate (RPL)—played significant roles. The study concludes that interest rate components improve DMBs' credit facilitation in South Africa but have an unimpressive impact in Nigeria, recommending further utilization of interest rate components to strengthen banks' credit capacity in South Africa, while urging significant reductions in interest rate components in Nigeria to enhance DMBs' credit facilitation.

Oywoki et al., (2020) examined market interest rate and profitability. Main objective of this research is to examine the effect of nominal interest rate on profitability of listed commercial banks within Kenya. The secondary data was used and collected from secondary sources which were attained from the content of financial reports of 11 banks quoted at NSE. In this research ROA was used as proxy for profitability measure and reflects the dependent variable and nominal interest rate, real interest rate, interbank rate plus bank size were used as independent variables. Autoregressive distributed lag models were used in this research to identify how market interest rate influenced revenue of listed

commercial banks within Kenya. This research found that there was significant positive relationship with real, nominal, interbank and bank size with ROA.

Jui et al., (2020) examined the association between interest rate changes and profitability. The objective of this research is to establish and explain the association between interest rate and profitability and also to analyze the cause and effect relationship between two stated issues by using the comparative data of several consecutive years of commercial banks in Bangladesh. The secondary data was used and collected from annual reports of all the 30 listed commercial banks of Bangladesh by using 5 consecutive years‘data (2014-2018). In this research, interest rate spread is taken as independent variable and ROE, ROA, NIM (Net Interest Margin) were used as dependent variables for reflecting profitability measures. In this research multiple linear regression model is used to reflect the relationship among these variables. Finding of this research is that, there is a positive relation between interest rate and profitability of commercial banks.

Efanga et al., (2020) examined the efficacy of commercial banks' loans and advances in Nigeria, focusing on the impact of interest rate spread. The study's objective was to analyze this impact using data from the Central Bank of Nigeria Statistical Bulletin (2018) and the International Monetary Fund's International Financial Statistics. The dependent variable was banks' loans (logLA), while independent variables included interest rate spread (IRS), monetary policy rate (MPR), statutory reserve (SR), inflation rate (INFR), and exchange rate (EXR). The study adopted an ex-post facto research design, utilizing secondary data readily available for analysis. The Auto-Regressive Distributed Lag (ARDL) Model was employed for estimation, with several diagnostic tests confirming the model's goodness of fit and validity. The findings indicated a positive and significant response of commercial banks' loans and advances to the impact of interest rate spread in Nigeria. Consequently, the study concluded that interest rate spread positively influenced commercial banks' loans and advances within the study's scope. It recommended that commercial banks in Nigeria maintain their current interest rate spread strategy, as it is profitable and fosters high demand for their loans and advances in the country.

Poudel (2018) analyzed the impact of interest rate spread on profitability. Main objective of this research is to determine the impact of interest spread rate on profitability of commercial banks in Nepal. This study is based on the descriptive research design that uses secondary data. Data are collected from audited annual reports of concern banks. In `this research, weighted average interest rate spread is taken as independent variable and ROA, and NPM were used as dependent variables for reflecting profitability measures. Analysis is carried out by using simple regression model and descriptive statistics tools in this research. This research found that there is positive relationship between interest rate spread and profitability of commercial banks in Nepal.

Musah et al., (2018) analyzed the impact of interest rate spread on bank profitability in Ghana. Using panel data from 24 banks over a ten-year period, the study aimed to examine the effect of interest rate spread on bank profitability, measured by Return on Assets (ROA) and Return on Equity (ROE). Interest rate spread was measured using net interest income (IntSp) and net interest margin (NIM). The study employed a quantitative approach to data analysis, using panel regression to establish the relationship between interest rate spread and bank profitability in Ghana. Secondary data from annual reports of commercial banks in Ghana were collected for analysis, with a focus on two dependent variables: ROA and ROE. Control variables included bank size (SIZE), capital adequacy ratio (CAP), credit risk (CREDIT), customer deposit growth (GROWTH), and foreign ownership (OWN). The results indicated a positive and statistically significant association between interest rate spread and bank profitability in Ghana. This finding suggests that, according to the loanable funds theory, the demand for loans exceeds the supply, allowing banks to charge higher interest rates on lending relative to deposits to increase profitability. The study's findings have implications for research on interest rate spread and government policies aimed at reducing interest rate spread in Ghana. Despite the potential impact on profitability, banks may be hesitant to reduce interest rate spread due to their profit motives, as evidenced by the current practice of charging higher interest rates.

Montes and Pérez (2018) examined how interest rate levels impact bank profitability and balance sheet structures, focusing on Spanish banks from 2000 to 2016. Their objectives

included examining the response of bank profitability to interest rate fluctuations, the influence of these changes on balance sheet compositions, and the complex interplay between interest rates, profitability, and asset-liability structures. They utilized a longitudinal study design, employing autoregressive distributed lag (ARDL) models to analyze time series data over 16 years. Key findings revealed a sophisticated, nonlinear relationship between interest rates, profitability, and balance sheet composition, with this relationship varying based on interest rate levels. Interest rate changes significantly impacted banks' transactional capacity and return on investments, affecting returns on assets such as loans and costs on liabilities like time deposits. Sensitivity to interest rate changes was found to vary across different interest rate environments, with banks adapting their asset and liability management strategies accordingly. The study highlighted the importance of understanding these adaptations and the nuanced effects of interest rate fluctuations to maintain stability and profitability in the banking sector. These insights are crucial for bank executives, policymakers, and regulators in developing strategies to navigate financial market complexities and ensure banking sector resilience amidst changing interest rates.

Banerjee at el., (2017) examined the interest rate spread on bank profitability: The case of Ghanaian banks. The purpose of the study is to empirically investigate the interest rate spread on banks profitability in Ghana using average annual observation data from1992–2015 to include 28 commercial banks. Ordinary least square was used to estimate the regression coefficients. The study used six independent variables. These are: return on asset (ROA); net interest income (NII); operating cost (OPC); total asset (TA) uses as a proxy to bank size, inflation (INFL) and GDP growth (GDPG). This study used income statement and balance sheet data of commercial banks from the annual report of the Bank of Ghana. The macroeconomic data are obtained from the International Financial Statistics Yearbook. The empirical results show that bank specific factors play a significant role in the determination of interest rate spreads in the Ghana‘s banking sector. All the bank specific variables were found to be significant except Total Assets (TA). Among the macroeconomic variables, inflation was found to be significant whereas GDP growth rate

was insignificant. The role of the global financial institutions is changing and so are the banks operating in Ghana. The banking sector should explore new paths that will enable them to take advantage of the government‘s policy of making the private sector the engine of growth‖ to market their product.

Ghasemi and Rostami (2016) examined the factors influencing interest rate spread (IRS) in the banking industry, focusing on an Iranian bank over a 19-month period. They identified six independent variables including NPL ratio, demand deposits ratio, non-interest income, interest earning assets ratio, capital adequacy ratio, and ROA ratio, along with two control variables: inflation and exchange rate. The study found significant relationships between these variables and interest rate spread. Specifically, an increase in the ratio of demand deposits was associated with a rise in spread rate, while non-performing loans led to a decrease. Moreover, higher non-interest income was found to decrease the spread rate. The study also highlighted the impact of capital adequacy ratio on interest rate spread, with higher ratios leading to increased spread rates. Additionally, a positive correlation was observed between return on assets and spread rate. Interestingly, the study revealed an inverse relationship between exchange rate fluctuations, inflation, and spread rate, suggesting that these factors influenced depositors' decisions and market confidence. Overall, while inflation and exchange rate fluctuations had a slight effect on spread rates, their relationship with them was significant.

**Table 1**

*Summary of Empirical Review*

| S.N. | Writer(s) | Methodology | Variables | Major findings and conclusions |
|---|---|---|---|---|
| 1 | Lilia (2023) | quantitative research design and the Seemingly Unrelated Regression (SUR) technique | Net interest Margin (NIM), Total Operating Expenses (CO) and Gross Operating Income (GOI) | Changes in interest rates impact banks' profitability negatively due to varying speeds at which revenues and costs adjust, higher interest rate tends to decrease interest margin, operational expenses, and gross operating income. |
| 2 | Azumah et al. (2023) | Quantitative approach | Dependent Variable: Net interest margin (NIM). Independent Variables: Bank-specific variables Previous NIMt-1, Size of the bank, Bank's capital, Return on Assets (ROA), Liquidity (LIQ), Loan Loss Provision (LLP), GDP Growth Rate (GDPG) and Inflation (INF) Efficiency variable: Cost-to-income ratio (CIR) Macro variables: GDP Growth Rate (GDPG) and Inflation (INF) | The size of banks has a notable influence on interest rate spreads. Higher ROA is associated with variations in interest rate spreads. The liquidity levels in banks affect interest rate spreads. Reserves for loan losses impact interest rate spreads. Efficient cost management affects interest rate spreads. The rate of economic growth GDPsignificantly affects interest rate Spreads. |

| | | | | |
|---|---|---|---|---|
| 3 | Windsor et al. (2023) | analytical, Quantified the effect | Dependent: ROA, NIM, NII and LLP Independent: short term interest rate spread, low rate dummy, large bank dummy, deposits over liabilities, liquid assets over total asset, equity ratio, real gdp growth, inflation and housing price growth | Research indicates that lowering interest rates decreases banks' net interest margins (NIMs), though the impact may be less significant than previously thought. The consequences of low interest rates on bank profitability vary significantly across different countries. |
| 4 | Bhandari (2023) | Research Design: Descriptive methodology employed and utilized causal-comparative design and utilized a panel least squares regression model for data | Dependent Variable: Return on Asset (ROA). Independent Variables: Non-performing loan ratio (NPLR), Credit to deposit ratio (CDR), Interest rate spread (IRS), Capital adequacy ratio (CAR), Customer deposit growth rate (CDGR) and Bank size. | The Non-performing Loan Ratio (NPLR) negatively affects Return on Assets (ROA), while the Interest Rate Spread (IRS) positively influences ROA. The Credit to Deposit Ratio (CDR) has a positive but statistically insignificant effect. Additionally, the capital adequacy ratio (CAR), customer deposit growth rate (CDGR) |
| 5 | Shreshtha (2022) | employed a random effect | Dependent: Interest rate spread (ISP) | Return on Assets (ROA) and Credit |

| | | | | |
|---|---|---|---|---|
| | | model and Regression analysis was conducted | Bank-specific Factors Evaluated: Return on assets (ROA), Management efficiency (ME), Capital adequacy ratio (CAR), Asset quality (AQ), Credit risk (CR) and Operational efficiency (OE) Macroeconomic Factors Considered: Inflation (INF) and GDP growth rate | Risk (CR) positively and significantly influence interest rate spreads (IRS). Management Efficiency (ME) and Operational Efficiency (OE) have a negative and significant impact on IRS. Inflation (INF) and GDP Growth Rate both positively and significantly impact IRS. |
| 6 | Ishaq et al. (2022) | time-series econometric methods to analyze the data and implement a quantitative research approach | Dependent: Return on asset (ROA), Return on equity (ROE) and Earning per share (EPS) Independent: Interest rate spread (IS), Economic Growth (GDP) and Inflation (INF) | Interest spread positively impacts return on assets (ROA), crucial for bank profitability. while managing deposit rates effectively is vital due to their negative impact on profitability. |
| 7 | Lopez-Penabad et al. (2022) | Methodological: Static Modelling Aproach. | Independent Variable: Implementation and level of negative interest rate policy (NIRP). Dependent Variables: Net interest margin (NIM) and return on assets (ROA) | Adverse Effects on Profitability When interest rates are already negative, the adverse consequences of NIRP are magnified. The decrease in NIM is significant as it reflects the variance between interest income obtained from lending and |

| | | | | |
|---|---|---|---|---|
| | | | | interest paid on deposits and other sources of funding. |
| 8 | Ullah (2022) | Descriptive Statistics and Graphical Analysis, Trend Analysis and Correlation Analysis | Dependent Variable: Interest Rate Spread (IRS). Independent Variables: Lending interest rates, Broad money, Inflation, Quasi money, Official exchange rate and Personal remittance | A noticeable correlation between lending interest rates and indicators like broad money, inflation, quasi money, official exchange rate, and personal remittance. Changes in money supply were found to have a significant impact on interest rate spreads. Higher non-interest income levels lead to decreased interest rate spreads |
| 9 | Acharya and Vyas (2022) | Quantitative analysis and descriptive statistics, followed by panel data regression models. | Independent: Interest Rate Spread (IRS), Dependent: Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS). Control Variables: Capital Adequacy Ratio(CAR), Total Deposit to Total Assets (TDTA), Shareholders Equity to Total Assets (SETA), Total Deposit to Shareholders Fund (TDSF), Total Lending to Total Assets (TLTA), and | A strong positive relationship between interest rate spread (IRS) and key firm performance metrics (ROA, ROE, EPS) was identified. While control variables like CAR, TDTA, SETA, TDSF, TLTA, and NIM were taken into account, their specific effects were not detailed. |

| | | | | |
|---|---|---|---|---|
| | | | Net Interest Income to Total Assets (NIM). | |
| 10 | Anjom (2021) | Research Design: Descriptive quantitative methods | Dependent Variable: Interest rate spread (IRS) Independent Variables Bank-Specific Factors: Credit risk, (NPLR) bank size, (LOGA) operating costs, (OPERAT) liquidity risk, (LR) net interest income (INTRCOM), capital adequacy (CAR), return on assets (ROA). Industry-Specific Factors: Market share (MS). Macroeconomic Factors: GDP, inflation (INF). | Non-performing loans (NPLs) and higher operating costs increase interest rate spreads due to elevated capital and income requirements. Increased deposit rates and capital adequacy ratios also raise spreads, while higher net interest income and ROA reduce them. The relationship between GDP and interest rate spreads can vary positively and negatively. |
| 11 | Kathayat (2021) | Multiple regression model | Dependent: Interest rate spread Independent: credit risk, liquidity and operational cost | There is a strong and positive correlation with interest spread with every unit increase in credit risk, interest spread increased accordingly. A significant positive correlation with interest spread Despite the general positive relationship, higher operating costs led to a slight decrease in interest spread. |

| | | | | |
|---|---|---|---|---|
| | | | | As liquidity risk increased by one unit, interest spread also rose significantly. |
| 12 | Ronoh et al. (2021) | a survey research design | Dependent variables: Financial performance indicators such as profits and liquidity. Independent variables: Interest rates spread, and regulatory factors. | The profitability has been adversely affected by interest rate, Liquidity issues stemming from these controls have further undermined bank profitability, impacting both borrowers and banks alike in their lending activities and financial stability. |
| 13 | Feyen and Huertas (2020) | Methodology: Develop a robust methodological framework | Factors Examination: Investigate the impact of various factors on nominal lending rates, including macro-fiscal conditions (inflation, public debt, policy interest rates), banking characteristics (overhead costs, nonperforming loans, non-interest income), and the business environment (credit bureau coverage, time needed to resolve insolvency). | Emerging markets and developing economies indicated a decline in nominal lending rates and spreads. Less developed countries typically experienced higher lending rates and spreads, largely influenced by wider spreads rather than deposit interest rates. Regional trends varied, with rises in public debt and nonperforming loans driving rates up, offset somewhat by lower inflation and |

| | | | | |
|---|---|---|---|---|
| | | | | policy interest rates. |
| 14 | Sanni et al. (2020) | Research Design: dynamic Generalized Method of Moments (GMM) technique | Dependent: Interest rate spread (IRS), Dependent: Non performing loan (NPL), Risk Aversion (RAV), liquidity ratio (LIQUIDR), interest rate risk (IRR), Hirschman-Herfindahl index (HHI), inflation (INF), Gross Domestic Product (GDP), market structure (MPR), executive compensation (ECOMP) and operating cost (OP) | The study identified risk aversion, interest rate risk, operating costs, monetary policy rates and inflation. It underscored the significant influence of both bank-specific attributes and overall economic conditions on these spreads. In contrast, industry-specific and governance-related risks were found to have a lesser impact on interest rate spreads compared to internal bank factors. |
| 15 | Karki (2020) | Employ regression analysis and descriptive statistics | Dependent: Return on assets (ROA) ratio and Return on equity (ROE) Independent: Spread rate (ISP) | Interest rate spread fluctuations strongly influence bank profitability, with higher spreads correlating directly and positively with increased profitability, as observed in Nepal Investment Bank. |
| 16 | Beutler et al. (2020) | Study Design: Descriptive with multiple regression. | Dependent: Loan growth rate (LGR) Independent: Nominal interest rate (NIR), Long | The decline in cumulative loan growth is mainly due to the decrease |

| | | | | |
|---|---|---|---|---|
| | | | term rate (LTR), Short term rate (STR), Liquidity Ratio (LR) and Consumer Price index (CPI) | in banks' economic capital caused by the rise in interest rates. Changes in interest rates impact banks' lending practices, with higher rates leading to a decrease in economic capital and, subsequently, a more careful approach to lending. |
| 17 | Ibenyenwa et al. (2020) | Research Design: Ex-post facto research design was employed.<br><br>Analytical Techniques: Portfolio theory, ARDL Co-integration, and ARDL regression techniques were applied | Dependent: Rate of bank credit to the domestic economy (RBCD)<br><br>Independent variables: interest rate components such as real interest rate (RIR), deposit interest rate (DIR), interest rate spread (IRS), lending interest rate (LIR), and risk premium on lending rate (PLR) were considered. | Specifically, in Nigeria, only the real interest rate (RIR) had a positive impact on domestic credit, while in South Africa, various interest rate components such as deposit interest rate (DIR), interest rate spread (IRS), lending interest rate (LIR), and risk premium on lending rate (PLR) played crucial roles in influencing domestic credit positively. |
| 18 | Oywoki et al. (2020) | Methodological: Autoregressive Distributed Lag (ARDL) | Dependent Variable: Return on Assets (ROA) Independent Variables: Nominal interest rates (NO), Real interest rates (RE), Interbank rates | A significant positive relationship observed between real interest rates, nominal interest rates, interbank rates, and (ROA). |

| | | | | |
|---|---|---|---|---|
| | | | (IB) and Bank size (BS). | bank size correlates positively with ROA |
| 19 | Jui et al. (2020) | Employed multiple linear regression analysis | Independent Variable: Interest rate spread (ISP), Investment to Total assets (ITA) and Loan and advances to total assets (LTA) and Balance with other banks and financial institutions to total assets (BWOB)<br><br>Dependent Variables: Return on Equity (ROE), Return on Assets (ROA) and Net Interest Margin (NIM). | There is a strong positive relationship between changes in interest rates and the profitability trends of commercial banks in Bangladesh. Found a positive correlation between the interest rate spread and Return on Equity (ROE), Return on Assets (ROA) and Net Interest Margin (NIM). |
| 20 | Efanga et al. (2020) | Research Design: Ex-post facto, focusing on previously occurred events. Auto-Regressive Distributed Lag (ARDL) Model | Dependent Variable: Banks' loans (logLA) Independent Variables: Interest Rate Spread (IRS), Monetary Policy Rate (MPR), Statutory Reserve (SR), Inflation Rate (INFR) and Exchange Rate (EXR) | A positive correlation between interest rate spread and the volume of loans and advances provided by commercial banks (logLA). |
| 21 | Poudel (2018) | A descriptive research design. simple regression analysis | Independent Variable: Weighted average interest rate spread.<br><br>Dependent Variables: Return on Assets (ROA), Net Profit Margin (NPM). | Positive correlation exists between interest rate spreads and the profitability of commercial banks in Nepal. Interest rate spreads have a positive impact on |

| | | | | |
|---|---|---|---|---|
| | | | | the Return on Assets (ROA) and Net Profit Margin (NPM) of commercial banks. |
| 22 | Musa et al. (2018) | Quantitative Approach and panel regression | Dependent Variables: Return on Assets (ROA) and Return on Equity (ROE) to measure bank profitability. | significant connection between interest rate spread and bank profitability in Ghana. |
| | | | Independent Variables: Net interest income (IntSp) and net interest margin (NIM) Credit risk (CR), Capital Adequacy (CAR) Size and Deposit growth rate (DGR). | As per the loanable funds theory, the demand for loans surpasses the supply, enabling banks to impose higher interest rates on loans as opposed to deposits, thus boosting their profitability. |
| 23 | Montes and Perez (2018) | Methodological: Autoregressive Distributed Lag (ARDL) | Independent Variable: Interest rates<br><br>Dependent Variables: Returns on assets, Returns on liabilities and Provision charges, Credit, Financial securities and Time deposits | The return on investments, Interest rate fluctuations had distinct effects on the returns related to assets and liabilities. An increase in interest rates could enhance returns on certain asset categories like loans. Elevated interest rates also increased costs linked to specific liabilities such as time deposits. |

| | | | | |
|---|---|---|---|---|
| 24 | Banerjee et al. (2017) | Study Design: a random effect model and an empirical examination utilizing panel data methodology.<br><br>Analysis: Utilized regression analysis<br><br>Checks for Reliability: Carried out diagnostic assessments to identify potential issues like multicollinearity, heteroscedasticity, and autocorrelation | Dependent: Interest Rate Spread (IRS) Independent: Bank-Specific Factors: Return on Assets (ROA),Net interest income(NII), Operating cost (OPC), Bank size (BS), Macroeconomic Factors: Inflation (INF) and GDP Growth Rate | These factors include ROA, NII, and OPC, all of which were found to be significant determinants. inflation was found to be a significant determinant of interest rate spreads. This indicates that higher inflation rates have a notable impact on the spreads. |
| 25 | Ghasemi and Rostami (2016) | Quantitative research utilizing econometric modeling | Dependent: Spread rate (ISP), Independent: Non-performing loan (NPL) ratio, ratio of demand deposit (SDD), Non-interest income (NIR), Interest-earning assets to assets (RAR), Capital adequacy ratio (CA), and Return on assets (ROA) ratio, | Non-performing loan (NPL) ratios are linked to increased spread rates, A negative correlation between the interest-earning assets to total assets ratio (RAR) and spread rates, A high capital adequacy ratio positively impacts interest rates, an inverse relationship between inflation (INF), exchange rates (EXR), and spread rates |

## 2.4 Research Gap

Previous research has extensively examined the impact of interest rates on bank profitability, focusing on various aspects related to financial institutions' performance in both international and Nepalese contexts. However, no studies have specifically analyzed the interest rates and profitability of microfinance institutions in Nepal. This research gap includes relevant data from 2015/16 to 2022/23 and a comparative analysis of interest rate spread and profitability among seven microfinance institutions.

As the Nepalese banking sector becomes more competitive, identifying banks and financial institutions with strong financial health and performance becomes challenging. These institutions must balance providing higher interest income and maintaining profitability. This research aims to determine if sample microfinance institutions have successfully maintained this balance. Given the changing financial environment, this study addresses the gap in understanding the depth of interest rate spread and profitability performance. It provides insights and tools for future researchers, clarifying interest rate and profitability management by analyzing various financial ratios of selected Nepalese microfinance institutions.

# CHAPTER- III
# RESEARCH METHODOLOGY

This study aims to examine the impact of interest rate spread on the profitability of microfinance institutions in Nepal. This chapter outlines the research procedures used. It begins with a discussion of the research design, followed by details on the nature and instruments of data collection, and the sampling design. Subsequent sections cover the methods of data processing and analysis. Finally, it defines the study variables, their measurements, and the model specifications. Research methodology ensures accuracy, validity and suitability through scientific procedures. In this thesis, a proper research methodology is used to achieve the study's objectives, specifically examining the impact of interest rate spread on the profitability of microfinance institutions in Nepal. This section outlines the methods used in analyzing this impact. Systematic research methodology involves sequential steps adopted to study a problem with specific objectives.

Research methods or techniques are categorized into three groups: data collection methods, statistical techniques for establishing relationships between data and unknowns, and methods for evaluating the accuracy of results. An overall research plan was developed for data work to fulfill the research purpose. This chapter includes sections on research design, data collection and instruments, sampling design, data processing and analysis methods, and definitions and measurements of study variables.

## 3.1 Research Design

The research design provides an appropriate framework for the study, crucially determining the research approach for obtaining relevant information. This study employs a descriptive and casual comparative research design to investigate the impact of interest spread on the profitability of micro finances in Nepal from 2015/16 to 2022/23. The independent variables include interest rate spread (IRS), net interest margin (NIM), credit risk (CR), size (LnTA), capital adequacy (CAR), and deposit growth rate (DGR). The dependent variables are profitability ratios, specifically return on assets (ROA) and return on equity (ROE).

The researcher primarily uses descriptive and causal comparative research design, based on secondary information from the annual reports of seven selected microfinance institutions in Nepal. This approach aims to analyze the collected data to meet the study's objectives.

## 3.2 Nature and Sources of Data

This study primarily relies on quantitative data collected from secondary sources, including annual bank statements, bulletins, articles, literature, and economic survey reports for various fiscal years. A small amount of primary data, such as personal interviews with relevant authorities and departments, and questionnaires, is also utilized. The quantitative data are interpreted qualitatively.

## 3.3 Population and Sample

Currently there are 55 micro finances operating in Nepal. Hence, population is considered as 55 in number. However, the study has concentrated on 7 micro finances in Nepal. The basis of selecting these financial institutions is to observe and analyze the impact of interest rate spread on profitability of micro finance with long operating history and wide market share. The 8 years data of the micro finances are taken as the sample years to examine the impact of interest rate spread on profitability of micro finance. The method of sampling is convenience sampling. The sample micro finances under study are as follows:

**Table 2**

*Sample of Analysis*

| S.N | Name of Micro Finances | Established date | Central Office |
|---|---|---|---|
| 1 | Nidhan utthan Laghubitta bittiya sanstha Ltd | 17/7/1999 | Kathmandu |
| 2 | Laxmi Laghubitta bittiya sanstha Ltd Ltd. | 6/4/2012 | Kathmandu |
| 3 | Deprosc Laghubittabittiya sanstha Ldt | 7/3/2001 | Chitwan |
| 4 | Chhimek, Laghubitta bittiya sanstha Ltd | 12/10/2001 | Kathmandu |
| 5 | Swabhalambhan Laghubitta bittiya sanstha Ltd | 2/22/2002 | Kathmandu |
| 6 | Mero finance Laghubitta bittiya sanstha Ltd | 18/07/2012 | Kathmandu |
| 7 | Suryodaya Womi Laghubitta bittiya sanstha Ltd | 8/03/2012 | Dhading |

## 3.4 Data Collection Method

Once the statistical investigation's objectives are set, the subsequent step is to gather relevant data for meaningful analysis, making data collection a crucial part of the research process. For this study, data has been sourced from annual reports and financial statements of the microfinance institutions in question. Additional sources include:

1. Annual reports of sample micro finances.
2. Previous thesis and journals.
3. Published and unpublished bulletins and reports of the micro finances.
4. Reports of Nepal Rastra Bank Samachar and Banking and Financial Statistics Published by Nepal Rastra Bank
5. Journal and other published and unpublished related document
6. Various Internet Websites related to banking and finance

## 3.5 Data Analysis Tools

Presentation and analysis of data are essential parts of the research work. The collected raw data will be systematically organized in tabular form and analyzed using various financial and statistical tools to achieve the study's objectives. Additionally, graphs, charts, and tables will be used to analyze and interpret the findings. The tools applied include:

## 1. Statistical Tools

Some important statistical tools will be used to achieve the objective of this study. In this statistical tool such as Arithmetic Mean, Standard Deviation, Coefficient of Variation, Coefficient of correlation and trend analysis will be used.

### a. Mean

The Mean or average is probably the most commonly used methods of describing a central tendency. The statistical mean refers to the mean or average that is used to derive the central tendency of the data in question. It is determined by adding all the data points in a population and then dividing the total by the number of points. The resulting number is known as the mean or the average. It also helps in computing further statistics.

Sample mean $(\bar{x}) = \frac{\sum x}{n}$

Where, $(\bar{x})$ = sample mean

$\sum x$ = sum of scores in a distribution

n= no of items in sample

### b. Standard Deviation

The standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance. It is calculated as the square root of variance by determining the variation between each data point relative to the mean. If the data points are further from the mean, there is a higher deviation within the data set; thus, the more spread out the data, the higher the standard deviation. Standard deviation is a statistical measurement in finance that, when applied to the annual rate of return of an

investment, sheds light on the historical volatility of that investment. The greater the standard deviation of securities, the greater the variance between each price and the mean, which shows a larger price range. It is designated as (σ).

The standard deviation can be calculated using the following formula:

$$s = \frac{\sqrt{\sum[x - \bar{x}]^2}}{n - 1}$$

## c. Coefficient of Covariance (CV)

It is defined as the ratio of standard deviation to mean. It is also known as the relative standard deviation. It is the standardized measure of dispersion frequency distributions. It shows the variability in relation to the mean of the population. More the value of coefficient of variance, more the consistent in data and vice versa.

**Coefficient of Variance (CV)**$= \frac{\sigma}{\bar{x}} \times 100$

Where,

$\bar{X}$= Arithmetic mean

σ= Standard deviation

## d. Correlation

Correlation, in the finance and investment industries, is a statistic that measures the degree to which two securities move in relation to each other. Correlations are used in advanced portfolio management, computed as the correlation coefficient, which has a value that must fall between -1.0 and +1.0.

1. 1 is a perfect positive correlation
2. 0 is no correlation (the values don't seem linked at all)
3. -1 is a perfect negative correlation

Correlation Coefficient (r)$= \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2}\sqrt{n\sum y^2 - (\sum y)^2}}$

Where,

r = Co-efficient of correlation

$\sum xy$ =Sum of products of two variables

$\sum x$ = Sum of variable X

$\sum y$ = Sum of variable Y

$\sum x^2$ = Sum of squared of X

$\sum Y^2$ = Sum of squared of Y

n = Sample size

## 3.6 Regression Analysis

The dependent profitability indicators return on asset (ROA) and return on equity (ROE) has been used. The major 7 determinants (independent variables) were interest rate spread, (IRS) net interest margin, (NIM) credit risk, size, (CR) capital adequacy, (CAR) deposit growth rate, and (DGR). In this study the following baseline model have been used:

$$ROA_{it} = \beta_0 + \beta_1 IRS_{it} + \beta_2 NIM_{it} + \beta_3 CR_{it} + \beta_4 CAR_{it} + \beta_5 DGR_{it} + \beta_6 LnTA_{it} + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 IRS_{it} + \beta_2 NIM_{it} + \beta_3 CR_{it} + \beta_4 CAR_{it} + \beta_5 DGR_{it} + \beta_6 LnTA_{it} + \varepsilon_{it}$$

Where,

$\beta_0$ = intercept

$IRS_{it}$ = Interest rate spread of bank *i* at time *t*

$NIM_{it}$ = Net interest margin *i* at time *t*

$CR_{it}$ = Credit risk of bank *i* at time *t*

$CAR_{it}$ = Capital adequacy of bank *i* at time *t*

$DGR_{it}$ = Deposit growth rate of bank *i* at time *t*

$LnTA_t$ = Bank size at time *t*

$\beta_1 - \beta_6$ = Coefficient parameters

$\varepsilon_{it}$ = Error term where *i* is cross sectional and *t* time identifier

## 3.7 Conceptual Framework

The main objective of this study is to examine the impact of interest rate spread on the profitability of microfinance institutions in Nepal. Based on this objective, a conceptual model is developed. According to the literature review, the profitability of banks and financial institutions is influenced by various interest rate factors. The study focuses on profitability ratios such as return on assets (ROA) and return on equity (ROE). Interest rate factors considered include interest rate spread (IRS), net interest margin (NIM), credit risk (CR), size (LnTA), capital adequacy (CAR), and deposit growth rate (DGR). This conceptual model frames the main focus and scope of the study by highlighting these key variables.

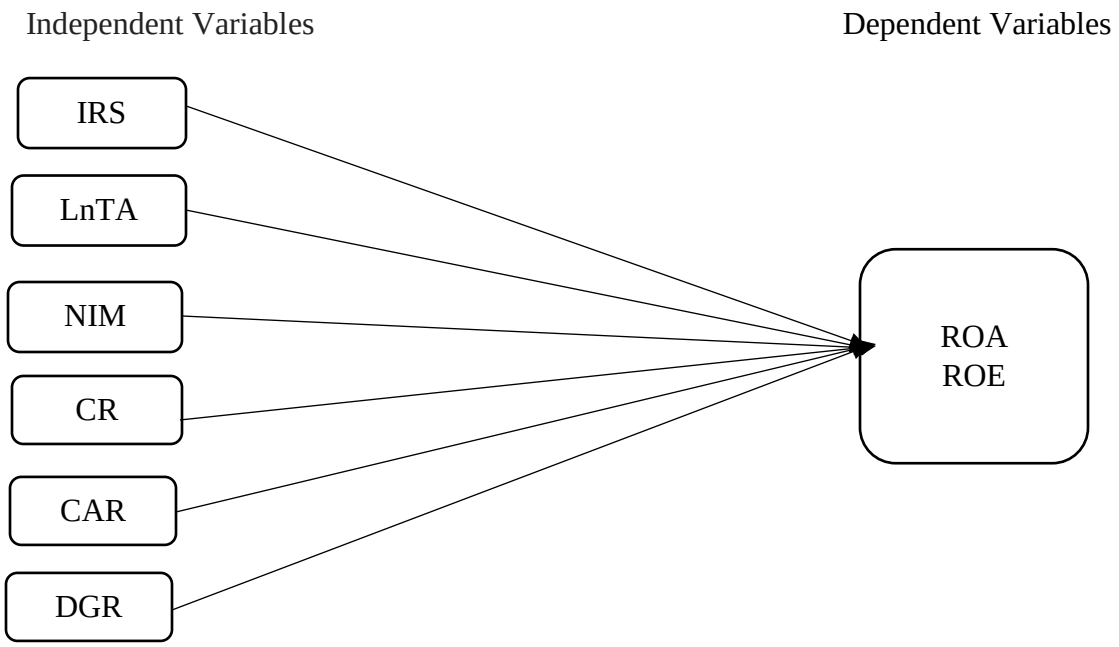


*Figure 1.* Conceptual framework

(Musah, 2018)

**There are two types of variables are used in this study;**

**1. Independent variables**: The independent variables are the variables whose change is not affected by any other variables in the experiment. It remains constants useless researcher changes or it changes itself. Profitability is affected by both internal and external

factors. Internal factors are firms' specific factors over which firms' management has control whereas external factors are factors over which the management of firms' lacks control. In this study, interest rate spread, (IRS) net interest margin, (NIM) credit risk, (CR), size, (LnTA), capital adequacy, (CAR) and deposit growth rate, (DGR) are independent variables.

## a) Interest Rate Spread Ratio (IRS)

This is the difference between interest charged on loans and interest charged on deposits. A decline in the interest rate spread therefore lowers the total lending and advances through decreased supply from the lending institution.

$$\text{IRS} = \frac{\text{Interest income}}{\text{Interest earning assets}} - \frac{\text{Interest expenses}}{\text{Interest paying liabilities}}$$

## b) Credit Risk (CR)

Banks maintain provision to absorb the losses from non-performing loan, credit risk (CR) is always associated with loan sanctioned by the banks. Thus, to overcome such type of credit risk bank maintain provision which is known as loan loss provision. In this study the ratio of loan loss to total loan is used as proxy of credit:

$$\text{CR} = \frac{\text{Loan loss provision}}{\text{Total assets}}$$

## c) Firm size (LnTA)

The proxy for bank size used in this study is the natural logarithm of total assets. Bank size measures its general capacity to undertake its intermediary function.

## d) Capital Adequacy Ratio (CAR)

This ratio measures capital adequacy ratio of bank. Banks with high level of equity can reduce their cost of capital and that could impact positively on profitability. Capital is the

one of the specific factors that influences the level of bank and financial institutions. Capital amount of own fund available to support the banks' business and act as a buffer in case of adverse situations. It is measured by following formula:

$$CAR = \frac{Capital\ and\ Reserve}{Total\ Assets}$$

## e) Net Interest Margin Ratio (NIM)

This ratio of banks' net interest income to total assets. Net interest margin represents the difference between the generated interest income and the interest expense relative to the interest earning assets. The margin is set by the intermediaries at the level that covers all the costs and risks that are related to financial intermediation. In other word, NIM is the differences between the interest expenses divided by total loan and advances. NIM reflects the cost of banks and financial institutions services and the efficiency of the banks and financial institutions. It is measured by following formula:

$$NIM = \frac{Net\ Interest\ Income}{Total\ Assets}$$

## f) Deposit Growth Rate Ratio (DGR)

This is ratio of banks' deposits. Deposits play important role in banking sectors for survival in the markets. It should attract the customers for deposits and monitors the growth of the deposits. Deposits indicates the liquidity of the institutions and markets. If the interest rate is high, the deposit should be high and if the interest rate is low, the deposit must be low. It is measured by following formula:

$$DGR = \frac{Deposit\ at\ year\ 1 - Previous\ year\ deposit}{Previous\ Year\ Deposit}$$

**2. Dependent variables**: The dependent variable is an item that its result depends on the other independent variable. As the experiment factors changes independent variables, the

effect on the dependent variable is changed and observed and recorded. Profitability is measured by the ratio return on asset (ROA) and return on equity (ROE).

## Profitability Ratios

Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings relative to its revenue, operating costs, balance sheet assets, and shareholders' equity over time, using data from a specific point in time. The following ratios are taken into account under this heading. For most profitability ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. Ratios are most informative and useful when used to compare a subject company to other, similar companies, the company's own history, or average ratios for the company's industry as a whole.

### a. Return on Total Asset Ratio (ROA)

Return on total assets (ROA) is a ratio that measures a company's earnings before interest and taxes (EBIT) relative to its total net assets. It is defined as the ratio between net income and total average assets, or the amount of financial and operational income a company receives in a financial year as compared to the average of that company's total assets. The ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings. EBIT is used instead of net profit to keep the metric focused on operating earnings without the influence of tax or financing differences when compared to similar companies. In this study, net profit/loss assets ratio is used as the dependent variable for the study to analyze the impact of nonperforming asset on profitability. Following is the formula to generate ROA.

$$\text{ROA} = \frac{\text{Net profit after tax}}{\text{Total assets}}$$

### b. Return on Total Equity Ratio (ROE)

It is the ratio of net profit to shareholder’s equity. The numerator indicates the portion of income left to the internal equities after deduction all costs, charges and expenses. The

bank has used funds of the shareholders. This ratio can be computed by dividing net profit by total equity capital. This can be calculated as,

$$\text{ROE} = \frac{\text{Net profit after tax}}{\text{Total equity}}$$

# CHAPTER- IV

# RESULTS AND DISCUSSION

Results and discussions are most import part of the thesis work. This chapter deals with analysis and interpretation of data using financial and statistical tools followed by research methodology, dealt in the third chapter for fulfilling the objectives of the study. In the course of analysis, Data gathered from the various sources of selected banks have been inserted while analyzing, in the tabular form according to their homogeneous nature. So, this chapter discuss on the following three sections:

1. Analysis of descriptive statistics
2. Correlation and regression: Impact analysis
3. Discussion

## 4.1 Analysis of the Descriptive Statistics

Descriptive statistics provide foundational insights into the data in a study, offering simple summaries about the sample and measures. They are crucial for virtually every quantitative data analysis, often supplemented by simple graphics. This section focuses on descriptive statistics for internal independent variables such as interest rate spread (IRS), net interest margin (NIM), credit risk (CR), size (LnTA), capital adequacy (CAR) and deposit growth rate (DGR) as well as profitability measures like return on assets (ROA) and return on equity (ROE). The analysis also includes basic features of the overall data.

To achieve the research objectives, data from seven microfinance institutions over eight years (FY 2015/16–2022/23) were examined. The selected institutions are Nirdhan Utthan Lagubitta Sanstha (NULBS), Laxmi Lagubitta Sanstha (LLBS), Mero Finance Lagubitta Sanstha (MLBS), Swabalamban Lagubitta Sanstha (SLBS), Deprosc Lagubitta Sanstha (DLBS), Chhimeki Lagubitta Sanstha (CLBS), and Suryodaya Lagubitta Sanstha (SWLBS). This comprehensive data set supports the analysis of key variables related to microfinance profitability and performance.

## 1. Analysis of Return on assets

Return on Assets (ROA) is a financial metric that evaluates a company's profitability by measuring how efficiently it uses its assets to generate earnings. Calculated by dividing net income by average total assets, a higher ROA indicates better efficiency in generating profits, while a lower ROA suggests struggles in earning from assets. Investors and analysts use ROA to assess a company's efficiency, profitability, and to compare it with industry competitors, providing insights into the company's financial health and performance.

Table 3 demonstrates the summary of the descriptive statistics regarding return on assets with respect to the selected sample micro finances.

**Table 3**

*Return on Assets (ROAs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 5.36 | 4.05 | 4.26 | 3.76 | 3.62 | 4.24 | 4.00 | 4.18 | 0.57 | 13.60 |
| 2016/17 | 3.73 | 4.43 | 4.22 | 3.71 | 3.48 | 2.64 | 2.97 | 3.60 | 0.64 | 17.71 |
| 2017/18 | 3.02 | 2.93 | 2.64 | 3.41 | 2.44 | 2.93 | 2.89 | 2.89 | 0.30 | 10.51 |
| 2018/19 | 3.22 | 2.87 | 3.39 | 3.10 | 2.92 | 2.66 | 3.17 | 3.05 | 0.25 | 8.07 |
| 2019/20 | 1.76 | 1.42 | 2.12 | 3.76 | 2.62 | 1.88 | 0.87 | 2.06 | 0.93 | 44.97 |
| 2020/21 | 4.48 | 2.93 | 4.09 | 3.71 | 3.06 | 3.62 | 3.69 | 3.65 | 0.54 | 14.80 |
| 2021/22 | 2.53 | 1.81 | 2.95 | 2.48 | 2.17 | 1.36 | 0.88 | 2.03 | 0.72 | 35.70 |
| 2022/23 | 0.61 | 0.98 | 0.63 | 2.40 | 0.32 | 1.35 | 0.70 | 1.00 | 0.70 | 69.91 |
| Mean | 3.09 | 2.68 | 3.04 | 3.29 | 2.58 | 2.59 | 2.40 | | | |
| SD | 1.50 | 1.22 | 1.25 | 0.57 | 1.04 | 1.03 | 1.36 | | | |
| CV | 48.56 | 45.38 | 41.14 | 17.39 | 40.23 | 39.94 | 56.70 | | | |

Note: Appendix and Annual Reports during eight years periods

Table 3 presents the return on assets (ROA) for seven microfinance institutions in Nepal from 2015/16 to 2022/23. ROA measures the percentage of total assets converted into net income, reflecting the effectiveness and efficiency of management in transforming assets into earnings. A higher ROA signifies better performance. 1% ROA can indicate substantial profits due to the high leverage of banks and financial institutions. The highest ROA was 4.18% in 2015/16, indicating that 4.18% of total assets were earned as net profit.

Conversely, the lowest ROA was 1% in 2022/23, indicating that only 1% of total assets were converted into net profit that year. ROA decreased from 4.18% in 2015/16 to 2.89% in 2017/18, rose to 3.05% in 2018/19, then dropped to 2.06% in 2019/20. It increased to 3.65% in 2020/21 before declining again to 2.03% in 2021/22 and finally to 1% in 2022/23. The lowest standard deviation (SD) and coefficient of variation (CV) were 0.25% and 8.07%, respectively, in 2018/19, indicating consistent ROA and stable profit generation. The highest SD and CV were 0.93% in 2019/20 and 69.91% in 2022/23, indicating inconsistent ROA.

Among the institutions, Chhimek Laghubitta Sanstha had the highest ROA at 3.29%, converting 3.29% of total assets into net profit, suggesting high shareholder satisfaction. Suryodaya Laghubitta Sanstha had the lowest ROA at 2.40%, indicating less effective asset utilization. In terms of risk, Chhimek Laghubitta Sanstha had the lowest SD and CV at 0.57% and 17.39%, respectively, indicating lower risk and consistent returns. Nirdhan Laghubitta Sanstha had the highest SD at 1.50%, indicating higher risk. Suryodaya Laghubitta Sanstha had the highest CV at 56.70%, indicating inconsistent returns.

## 2. Analysis of Return on Equity

Return on equity is a key financial metric used to evaluate the profitability and efficiency of a company in generating profits from shareholders' equity. It is calculated by dividing net income by average shareholders' equity, resulting in a percentage that reflects the company's ability to generate returns for its shareholders. A higher return on equity indicates that the company is effectively using its equity to generate profits, while a lower return on equity may suggest inefficiency or poor financial performance. Investors and analysts commonly use this metric to assess a company's financial health and performance, making it a crucial element in evaluating investment opportunities and making strategic business decisions. Table 4. demonstrates the summary of the descriptive statistics regarding return on equity with respect to the selected sample micro finances.

**Table 4**

*Return on Equity (ROEs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 57.83 | 39.59 | 34.69 | 38.89 | 25.32 | 36.32 | 29.29 | 37.42 | 10.37 | 27.70 |
| 2016/17 | 38.67 | 30.28 | 25.94 | 38.00 | 25.65 | 24.40 | 20.34 | 29.04 | 6.99 | 24.06 |
| 2017/18 | 31.51 | 23.04 | 19.94 | 24.52 | 22.17 | 25.77 | 28.54 | 25.07 | 3.94 | 15.72 |
| 2018/19 | 29.04 | 23.92 | 27.02 | 20.66 | 14.99 | 23.37 | 25.43 | 23.49 | 4.61 | 19.62 |
| 2019/20 | 14.10 | 13.18 | 16.19 | 42.39 | 15.07 | 15.13 | 4.59 | 17.24 | 11.76 | 68.20 |
| 2020/21 | 30.86 | 29.20 | 29.23 | 38.00 | 27.41 | 25.41 | 24.22 | 29.19 | 4.52 | 15.48 |
| 2021/22 | 16.21 | 17.73 | 18.25 | 16.29 | 18.68 | 9.54 | 7.61 | 14.90 | 4.45 | 29.89 |
| 2022/23 | 3.62 | 8.31 | 4.31 | 15.19 | 2.50 | 8.75 | 3.43 | 6.59 | 4.52 | 68.54 |
| Mean | 27.73 | 23.16 | 21.95 | 29.24 | 18.97 | 21.09 | 17.93 | | | |
| SD | 16.70 | 10.05 | 9.40 | 11.22 | 8.18 | 9.33 | 10.94 | | | |
| CV | 60.21 | 43.41 | 42.85 | 38.35 | 43.13 | 44.27 | 61.02 | | | |

Note: Appendix and Annual Reports during eight years periods.

The table 4 provides an overview of the return on equity (ROE) for various microfinance institutions from 2015/16 to 2022/23. ROE, which measures a bank's profitability and efficiency in generating profits from shareholders' equity, peaked at 37.42% in 2015/16 and hit a low of 6.59% in 2022/23. Over the period, ROE declined significantly to 17.24% in 2019/20, briefly rebounded to 29.19% in 2020/21, and then fell again to 6.59% by 2022/23. The standard deviation (SD) and coefficient of variation (CV) provide insights into the consistency of these returns. The lowest SD was 3.94% in 2017/18, indicating stable returns that year, while the highest SD was 11.76% in 2019/20, signaling high variability. Similarly, the lowest CV was 15.48% in 2020/21, reflecting consistent profitability, and the highest CV was 68.54% in 2022/23, indicating significant inconsistency in returns.

Among the institutions, Chhimek Lagubitta Sanstha had the highest average ROE at 29.24%, while Suryodaya Lagubitta Sanstha had the lowest at 17.93%. Mero Finance Lagubitta Sanstha showed the least risk with the lowest SD of 8.18%, and Nirdhan Utthan Lagubitta Sanstha had the highest risk with an SD of 16.70%. Chhimek also demonstrated

the most consistent ROE with the lowest CV of 38.35%, whereas Suryodaya had the most inconsistent ROE with a CV of 61.02%.

## 3. Analysis of Net Interest Margin

Net interest margin is a crucial financial metric used by banks and financial institutions to evaluate their profitability and efficiency in managing interest-bearing assets and liabilities. It provides insight into how well a bank is able to generate income from its interest-earning assets compared to the interest it pays on its liabilities. A higher net interest margin indicates that the institution is effectively managing its interest rate risk and maximizing its interest income. On the other hand, a lower net interest margin may suggest that the institution is facing challenges in generating income from its interest-earning assets, potentially impacting its overall profitability. As such, monitoring and improving net interest margin is essential for banks to remain competitive and sustainable in the financial market.

**Table 5**

*Net Interest Margin (NIMs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 9.29 | 9.67 | 10.84 | 8.36 | 8.23 | 11.45 | 11.59 | 9.92 | 1.40 | 14.09 |
| 2016/17 | 9.25 | 10.15 | 9.94 | 8.04 | 7.76 | 9.46 | 8.47 | 9.01 | 0.93 | 10.35 |
| 2017/18 | 7.26 | 8.03 | 7.12 | 7.63 | 6.16 | 7.39 | 6.04 | 7.09 | 0.74 | 10.40 |
| 2018/19 | 7.13 | 7.90 | 6.48 | 7.14 | 7.09 | 6.77 | 6.71 | 7.03 | 0.46 | 6.50 |
| 2019/20 | 7.03 | 7.58 | 7.19 | 8.36 | 7.51 | 7.39 | 7.13 | 7.46 | 0.45 | 5.99 |
| 2020/21 | 8.96 | 7.72 | 7.89 | 8.04 | 6.22 | 7.91 | 6.79 | 7.65 | 0.89 | 11.68 |
| 2021/22 | 7.14 | 6.90 | 7.09 | 6.52 | 6.40 | 8.35 | 4.09 | 6.64 | 1.29 | 19.46 |
| 2022/23 | 7.02 | 6.20 | 5.57 | 6.68 | 5.22 | 7.85 | 4.99 | 6.22 | 1.04 | 16.67 |
| Mean | 7.89 | 8.02 | 7.77 | 7.60 | 6.82 | 8.32 | 6.98 | | | |
| SD | 1.07 | 1.32 | 1.77 | 0.73 | 1.00 | 1.49 | 2.29 | | | |
| CV | 13.55 | 16.41 | 22.77 | 9.66 | 14.60 | 17.95 | 32.87 | | | |

Note: Appendix and Annual Reports during eight years periods.

Table 5 presents the net interest margin (NIM) for seven microfinance institutions in Nepal from 2015/16 to 2022/23. NIM, which reflects the difference between interest income

generated and interest expenses relative to interest-earning assets, peaked at 9.92% in 2015/16 and dropped to a low of 6.22% in 2022/23. The NIM decreased from 9.92% in 2015/16 to 7.03% in 2018/19, slightly rose to 7.65% in 2020/21, and then declined again to 6.22% by 2022/23. The lowest standard deviation (SD) and coefficient of variation (CV) of 0.45% and 5.99% respectively indicate consistent net interest income for the microfinances. Conversely, the highest SD of 1.40% in 2015/16 and highest CV of 19.46% in 2021/22 highlight years of inconsistency.

Among the institutions, Swabalamban Lagubitta Sanstha recorded the highest average NIM at 8.32%, indicating efficient conversion of interest-earning assets to net interest income. Mero Finance Lagubitta Sanstha had the lowest average NIM at 6.82%. Chhimek Lagubitta Sanstha showed the most consistent performance with the lowest SD of 0.73% and CV of 9.66%, reflecting stable net interest income. In contrast, Suryodaya Lagubitta Sanstha had the highest SD of 2.29% and CV of 32.87%, indicating significant inconsistency in converting interest income to net profit.

## 4. Analysis of Capital Ratios

The capital adequacy ratio is a key measure used by financial institutions to ensure they have enough capital to cover potential losses and risks. It is calculated by dividing a bank's capital by its risk-weighted assets, with a higher ratio indicating a stronger financial position. This ratio helps regulators determine a bank's ability to withstand economic downturns and other unforeseen events, ultimately safeguarding depositors' funds and maintaining overall financial stability. Banks with a low capital adequacy ratio may be required to raise additional capital or adjust their risk exposure to comply with regulatory requirements

**Table 6.**

*Capital Ratio (CARs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 9.28 | 10.22 | 12.29 | 9.68 | 14.30 | 11.67 | 13.67 | 11.59 | 1.96 | 16.91 |
| 2016/17 | 9.64 | 14.63 | 16.29 | 9.77 | 13.58 | 10.80 | 14.59 | 12.76 | 2.66 | 20.86 |
| 2017/18 | 9.59 | 12.73 | 13.25 | 13.91 | 11.00 | 11.37 | 10.12 | 11.71 | 1.63 | 13.90 |
| 2018/19 | 11.10 | 12.00 | 12.56 | 15.02 | 19.48 | 11.39 | 12.47 | 13.43 | 2.96 | 22.01 |
| 2019/20 | 12.49 | 10.81 | 13.11 | 8.88 | 17.38 | 12.42 | 18.96 | 13.44 | 3.55 | 26.45 |
| 2020/21 | 14.51 | 10.04 | 13.99 | 9.77 | 11.17 | 14.24 | 15.23 | 12.71 | 2.30 | 18.09 |
| 2021/22 | 15.62 | 10.21 | 16.14 | 15.20 | 11.62 | 14.25 | 11.54 | 13.51 | 2.35 | 17.39 |
| 2022/23 | 16.80 | 11.81 | 14.68 | 15.79 | 12.94 | 15.48 | 20.36 | 15.41 | 2.77 | 18.00 |
| Mean | 12.38 | 11.56 | 14.04 | 12.25 | 13.93 | 12.70 | 14.62 | | | |
| SD | 2.95 | 1.58 | 1.54 | 2.97 | 3.06 | 1.72 | 3.53 | | | |
| CV | 23.87 | 13.70 | 10.98 | 24.28 | 21.95 | 13.55 | 24.18 | | | |

Note: Appendix and Annual Reports during eight years periods.

Table 6 presents the average Capital Adequacy Ratio (CAR) of seven microfinance institutions over the period from 2015/16 to 2022/23. CAR measures the proportion of a bank or financial institution's assets funded with owner's funds, serving as an indicator of its ability to absorb losses and remain solvent. Regulators use CAR to assess capital adequacy and conduct stress tests to safeguard depositors' funds. The CAR reached its peak at 15.41% in 2022/23, indicating sufficient capital to mitigate future risks. Conversely, it was lowest at 11.59% in 2015/16. Over the years, CAR increased to 12.76% in 2016/17 from 11.59% in the previous year, decreased to 11.71% in 2017/18, rose to 13.44% in 2019/20, declined slightly to 12.71% in 2020/21, and finally increased again to 15.41% in 2022/23 from 13.51% in 2021/22. The lowest standard deviation (SD) and coefficient of variation (CV) were observed in 2017/18 at 1.63% and 13.90% respectively, indicating consistent maintenance of capital adequacy by microfinance institutions. In contrast, the highest SD and CV occurred in 2019/20 at 3.55% and 26.45%, indicating inconsistent capital adequacy maintenance.

Suryodaya Lagubitta Sanstha recorded the highest CAR at 14.62%, suggesting its ability to absorb external risks, while Laxmi Lagubitta Sanstha had the lowest CAR at 11.56%, indicating vulnerability to external risks. Deprocs Lagubitta Sanstha had the lowest SD at 1.54%, indicating consistent capital and reserve management, whereas Suryodaya Lagubitta Sanstha had the highest SD at 3.53%, signifying inconsistent capital and reserve management. Chhimek Lagubitta Sanstha had the highest CV at 24.28%, indicating inconsistency in capital and reserve management.

## 5. Analysis of Deposit Growth Rate Ratios

The deposit growth rate is a crucial metric used by financial institutions to measure the increase in deposits over a specific period. This rate indicates the effectiveness of a bank's marketing strategies, customer service, and overall financial health. By analyzing the deposit growth rate, banks can identify trends, forecast future performance, and make informed decisions regarding pricing, product offerings, and expansion strategies. It is essential for banks to monitor and manage their deposit growth rate to ensure sustainable growth and profitability in the long term.

**Table 7**

*Deposit Growth Rate Ratio (DGRs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 54.45 | 107.10 | 39.21 | 39.80 | 143.2 | -6.81 | 100.00 | 68.14 | 51.01 | 74.86 |
| 2016/17 | 45.82 | 66.29 | 43.85 | 30.86 | 101.5 | 107.22 | 86.50 | 68.86 | 30.15 | 43.79 |
| 2017/18 | 37.55 | 46.84 | 44.02 | 31.55 | 56.9 | 36.15 | 74.21 | 46.75 | 14.68 | 31.40 |
| 2018/19 | 28.93 | 34.76 | 58.68 | 28.98 | 54.5 | 30.01 | 44.10 | 39.99 | 12.56 | 31.42 |
| 2019/20 | 20.75 | 16.19 | 29.03 | 21.31 | 31.0 | 23.96 | 39.99 | 26.03 | 7.96 | 30.56 |
| 2020/21 | 18.57 | 36.09 | 32.53 | 20.22 | 52.3 | 14.41 | 88.73 | 37.55 | 26.01 | 69.28 |
| 2021/22 | 14.94 | 23.32 | 21.86 | 20.41 | 41.5 | 12.87 | 161.75 | 42.38 | 53.45 | 126.12 |
| 2022/23 | 5.12 | -8.90 | 13.49 | 13.68 | 0.2 | 6.80 | 6.28 | 5.24 | 7.83 | 149.53 |
| Mean | 28.27 | 40.21 | 35.33 | 25.85 | 60.14 | 28.08 | 75.20 | | | |
| SD | 16.67 | 34.89 | 14.21 | 8.38 | 43.92 | 34.72 | 46.87 | | | |
| CV | 58.96 | 86.76 | 40.23 | 32.43 | 73.03 | 123.66 | 62.33 | | | |

Note: Appendix and Annual Reports during eight years periods.

Table 7 illustrates the Deposit Growth Rate (DGR) of seven microfinance institutions from 2015/16 to 2022/23. Deposits are crucial for the financial sector's stability, reflecting customer confidence and market liquidity. DGR measures the percentage growth of deposits from one year to the next. The highest DGR was recorded at 68.86% in 2016/17, indicating substantial growth in deposits, while the lowest was 5.24% in 2022/23, reflecting minimal growth. DGR increased from 68.14% in 2015/16 to 68.86% in the following year, then decreased to 26.03% in 2019/20, rose again to 42.38% in 2021/22, and finally dropped to 5.24% by 2022/23. In terms of variability, the lowest standard deviation (SD) and coefficient of variation (CV) were observed in 2022/23 at 7.83% and 30.56% respectively, indicating consistent deposit growth. Conversely, the highest SD and CV occurred in 2021/22 at 53.45% and 149.53%, respectively, indicating inconsistent deposit growth.

Suryodaya Lagubitta Sanstha recorded the highest DGR at 75.20%, suggesting effective deposit attraction and liquidity management. Chhimek Lagubitta Sanstha had the lowest DGR at 25.85%, indicating challenges in attracting deposits. Mero Finance Laghubitta Sanstha had the highest SD at 43.92%, indicating volatile deposit growth, while Swabalamban Laghubitta Sanstha had the highest CV at 123.66%, reflecting inconsistent DGR. In contrast, Chhimek Lagubitta Sanstha showed the lowest SD and CV at 8.38% and 32.43% respectively, indicating stable and regular deposit growth. Overall, DGR is pivotal for future liquidity and reflects customer trust and market dynamics in the microfinance sector.

## 6. Analysis of Interest Rate Spread

The deposit growth rate is a crucial metric used by financial institutions to measure the increase in deposits over a specific period. This rate indicates the effectiveness of a bank's marketing strategies, customer service, and overall financial health. By analyzing the deposit growth rate, banks can identify trends, forecast future performance, and make informed decisions regarding pricing, product offerings, and expansion strategies. It is essential for banks to monitor and manage their deposit growth rate to ensure sustainable growth and profitability in the long term.

**Table 8.**

*Interest Rate Spread (IRSs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SULBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 10.85 | 9.92 | -2.88 | 11.68 | 14.17 | 12.02 | 13.05 | 9.83 | 5.77 | 58.74 |
| 2016/17 | 11.27 | 10.09 | -4.47 | 10.44 | 8.37 | 11.24 | 8.65 | 7.94 | 5.59 | 70.40 |
| 2017/18 | 8.30 | 7.47 | 7.19 | 9.05 | 7.01 | 7.44 | 6.55 | 7.57 | 0.84 | 11.11 |
| 2018/19 | 7.81 | 7.44 | 5.99 | 8.84 | 7.07 | 6.44 | 6.37 | 7.14 | 0.99 | 13.82 |
| 2019/20 | 8.34 | 7.65 | 8.36 | 6.01 | 7.33 | 7.57 | 6.33 | 7.37 | 0.91 | 12.35 |
| 2020/21 | 9.47 | 7.70 | 8.66 | 5.41 | 6.05 | 7.81 | 6.43 | 7.36 | 1.46 | 19.87 |
| 2021/22 | 6.89 | 6.41 | 6.57 | 7.03 | 5.23 | 5.32 | 3.96 | 5.92 | 1.12 | 18.92 |
| 2022/23 | 7.42 | 5.65 | 5.05 | 9.34 | 3.80 | 5.08 | 4.37 | 5.82 | 1.93 | 33.15 |
| Mean | 8.79 | 7.79 | 4.31 | 8.48 | 7.38 | 7.87 | 6.96 | | | |
| SD | 1.59 | 1.54 | 5.08 | 2.17 | 3.08 | 2.54 | 2.85 | | | |
| CV | 18.11 | 19.74 | 117.98 | 25.58 | 41.78 | 32.30 | 40.92 | | | |

Note: Appendix and Annual Reports during eight years periods.

Table 8 presents the Interest Rate Spread (IRS) for seven microfinance institutions across various years from 2015/16 to 2022/23. The IRS represents the difference between the interest income earned from loans and securities, and the interest expense paid on deposits and borrowed funds. A higher IRS indicates a larger profit margin for the financial institution. The highest IRS observed was 9.83% in 2015/16, indicating a significant difference between lending and deposit rates, while the lowest was 5.82% in 2022/23, showing a narrower margin. IRS decreased from 9.83% in 2015/16 to 7.14% in 2018/19, increased to 7.37% in 2019/20, and then decreased again to 5.82% in 2022/23 from 7.36% in 2020/21. In terms of variability, the lowest standard deviation (SD) and coefficient of variation (CV) were observed in 2017/18 at 0.84% and 11.11% respectively, indicating consistent IRS. Conversely, the highest SD and CV occurred in 2016/17 at 5.59% and 70.40% respectively, reflecting inconsistent changes in IRS.

Deprosc Lagubitta Sanstha recorded the lowest IRS at 4.31%, indicating lower interest income compared to interest expenses. Nirdhan Utthan Lagubitta Sanstha had the highest IRS at 8.79%, indicating higher interest income among the microfinance institutions sampled. Deprosc Lagubitta Sanstha also had the highest CV and SD at 117.98% and

5.08% respectively, indicating inconsistent IRS and variable interest income. In contrast, Laxmi Lagubitta Sanstha showed the lowest CV and SD at 19.74% and 1.54% respectively, suggesting more consistent and regular interest earnings. Overall, IRS is crucial as it reflects the profitability and financial health of microfinance institutions, influenced by their lending and deposit rates over time.

## 7. Analysis of Banks Size

The natural logarithm of total assets has been widely accepted as a reliable proxy for bank size in the academic literature. By taking the natural logarithm of total assets, researchers are able to transform the data into a more interpretable form that allows for meaningful comparisons across banks of varying sizes. This transformation is particularly useful when analyzing large datasets with a wide range of asset sizes, as it helps to normalize the data and control for outliers. Additionally, using the natural logarithm of total assets as a proxy for bank size allows for more accurate statistical analysis and model estimation, ultimately leading to more robust and reliable research findings in the field of banking and finance.

**Table 9.**

*Firms' Size (LnTAs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SULBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 16.29 | 14.25 | 15.31 | 16.34 | 14.55 | 15.85 | 13.00 | 15.08 | 1.22 | 8.12 |
| 2016/17 | 16.55 | 14.70 | 15.62 | 16.56 | 14.80 | 16.12 | 13.48 | 15.40 | 1.14 | 7.39 |
| 2017/18 | 16.70 | 14.91 | 15.96 | 16.79 | 15.17 | 16.28 | 14.15 | 15.71 | 0.99 | 6.31 |
| 2018/19 | 16.91 | 15.15 | 16.34 | 17.00 | 15.50 | 16.58 | 14.49 | 16.00 | 0.96 | 6.00 |
| 2019/20 | 16.98 | 15.34 | 16.42 | 16.34 | 15.76 | 16.65 | 14.69 | 16.03 | 0.80 | 5.02 |
| 2020/21 | 17.09 | 15.70 | 16.67 | 16.56 | 16.49 | 16.76 | 15.37 | 16.38 | 0.61 | 3.75 |
| 2021/22 | 17.20 | 15.89 | 16.78 | 17.46 | 16.65 | 16.84 | 16.26 | 16.73 | 0.53 | 3.18 |
| 2022/23 | 17.14 | 15.64 | 16.87 | 17.57 | 16.50 | 16.80 | 16.25 | 16.68 | 0.63 | 3.75 |
| Mean | 16.86 | 15.20 | 16.25 | 16.83 | 15.68 | 16.49 | 14.71 | | | |
| SD | 0.32 | 0.56 | 0.57 | 0.48 | 0.81 | 0.36 | 1.20 | | | |
| CV | 1.89 | 3.67 | 3.48 | 2.84 | 5.18 | 2.19 | 8.13 | | | |

Note: Appendix and Annual Reports during eight years periods

Table 9 provides data on the size of various microfinance institutions from 2015/16 to 2022/23, measured using the natural logarithm of total assets (LnTA). This metric helps assess the scale of banks and financial institutions over time. The highest LnTA was observed in 2021/22 at 16.73, indicating a peak in the total assets held by microfinance institutions during that year. The lowest LnTA was 15.08 in 2015/16, reflecting smaller asset sizes at that time. LnTA increased from 15.08 in 2015/16 to 16.73 in 2021/22, and then slightly decreased to 16.68 by 2022/23. In terms of variability, the highest standard deviation (SD) and coefficient of variation (CV) were 1.22 and 8.12 respectively, indicating fluctuations in asset sizes across different years. Conversely, the lowest SD and CV were 0.53 and 3.18 respectively, suggesting more stable asset sizes over time.

Nirdhan Utthan Lagubitta Sanstha recorded the highest LnTA at 16.86, indicating it held the largest total assets among the microfinance institutions. On the other hand, Suryodaya Lagubitta Sanstha had the lowest LnTA at 14.71, indicating smaller total assets compared to the other institutions. Suryodaya Lagubitta Sanstha also had the highest CV at 8.13% and SD at 1.20%, indicating inconsistent total asset sizes. In contrast, Nirdhan Utthan Lagubitta Sanstha had the lowest CV at 0.32% and SD at 1.89%, indicating more consistent total asset levels. Overall, LnTA provides insight into the growth and scale of microfinance institutions, with fluctuations indicating changes in their asset sizes over the years.

## 8. Analysis of Credit Risk

Credit risk is a crucial aspect of financial management that must be carefully considered by individuals and organizations alike. It refers to the potential for loss arising from a borrower's inability to repay a loan or meet their financial obligations. This risk is influenced by various factors such as the borrower's credit history, financial stability, and economic conditions. It is essential for lenders to thoroughly assess and manage credit risk to minimize the likelihood of default and protect their investments. By implementing sound risk management practices, financial institutions can safeguard themselves against potential losses and ensure the sustainability of their lending activities.

**Table 10.**

*Credit Risk (CRs) of Micro Finances (%)*

| B/Y | NULBS | LLBS | DLBS | CLBS | MLBS | SLBS | SULBS | Mean | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| 2015/16 | 0.41 | 0.68 | 2.03 | 0.49 | 0.44 | 0.25 | 2.19 | 0.93 | 0.82 | 88.36 |
| 2016/17 | 0.19 | 0.53 | 1.58 | 0.50 | 0.27 | 0.29 | 1.01 | 0.62 | 0.50 | 80.42 |
| 2017/18 | 0.53 | 0.60 | 1.42 | 0.40 | 0.11 | 0.51 | 0.62 | 0.60 | 0.40 | 67.03 |
| 2018/19 | 0.67 | 0.71 | 2.72 | 0.33 | 0.49 | 0.37 | 0.39 | 0.81 | 0.85 | 105.30 |
| 2019/20 | 2.74 | 2.62 | 11.47 | 1.50 | 0.34 | 2.64 | 2.62 | 3.42 | 3.66 | 107.03 |
| 2020/21 | 0.69 | 1.05 | 1.56 | 0.24 | 0.49 | 0.51 | 1.08 | 0.80 | 0.45 | 56.26 |
| 2021/22 | 0.91 | 0.78 | -0.03 | 0.66 | 0.49 | 3.96 | 1.06 | 1.12 | 1.30 | 116.33 |
| 2022/23 | 3.60 | 2.27 | 1.49 | 1.26 | 0.90 | 1.94 | 0.51 | 1.71 | 1.02 | 59.86 |
| Mean | 1.22 | 1.16 | 2.78 | 0.67 | 0.44 | 1.31 | 1.19 | | | |
| SD | 1.24 | 0.82 | 3.59 | 0.46 | 0.23 | 1.39 | 0.80 | | | |
| CV | 102.25 | 70.67 | 129.28 | 68.18 | 51.88 | 106.17 | 67.91 | | | |

Note: Appendix and Annual Reports during eight years periods

Table 10 outlines the credit risk (CR) trends among various microfinance institutions in Nepal from 2015/16 to 2022/23, reflecting the percentage of non-performing loans, or NPAs, that were not recovered promptly. A higher CR indicates a greater risk to the financial stability of these institutions. The highest CR observed was 3.42% in 2019/20, signifying a peak in loan losses compared to other years. Conversely, the lowest CR was recorded at 0.60% in 2017/18, indicating minimal loan losses during that period. CR decreased from 0.93% in 2015/16 to 0.60% in 2017/18, spiked to 3.42% in 2019/20, then fluctuated between 0.80% and 1.71% in subsequent years. Variability in CR was evident, with fluctuations leading to the highest standard deviation (SD) of 1.30% and coefficient of variation (CV) of 116.33% observed in 2021/22, indicating inconsistent loan loss patterns among microfinance institutions.

Deprosc Lagubitta Sanstha exhibited the highest credit risk at 2.78%, suggesting challenges in loan recovery, while Mero Finance Lagubitta Sanstha demonstrated the lowest CR at 0.44%, highlighting effective loan management. Deprosc Lagubitta Sanstha also showed the highest CV (129.28%) and SD (3.59%), indicating regular and varied loan losses, whereas Mero Finance Lagubitta Sanstha had the lowest SD (0.23%) and CV (51.88%),

suggesting consistent and minimal loan losses over the years. Overall, the data reveals fluctuating trends in CR among Nepalese microfinance institutions, reflecting varying levels of risk and effectiveness in loan recovery efforts.

## 4.2 Descriptive Statistics

This section presents the empirical test results that include descriptive analysis. The descriptive statistics explore and presents all the variable used in this study. Table shows that there 56 number of valid cases or "N" for each variable. The result shows the range of mean, standard deviation, maximum and minimum for the all variables.

**Table 11**

*Descriptive Statistics of Variables*

| Variables | Scale | N | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|---|
| ROA | Percentage | 56 | 2.81 | 1.15 | 0.32 | 5.36 |
| ROE | Percentage | 56 | 22.87 | 11.23 | 2.50 | 57.83 |
| NIM | Percentage | 56 | 7.63 | 1.47 | 4.09 | 11.59 |
| IRS | Percentage | 56 | 7.37 | 3.08 | -4.47 | 14.17 |
| CAR | Percentage | 56 | 13.07 | 2.67 | 8.88 | 20.36 |
| DGR | Percentage | 56 | 41.87 | 34.81 | -8.90 | 161.75 |
| CR | Percentage | 56 | 1.25 | 1.67 | -0.03 | 11.47 |
| LnTA | Natural Logarithm | 56 | 16.00 | 1.00 | 13.00 | 17.57 |

Note: Annual Report of Sample Banks and Results are drawn from SPSS 29

Table 11 indicates that the mean value and standard deviation of return on asset (ROA) are 2.81% and 1.15%respectively with minimum value 0.32 and maximum value 5.36% which indicates the financial institutions have earned 2.81% by utilizing their total assets. The ROA reflects the profitability of banks and financial institutions is satisfactory. The mean value and standard deviation of return on equity (ROE) are 22.87% and 11.23% respectively with minimum value 2.50% and maximum value 57.83% which indicates that the banks and financial institutions have distributed 22.87% net income of their shareholder equity. The mean value and standard deviation of capital adequacy (CAR) are 13.07% and 2.67% respectively with minimum value 8.88% and maximum value 20.36% which indicates the banks and financial institutions have adequate capital to absorb any shocks.

The mean value and standard deviation of credit risk (CR) are 1.25% and 1.67% respectively with minimum value -0.03% and maximum value 11.47% which indicates the banks and financial institutions have 1.25 % of total assets has been lost as loan and advances. It could recover the loan. The mean value and standard deviation of net interest margin (NIM) are 7.63% and 3.08% respectively with minimum value 4.09% and maximum value 11.59%. It indicates 7.63% of the net total asset of banks and financial institutions are earned by financial institutions as net interest income. The mean value and standard deviation of interest rate spread (IRS) 7.37% and 3.08% respectively with minimum value -4.47% and maximum value 14.17% which indicates banks and financial institutions have earned 7.37% of net interest after bearing all interest expenses. The mean value and standard deviation of deposit growth rate (DGR) are 41.87% and 34.81% respectively with minimum value -8.90% and maximum value 161.75%. The average value of deposit growth rate (DGR) of 41.87% indicates that 41.87% of deposits are increased from previous years. The mean value and standard deviation of firm size (LnTA )are 16.00 and 1 respectively with minimum value 13.00 and maximum value 17.57.

## 4.3 Correlation Analysis

Correlation statistical technique was used to show whether and how strongly pairs of dependent and independent variables use in the study are related. The correlation coefficient represents the linear relationship between those two variables. The most widely used type of correlation coefficient is pearson r, also called linear or products moment correlation. The significance level was calculated for each correlation coefficient so as to determine the reliability of the correlation. The significance of a correlation coefficient of the particular magnitude will however change depending on the size of the sample from which it was computed. Here, we analyzed the significant correlations between the dependent variable and each independent variable separately, to know the relationship between the interest rate spread and their impact on the micro finances' profitability.

**Table 12**

*Correlation Matrix of Variables ROA*

| | ROA | ROE | NIM | CAR | DGR | IRS | LnTA | CR |
|---|---|---|---|---|---|---|---|---|
| ROA | 1.000 | | | | | | | |
| ROE | 0.904** | 1.000 | | | | | | |
| NIM | 0.687** | 0.607** | 1.000 | | | | | |
| CAR | -0.287* | -0.610** | -0.156 | 1.000 | | | | |
| DGR | 0.270* | 0.222 | 0.105 | -0.129 | 1.000 | | | |
| IRS | 0.279* | 0.319* | 0.260 | -0.202 | 0.229 | 1.000 | | |
| LnTA | -0.220 | -0.160 | -0.377* | 0.026 | -0.556** | -0.113 | 1.000 | |
| CR | -0.303* | -0.296* | -0.030 | 0.103 | -0.159 | -0.107 | 0.074 | 1.000 |

Note: Results are drawn from SPSS 29

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

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

Table 12 shows the correlation analysis done by using the Pearson's correlation coefficient. In this correlation matrix, return on asset (ROA) and return on equity (ROE) are taken as a dependent variable. Pearson's correlation model is used to show the relationship among the variables and 2-tailed test is used to measure the significance. The result shows that return on asset (ROA) is positively correlated with net interest margin (NIM) and statistically significant at 1% level and deposit growth rate (DGR) and interest rate spread (IRS) statistically significant at 5% level. Similarly, return on asset (ROA) is negatively correlated with capital adequacy ratio (CAR) and credit risk (CR), and statistically significant at 5% level. And negatively correlated with firm size (LnTA) but statistically insignificant at 5% and 1%.

Return on equity (ROE) is negatively correlated with capital adequacy (CAR) and statistically significant at 1% level. Likewise, return on equity (ROE) is positively correlated with net interest margin (NIM) and statistically significant at 1% and return on equity (ROE) is positively correlated and interest rate spread (IRS) and statistically significant at 5% level. Return on equity (ROE) is negatively correlated Firm size (LnTA) and positively correlated deposit growth rate (DGR) but statistically insignificant at 5%

and 1% level. Return on equity (ROE) is negatively correlated with credit risk (CR) and statistically significance at 0.05 level.

Net interest margin (NIM) is negatively correlated with firm size (LnTA) and statistically significant at 5% level and deposit growth rate (DGR) is negatively correlated with firm size (LnTA) and statistically significant at 1% level.

## 4.4 Regression Analysis

Regression result shows the relation between profitability ratio and its predictors and significance of relationship. The objective of this study is to explore whether certain predictors significantly affect the profitability of micro finance proxy by ROA and ROE or not. The following table presents the regression result of the study.

**Table 13**

*Model Summary*

| Model | R | R Square | Adjusted R Square | Std Error of Estimate |
|---|---|---|---|---|
| 1 | 0.784[a] | 0.615 | 0.568 | 0.755 |

Note: Results are drawn from SPSS 29

a. Dependent Variable: ROA

b. Predictor: (Constant), IRS, NIM, CR, CAR, DGR and LnTA

Table 13 show that multiple R 0.784 indicates that correlation relationship among the variables, which mean the profitability (ROA) is 78.40% with independent variables interest rate spread, (IRS) net interest margin, (NIM) credit risk, (CR), size, (LnTA), capital adequacy, (CAR) and deposit growth rate, (DGR). R square tells that this statistic of model was 0.615, which mean 61.50% of the variability in the dependent variable (ROA) is explained by the independent variables used in the model that are IRS, NIM, CR, LnTA, DGR and CAR are collectively explained 61.50% of change in ROA. The remaining portion is left unexplained by the explanatory variables used in the study.

**Table 14**

*ANOVA*

| Model | DF | Sum of Square | Mean Square | F | Significance F |
|---|---|---|---|---|---|
| Regression | 6 | 44.557 | 7.426 | 13.043 | 0.001[b] |
| Residual | 49 | 27.898 | 0.569 | | |
| Total | 55 | 72.455 | | | |

Note: Results are drawn from SPSS 29

Table 14 shows that ANOVA results in which F value is 13.043 and F significances is 0.001 which means that there is significant relation between independent variables such as IRS, NIM, DGR, CR, CAR and LnTA with dependent variables ROA.

**Tables 15**

*Regression Analysis for Dependent Variables ROA*

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std Error | Beta | T value | Sig. |
| Constant | -3.769 | 2.585 | | -1.423 | 0.161 |
| NIM | 0.534 | 0.077 | 0.686 | 6.918 | 0.001 |
| CAR | -0.59 | 0.040 | -0.137 | -1.489 | 0.143 |
| DGR | 0.008 | 0.004 | 0.233 | 2.063 | 0.044 |
| IRS | 0.005 | 0.036 | 0.012 | 0.130 | 0.897 |
| LnTA | 0.190 | 0.132 | 0.166 | 1.433 | 0.158 |
| CR | -0.167 | 0.62 | -0.242 | -2.682 | 0.010 |

Note: Results are drawn from SPSS 29

Based on results presented on table 15, Net interest margin (NIM) and deposit growth rate (DGR) have positive influences on profitability (ROA) with significance level ($p<0.05$) and negative impacts by credit risk (CR) with significance level ($p<0.05$) and capital adequacy (CAR) but insignificance level ($p>0.05$). Interest rate spread (IRS) and firm size (LnTA) have positive influences on profitability (ROA) but insignificance ($p>0.05$).

**Table 16**

*Model Summary*

| Model | R | R Square | Adjusted R Square | Std Error of Estimate |
|---|---|---|---|---|
| 1 | 0.842[a] | 0.709 | 0.679 | 6.416 |

Note: Results are drawn from SPSS 29

a. Dependent Variable: ROE

b. Predictor: (Constant), IRS, NIM, CR, CAR, DGR and LnTA

Table 16 show that multiple R 0.842 indicates that correlation relationship among the variables, interest rate spread, (IRS) net interest margin, (NIM) credit risk, (CR), size, (LnTA), capital adequacy, (CAR) and deposit growth rate, (DGR). which mean the profitability (ROE) is 84.20% with independent. R square tells that this statistic of model was 0.709, which mean 70.90% of the variability in the dependent variable (ROE) is explained by the independent variables used in the model that are IRS, NIM, CR, LnTA, DGR and CAR are collectively explained 70.90% of change in ROE. The remaining portion is left unexplained by the explanatory variables used in the study.

**Table 17**

*ANOVA*

| Model | DF | Sum of Square | Mean Square | F | Significance F |
|---|---|---|---|---|---|
| Regression | 6 | 4921.015 | 820.169 | 19.924 | 0.001[b] |
| Residual | 49 | 2017.084 | 41.165 | | |
| Total | 55 | 6938.099 | | | |

Note: Results are drawn from SPSS 29

Table 17 shows that ANOVA results in which F value is 19.924 and F significances is 0.001 which means that there is significant relation between independent variables such as IRS, NIM, DGR, CR, CAR and LnTA with dependent variables ROE.

**Table 18**

*Regression Analysis for Dependent Variables ROE*

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std Error | Beta | T value | Sig. |
| Constant | -7.416 | 21.977 | | -0.337 | 0.737 |
| NIM | 4.155 | 0.657 | 0.545 | 6.326 | 0.001 |
| CAR | -2.022 | 0.337 | -0.481 | -6.009 | 0.001 |
| DGR | 0.044 | 0.32 | 0.135 | 1.374 | 0.176 |
| IRS | 0.152 | 0.303 | 0.042 | 0.502 | 0.618 |
| LnTA | 1.493 | 1.126 | 0.133 | 1.326 | 0.191 |
| CR | -1.443 | 0.529 | -0.214 | -2.729 | 0.009 |

Note: Results are drawn from SPSS 29

Based on results presented on above table, capital adequacy ratio (CAR) and credit risk (CR) have negative influences on profitability (ROE) with significance level ($p<0.05$) and positive impacts by firm size (LnTA), interest rate spread (IRS) and deposit growth rate (DGR) with insignificance level ($p>0.05$). NIM has positive influences on profitability (ROE) and significance ($p<0.05$)**.**

## 4.5 Discussion

The relationship between interest rate spreads and the profitability of microfinance institutions (MFIs) is multifaceted and influenced by various internal and external factors. It analyzes data from various MFIs to explore the factors that influence interest rate spreads, such as interest rate spread, (IRS) net interest margin, (NIM) credit risk, (CR), size, (LnTA), capital adequacy, (CAR) and deposit growth rate, (DGR) are independent variables and return on asset (ROA) and return on equity (ROE

The correlation coefficient shows the relationship between return on asset (ROA) and interest rate spread (IRS), net interest margin (NIM), credit risk (CR), firm size (LnTA) capital adequacy ratio (CAR), deposit growth rate (DGR) are 0.279, 0.687, -0.303, -0.220, -0.297 and 0.270 respectively which are low degree positive as well as negative correlation.

It indicates the coefficients of capital adequacy ratio (CAR), deposit growth rate (DGR) and interest rate spread (IRS) have positive and less than 0.05 level they are significant and coefficient of net interest margin (NIM) is negative and less than 0.01 which is significant. And coefficient of firm size (LnTA) is negative and not significant. The correlation coefficient shows the relationship between return on equity (ROE) and interest rate spread (IRS), net interest margin (NIM), credit risk (CR), firm size (LnTA) capital adequacy ratio (CAR),deposit growth rate (DGR) are 0.319, 0.607, -0.296, -0.160, -0.610 and 0.222 respectively which are low and return on equity (ROE) is positively correlated with net interest margin (NIM) and statistically significant at 0.01 and return on equity (ROE) is positively correlated and interest rate spread (IRS) and statistically significant at 0.05 level. Return on equity (ROE) is negatively correlated firm size (LnTA) and deposit growth rate (DGR) but statistically insignificant at 0.05 and 0.01 level. Net interest margin (NIM) is negatively correlated with firm size (LnTA) and statistically significant at 0.05 level and deposit growth rate (DGR) is negatively correlated with firm size (LnTA) and statistically significant at 0.01 level. Multiple regression coefficient for ROA shows NIM ($\beta_1 = 0.534$, $P < 0.05$), CAR $\beta_2 = -0.059$, $P > 0.05$), DGR ($\beta_3 = 0.008$, $P < 0.05$), IRS ($\beta_4 = 0.005$, $P > 0.05$), LnTA ($\beta_5 = 0.190$, $P > 0.05$) and CR ($\beta_6 = -0.167$ $P < 0.05$). Multiple regression coefficient for ROE shows NIM ($\beta_1 = 4.155$, $P < 0.05$), CAR ($\beta_2 = -2.022$, $P < 0.05$), DGR ($\beta_3 = 0.044$, $P > 0.05$), IRS ($\beta_4 = 0.152$, $P > 0.05$), LnTA ($\beta_5 = 1.493$, $P > 0.05$) and CR ($\beta_6 = -1.443$ $P < 0.05$).

The correlation between return on asset (ROA) with interest rate spread (IRS) is positive and consistent with Musah et al., (2018), Acharya and Vyas (2022), Shrestha (2022), Banerjee et al., (2017) and Bhandari (2023). The correlation between return on equity (ROE) with interest margin (IRS) is positive and consistent with Musah et al., (2018), Acharya and Vyas (2022), Karki (2020), Ishaq et al., (2022) and Jui et al., (2020)

The multiple regression analysis results for return on asset (ROA) are positive with interest rate spread (IRS) and consistent with Shrestha (2022), Bhandari (2023), Acharya and Vyas (2022), Musah et al., (2018) but Ishaq et al., (2022) inconsistent and insignificant. The multiple regression analysis results for return on equity (ROE) are positive with interest

rate spread (IRS) Acharya and Vyas (2022), Karki (2020), Jui et al., (2020) Musah et al., (2018) but Ishaq et al., (2022) inconsistent and insignificant.

# CHAPTER–V
# SUMMARY AND CONCLUSION

This chapter is divided into three sections. First section deals with summary of the study in which the results of conclusions that is found in previous chapter is presented in short manner. The second section is related with the conclusion of the study in which overall decision made under the study is presented. The third section of this chapter is recommendation of the study.

## 5.1 Summary

Interest rate spread (IRS) refers to the difference between the interest income earned from loans and investments and the interest expenses paid on deposits and other borrowings by financial institutions. It is a key indicator of profitability and efficiency in financial intermediation. A positive net interest rate spread implies that a financial institution earns more interest income than it pays out in interest expenses, indicating potential profitability. Conversely, a negative spread suggests that the institution's interest expenses exceed its interest income, which can affect profitability negatively. IRS is important for assessing the financial health and performance of banks and other lending institutions, as it directly impacts their ability to generate earnings from their core lending and investment activities.

The study explores various factors influencing the profitability of banks and financial institutions, focusing on metrics such as Return on Assets (ROA), Return on Equity (ROE), interest rate spread (IRS), net interest margin (NIM), credit risk (CR), size (LnTA), capital adequacy ratio (CAR), and deposit growth rate (DGR). Key findings indicate that larger institutions, as measured by total assets (LnTA), do not necessarily achieve higher profitability, as ROA tends to decrease with asset size. Similarly, higher levels of total deposits and equity show an inverse relationship with profitability, suggesting that larger deposits and capital bases do not guarantee higher returns.

The descriptive statistics shows highest mean value and standard deviation of DGR are 41.87% and 34.81% respectively with minimum value -8.90% and maximum value 161.75%. The average value of DGR of 41.87% indicates that 41.87% of deposits are

increased from previous years. The correlation results for ROA have positive relation with IRS, NIM and DGR and negative relation with CR, LnTA and CAR. The correlation results for ROA have positive relation with IRS, NIM and DGR and negative relation with CR, LnTA and CAR. Multiple regression coefficient for ROA shows NIM ($\beta_1$ = 0.534, P < 0.05), CAR $\beta_2$ = -0.059, P> 0.05), DGR ($\beta_3$ = 0.008, P <0.05), IRS ($\beta_4$ = 0.005, P > 0.05), LnTA ($\beta_5$ = 0.190, P>0.05) and CR ($\beta_6$ = -0.167 P < 0.05). Multiple regression coefficient for ROE shows NIM ($\beta_1$ = 4.155, P < 0.05), CAR ($\beta_2$ = -2.022, P < 0.05), DGR ($\beta_3$ = 0.044, P > 0.05), IRS ($\beta_4$ = 0.152, P > 0.05), LnTA ($\beta_5$ = 1.493, P >0.05) and CR ($\beta_6$ = -1.443 P < 0.05).

## 5.2 Conclusion

Based on the findings of the study employing descriptive analytical correlation and causal comparative research design, it is evident that various financial metrics significantly impact the profitability of micro finances. Among the sampled institutions, Chhimek Lagubitta Sanstha exhibited the highest Return on Assets (ROA) at 3.29%, indicating efficient conversion of assets into net profit. Conversely, Suryodaya Lagubitta Sanstha had the lowest ROA at 2.40%, suggesting room for improvement in asset profitability. In terms of Return on Equity (ROE), Chhimek Lagubitta Sanstha again led with 29.24%, while Suryodaya Lagubitta Sanstha reported the lowest ROE at 17.93%. This disparity underscores varying levels of profitability and shareholder distribution efficiency across micro finances. Net Interest Margin (NIM) was highest for Swabalamban Lagubitta Sanstha at 8.32%, indicating effective management of interest earning assets. On the other hand, Mero Finance Lagubitta Sanstha recorded the lowest NIM at 6.82%, pointing to lower profitability from interest income. Deposit Growth Rate (DGR) varied significantly, with Suryodaya Lagubitta Sanstha leading at 75.20% and Chimek Lagubitta Sanstha at the lowest with 25.85%. This reflects differing abilities to attract customer deposits among the micro finances studied. Credit Risk (CR) and Capital Adequacy Ratio (CAR) also exhibited notable variations. Deprosc Lagubitta Sanstha had the highest credit risk at 2.78%, suggesting challenges in loan recovery, whereas Suryodaya Lagubitta Sanstha boasted the highest CAR at 14.62%, indicating robust risk absorption capabilities.

ROA is positively correlated with ROE and NIM and statistically significant at 1% level and DGR and IRS statistically significant at 5% level. Similarly, ROA is negatively correlated with CAR and CR, and statistically significant at 5% level. And negatively correlated with LnTA but statistically insignificant at 5% and 1%. Similarly, ROE is negatively correlated with CAR and statistically significant at 1% level.

ROE is positively correlated with NIM and statistically significant at 1% and ROE is positively correlated and IRS and statistically significant at 5% level. ROE is negatively correlated LnTA and DGR but statistically insignificant at 5% and 1% level. NIM is negatively correlated with LnTA and statistically significant at 5% level and DGR is negatively correlated with LnTA and statistically significant at 1% level.

The R square for ROA is 0.615, meaning 61.50% of its variation is explained by its predictors. NIM and DGR positively influence ROA significantly ($p<0.05$), while CR has a significant negative impact ($p<0.05$). CAR, IRS, and LnTA influence ROA positively but insignificantly ($p>0.05$).

The R square for ROE is 0.709, indicating that 70.90% of its variation is explained by its predictors. CAR and CR negatively influence ROE significantly ($p<0.05$), while NIM has a significant positive impact ($p<0.05$). LnTA, IRS, and DGR positively influence ROE but insignificantly ($p>0.05$).

The research utilizes secondary data from micro finance websites, the NRB website, and other web portals. Data analysis involved various financial and statistical tools, with results presented through tables and figures. Descriptive statistics, correlation analysis, and regression analysis techniques were employed to draw conclusions.

## 5.3 Implications

The findings from the study, which utilized descriptive, analytical, correlation, and causal comparative research designs, yield several key implications for microfinance institutions (MFIs), policymakers, and stakeholders in the microfinance sector.

### 1. Economic Stability

The findings reveal significant disparities in financial performance among microfinance institutions, which can have broader implications for economic stability. Chhimek Lagubitta Sanstha's high Return on Assets (ROA) and Return on Equity (ROE) suggest efficient asset utilization and profitability, which contribute positively to economic stability. Conversely, institutions with lower ROA and ROE, such as Suryodaya Lagubitta Sanstha, highlight areas where improvements in financial management could bolster overall economic stability. High Credit Risk (CR) in institutions like Deprosc Lagubitta Sanstha signals potential vulnerabilities in loan recovery, which could lead to liquidity issues and impact the broader financial system's stability. Policymakers and regulators need to ensure robust risk management practices across microfinance institutions to mitigate systemic risks.

### 2. Political Environment

The political environment can significantly influence the operational efficiency and financial health of microfinance institutions. Political stability fosters a conducive environment for economic activities, including the smooth functioning of microfinance institutions. Conversely, political instability can lead to uncertainties that negatively impact investor confidence and the financial performance of these institutions. The variation in performance metrics like Net Interest Margin (NIM) and Deposit Growth Rate (DGR) among the institutions studied might be partially attributed to differing regional political climates. Governments need to maintain political stability and provide a supportive policy framework to enhance the growth and sustainability of microfinance institutions.

### 3. Market Performance

The diverse performance indicators across microfinance institutions reflect the varying degrees of market performance and competitiveness. High performers like Swabalamban Lagubitta Sanstha with the highest NIM suggest effective interest income management, which can be a benchmark for other institutions. On the other hand, lower performers such as Mero Finance Lagubitta Sanstha highlight the need for strategies to improve interest income profitability. Market dynamics, such as competition and customer demand, also

play a critical role. Enhancing transparency and market information can help investors make informed decisions, thereby improving the overall market performance of microfinance institutions.

**4. Fund Performance**

The study underscores the importance of effective asset and equity management for enhancing fund performance. Institutions with high ROA and ROE, like Chhimek Lagubitta Sanstha, demonstrate the ability to generate significant returns on investments, attracting more funds. The positive correlation between ROA, ROE, and NIM indicates that institutions managing their interest-earning assets effectively can achieve better fund performance. Conversely, institutions with lower performance metrics need to adopt better financial strategies and risk management practices to improve their fund performance and investor returns.

**5. Investor Awareness**

Investor awareness is crucial for the sustained growth and development of microfinance institutions. The study highlights significant correlations between various financial metrics and their impacts on performance, suggesting that investors need to be well-informed about these indicators. Higher transparency in financial reporting and better communication of performance metrics can enhance investor confidence and attract more investments. Educational initiatives and dissemination of financial knowledge can empower investors to make informed decisions, leading to a more robust investment environment in the microfinance sector.

# REFERENCES


Acharya, K. R. (2022). The effect of interest rate spread on profitability of Nepalese commercial banks. *Patan Perspective Journal,* 2(2).

Addai, B., Gyimah, A. G., & Lartey, S. (2016). The determinants of net interest margin among microfinance institutions in Ghana. *Research Journal of Finance and Accounting,* 7(14).

Adhikari, S. (2015). Increased outreach in microfinance. *Journal of Financial Inclusion,* 7(3), 120-134.

Anjom, W. (2021). An empirical study on the factors affecting the interest rate spread of listed conventional commercial banks of Bangladesh. *European Journal of Business and Management Research.*

Brigham, E. F., & Ehrhardt, M. C. (2017). Financial Management: Theory & Practice (6th ed.). *Cengage Learning.*

Brue, S. L., & Grant, R. R. (2012). The evolution of economic thought (8th ed.). *South-Western Cengage Learning.*

Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2009). Microfinance meets the market. *Journal of Economic Perspectives,* 23(1), 167–92.

Dhungana, S. (2018). Regulatory and operational challenges in Nepalese microfinance. *Economic Review*, 15(1), 45-58.

Efanga, O. U., Ihemeje, J. C., Yamata, H. A., & Kayadi, B. (2020). Interest rate spread and efficacy of commercial banks' loans and advances in Nigeria. *Journal of Accounting and Finance in Emerging Economies,* 6(3).

Erik, F., & Igor, Z. H. (2020). Bank lending rates and spreads in EMDEs evolution drivers and policies. Policy Working Research Paper 9392, *Finance Competitiveness and Innovation Global Practice.*

Ghimire, B., & Upreti, T. (2017). Microfinance and disaster recovery: The Nepal earthquake case study. *Disaster Management Journal*, 9(2), 201-215.

Goble, S. (2019). Microfinance: Ten efficiency and productivity ratios and metric for microfinance.

Helms, B., & Reille, X. (2004). Interest rate ceilings and microfinance: *The story so far. CGAP Occasional Paper*, 9, 1-16.

Hermes, N., & Lensink, R. (2007). The empirics of microfinance: What do we know? *Economic Journal*, 117(517).

Hermes, N., & Lensink, R. (2011). Microfinance: Its impact, outreach, and sustainability. *World Development*, 39(6), 875-881.

International Monetary Fund. (2019). Interest rate spread.

Ishaq, M., Ali, A., & Nasiam, I. (2022). Interest rate spread and the banking sector profitability: An empirical investigation for Pakistan. *Review of Education and Administration and Law*, 5(3), 355-370.

Jui, S. N., Sakib, R. H., & Rafsan, M. A. (2020). Association between interest rate changes and profitability of commercial banks of Bangladesh. *International Journal of Science and Business*, *4*(9), 17-37.

Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies*, 23(1), 433-464.

Karki, C. B. (2020). Impact of interest rate spread on profitability in Nepalese commercial banks. Dristikon: *A Multidisciplinary Peer Reviewed Research Journal*, 10(1), 73–81.

Keynes, J. M. (1936). The general theory of employment, interest, and money. *Macmillan.*

Khanal, R. (2021). Innovation for inclusion in microfinance. *Future Finance*, 10(4), 88-97.

Kinde, B. A. (2012). Financial sustainability of microfinance institutions (MFIs) in Ethiopia. *European Journal of Business and Management*, 4(15).

Ledgerwood, J. (1999). Microfinance Handbook: An Institutional and Financial Perspective. *The World Bank.*

Lilia, E. A. (2023). Impact of interest rate fluctuation on Tunisian bank profitability. *The Journal of Economic and Financial Studies*, 16, 22-33.

López-Penabad, M.-C., Iglesias, A., & Neto, J. (2022). Effects of a negative interest rate policy in bank profitability and risk taking: Evidence from European banks. *Research in International Business and Finance*, 60, 1-20.

Modigliani, F., & Sutch, R. (1966). Innovations in interest rate policy. *American Economic Review*, 56(1/2), 178-197.

Montes, C. P., & Pérez, A. F. (2018). The impact of the interest rate level on bank profitability and balance sheet structure. *EconPapers: Revista de Estabilidad Financiera*, 35, November, 125-152.

Mor, S. (2013). Microfinance: Building bridges between economy and society. *Vista International Publishing House.*

Musah, A., Anokye, F. K., & Gakpetor, E. D. (2018). The impact of interest rate spread on bank profitability in Ghana. *European Journal of Business, Economics and Accountancy,* 6(1).

Nepal Rastra Bank. (2008). Microfinance Policy 2008. *Kathmandu: NRB.*

NRB. (2012). Directives for microfinance institutions. *Kathmandu: NRB.*

Oywoki, D. R., Muganda, M., & Ondiek, A. (2020). Market interest rate and profitability of listed commercial banks in Kenya. *International Journal of Multidisciplinary and Current Research*, 8(2), 261-271.

Pokharel, B. (2009). Institutionalization of microfinance in Nepal. *Finance and Development,* 6(2), 99-111.

Poudel, P. (2018). Impact of interest rate spread on profitability of commercial banks in Nepal. [Unpublished master's thesis]. *Patan Multiple Campus, Tribhuvan University Nepal.*

Poudyal, R. (2019). Technological integration in microfinance. *Digital Finance Review,* 8(1), 67-79.

Rana, M. S., & Mia, M. A. (2018). What affects portfolio yield of microfinance institutions? Evidence from Bangladesh. *African Journal of Science, Technology, Innovation and Development.*

Ronoh, W., Naibei, I., & Cheruiyot, P. (2021). Relationship between interest rates spread and financial performance of commercial banks in Bomet County, Kenya. *The International Journal of Recent Research in Commerce Economics and Management,* 8(3), 8-15.

Sanni, M., Kasali, R. K., & Fakunmoju, S. K. (2020). The determinants of interest rate spread: Selected deposits money banks in Nigeria. *Al-Hikmah Journal of Economics,* 1(1).

Sharma, K. (2007). The history of credit cooperatives in Nepal. *Rural Development Report*, 5(1), 34-50.

Shreshtha, P. M. (2022). Determinants of interest rate spread of Nepalese commercial banks. *Journal of Business and Social Science Research*, 7(2).

Singh, A., & Singh, R. (2014). Rural development programs in Nepal. *Agricultural Development Journal*, 12(4), 189-203.

Thapa, S. (2020). Sustainability and social impact of MFIs. *Journal of Social Entrepreneurship,* 11(2), 178-192.

Ullah, M. R. (2022). An economic analysis of interest rate spread in the commercial banks of Bangladesh. *Canadian Journal of Business and Information Studies,* 4(1), 01-11.

Windsor, C., Jokipii, T., & Bussiere, M. (2023). The impact of interest rate on bank profitability: A retrospective assessment using new cross-country bank-level data. *International Banking Research Network Contributors.*

Yadav, N. (2017). The influence of the Grameen model on Nepal's microfinance. *Microfinance Review*, 3(2), 54-69.

Yunus, M. (2003). Banker to the poor: Micro-lending and the battle against world poverty. *Journal of Microfinance,* 5(2), 123-138.

## FINANCIAL INFORMATION

## APPENDICES

### Appendix 1

*Total Assets for the Selected Micro Finances (in thousand Rs.)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 11837774 | 1543068 | 4450097 | 12524322 | 2083551 | 7628991 | 443829 |
| 2016/17 | 15340083 | 2417721 | 6056147 | 15509467 | 2686799 | 10018370 | 712265 |
| 2017/18 | 17967921 | 2983090 | 8570967 | 19549572 | 3877500 | 11711598 | 1393415 |
| 2018/19 | 22143425 | 3816871 | 12486672 | 24060301 | 5372353 | 15931443 | 1955424 |
| 2019/20 | 23615202 | 4582265 | 13566382 | 12524322 | 6956467 | 16979345 | 2405595 |
| 2020/21 | 26540523 | 6580727 | 17377960 | 15509469 | 14476108 | 18963610 | 4734511 |
| 2021/22 | 29621044 | 7962957 | 19433614 | 38255893 | 17061007 | 20624411 | 11479613 |
| 2022/23 | 27922235 | 6174531 | 21287513 | 42732042 | 14695580 | 19847216 | 11420433 |

### Appendix 2

*Net Profit after Tax for the Selected Micro Finances (in thousand Rs.)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 635091 | 62447 | 189705 | 471505 | 75458 | 323240 | 17771 |
| 2016/17 | 571543 | 107070 | 255862 | 575807 | 93618 | 264111 | 21128 |
| 2017/18 | 543172 | 87501 | 226563 | 666610 | 94598 | 343049 | 40265 |
| 2018/19 | 713596 | 109588 | 423846 | 746673 | 156808 | 424138 | 62022 |
| 2019/20 | 415667 | 65264 | 287975 | 471505 | 182166 | 319126 | 20936 |
| 2020/21 | 1188817 | 192880 | 710695 | 575807 | 443050 | 686251 | 174620 |
| 2021/22 | 750083 | 144123 | 572488 | 947222 | 370307 | 280210 | 100881 |
| 2022/23 | 169958 | 60589 | 134671 | 1025003 | 47466 | 268885 | 79737 |

### Appendix 3

*Deposit for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2014/15 | 2766431 | 192011 | 835788 | 4956720 | 101921 | 2191316 | ------- |
| 2015/16 | 4272711 | 397656 | 1163489 | 6929533 | 247882 | 2042111 | 132178 |
| 2016/17 | 6230408 | 661252 | 1673626 | 9068311 | 499553 | 4231732 | 246517 |
| 2017/18 | 8570026 | 970980 | 2410393 | 11929671 | 783791 | 5761383 | 429468 |
| 2018/19 | 11048943 | 1308516 | 3824790 | 15387326 | 1210633 | 7490411 | 618850 |
| 2019/20 | 13341628 | 1520341 | 4935167 | 18665963 | 1586049 | 9285153 | 866329 |
| 2020/21 | 15819201 | 2069058 | 6540573 | 22439376 | 2416290 | 10623003 | 1635066 |
| 2021/22 | 18182829 | 2551506 | 7970178 | 27019461 | 3419084 | 11990533 | 4279829 |
| 2022/23 | 19114293 | 2324455 | 9045565 | 30716613 | 3424775 | 12805771 | 4548406 |

**Appendix 4**

*loan and advamces for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 10106271 | 1384521 | 3929207 | 9484128 | 1320538 | 6299089 | 384379 |
| 2016/17 | 12180559 | 2187972 | 5446979 | 12382277 | 2378990 | 8065263 | 642902 |
| 2017/18 | 15222730 | 2670194 | 7754295 | 16407696 | 3356830 | 10150292 | 1216650 |
| 2018/19 | 19280871 | 3562894 | 11837152 | 19520738 | 4666810 | 14397892 | 1820242 |
| 2019/20 | 19887769 | 4242867 | 11553955 | 18923350 | 5772475 | 15147019 | 2180301 |
| 2020/21 | 23737179 | 6163660 | 15232030 | 24888658 | 13509703 | 17392565 | 4458845 |
| 2021/22 | 27168994 | 7706458 | 16178208 | 33074020 | 16358879 | 18658817 | 4279829 |
| 2022/23 | 24312643 | 5806749 | 19941317 | 32247519 | 13916645 | 18150179 | 4548406 |

**Appendix 5**

*Interest Income for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 1554729 | 200472 | 648806 | 1750494 | 237279 | 1204509 | 70520 |
| 2016/17 | 2208751 | 354312 | 891647 | 2265416 | 344502 | 1464571 | 95067 |
| 2017/18 | 2522992 | 454549 | 1148931 | 2830725 | 500255 | 1655137 | 173266 |
| 2018/19 | 3056674 | 583339 | 1671468 | 3491142 | 725656 | 2116620 | 266800 |
| 2019/20 | 3328160 | 704183 | 2091160 | 1750494 | 961074 | 2632982 | 351535 |
| 2020/21 | 3743760 | 831625 | 2163950 | 2265416 | 1450986 | 2474738 | 511884 |
| 2021/22 | 3943594 | 1094591 | 2566086 | 4968062 | 2336748 | 2961384 | 1028897 |
| 2022/23 | 3960779 | 1022042 | 2740281 | 5823173 | 2238538 | 3081961 | 1534439 |

**Appendix 6**

*Interest Expense for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 454538 | 51321 | 166268 | 703890 | 65823 | 330910 | 19099 |
| 2016/17 | 789601 | 108878 | 289758 | 1018996 | 136005 | 516742 | 34751 |
| 2017/18 | 1218751 | 215092 | 538775 | 1339387 | 261462 | 789886 | 89046 |
| 2018/19 | 1477485 | 281817 | 862778 | 1773136 | 344569 | 1037565 | 135655 |
| 2019/20 | 1668883 | 357063 | 1115320 | 703890 | 438606 | 1377775 | 180117 |
| 2020/21 | 1366690 | 323722 | 793440 | 1018996 | 549948 | 975306 | 190221 |
| 2021/22 | 1827324 | 545503 | 1188364 | 2471968 | 1245004 | 1238785 | 559377 |
| 2022/23 | 2001935 | 639024 | 1555326 | 2969125 | 1471522 | 1524333 | 964349 |

**Appendix 7**

*Net Interest Income for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 1100190 | 149151 | 482538 | 1046604 | 171455 | 873598 | 51421 |
| 2016/17 | 1419150 | 245434 | 601888 | 1246419 | 208497 | 947828 | 60315 |
| 2017/18 | 1304240 | 239457 | 610155 | 1491337 | 238793 | 865250 | 84220 |
| 2018/19 | 1579188 | 301522 | 808689 | 1718006 | 381086 | 1079055 | 131145 |
| 2019/20 | 1659276 | 347119 | 975840 | 1046604 | 522467 | 1255206 | 171417 |
| 2020/21 | 2377069 | 507902 | 1370509 | 1246419 | 901037 | 1499431 | 321663 |
| 2021/22 | 2116270 | 549088 | 1377721 | 2496093 | 1091734 | 1722599 | 469520 |
| 2022/23 | 1958844 | 383018 | 1184955 | 2854048 | 767016 | 1557628 | 570090 |

**Appendix 8**

*Equity for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 1098134 | 157727 | 546795 | 1212321 | 297965 | 889973 | 60678 |
| 2016/17 | 1478088 | 353623 | 986472 | 1515106 | 364953 | 1082337 | 103897 |
| 2017/18 | 1723732 | 379822 | 1135955 | 2718388 | 426704 | 1331359 | 141063 |
| 2018/19 | 2457011 | 458095 | 1568470 | 3614087 | 1046283 | 1814973 | 243846 |
| 2019/20 | 2948817 | 495288 | 1779126 | 1112321 | 1209033 | 2109486 | 456125 |
| 2020/21 | 3851807 | 660450 | 2431180 | 1515106 | 1616495 | 2701114 | 721058 |
| 2021/22 | 4627622 | 812853 | 3136378 | 5813608 | 1982707 | 2938164 | 1325081 |
| 2022/23 | 4691774 | 729139 | 3125040 | 6746866 | 1902284 | 3071375 | 2324718 |

**Appendix 9**

*Interest Earning Assets for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 10160084 | 1455389 | 39292207 | 9591866 | 1320538 | 6551718 | 384379 |
| 2016/17 | 12763472 | 2270840 | 54448979 | 12390477 | 2380990 | 8371196 | 643902 |
| 2017/18 | 15471920 | 2813062 | 7756295 | 16415896 | 3358830 | 10570662 | 1217650 |
| 2018/19 | 19483336 | 3607262 | 11839152 | 19660023 | 4742810 | 14865672 | 1821242 |
| 2019/20 | 20088165 | 4247235 | 11555955 | 19220442 | 6298475 | 15149019 | 2181301 |
| 2020/21 | 23941818 | 6247160 | 15234030 | 25248061 | 13878303 | 17394565 | 4459845 |
| 2021/22 | 27462504 | 7709443 | 18289963 | 33555691 | 16409472 | 18921154 | 10760440 |
| 2022/23 | 24606153 | 5809929 | 19942473 | 32779860 | 13967992 | 18150979 | 10087678 |

**Appendix 10**

*Interest Paying Assets for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 10208497 | 1332585 | 3671563 | 10716795 | 1731930 | 5203402 | 360533 |
| 2016/17 | 13068348 | 1977367 | 4745718 | 12998704 | 2230554 | 8261075 | 568449 |
| 2017/18 | 15210241 | 2475990 | 7067164 | 16362292 | 3316351 | 9606876 | 1159166 |
| 2018/19 | 18743229 | 3228776 | 10608719 | 19869028 | 4186921 | 13301709 | 1637431 |
| 2019/20 | 20286760 | 4000491 | 11456766 | 22739309 | 5530838 | 14048604 | 1840366 |
| 2020/21 | 22149734 | 5774805 | 14324634 | 28656897 | 12473023 | 15190686 | 3764256 |
| 2021/22 | 24472168 | 7007046 | 15931325 | 31792587 | 13810615 | 11990533 | 9986241 |
| 2022/23 | 23061014 | 5349748 | 17904916 | 35270511 | 12029882 | 12805771 | 8893564 |

**Appendix 11**

*Loan Loss Provisions for the Selected Micro Finances (in thousand Rs)*

| B/y | NUBLS | LLBS | DLBS | CLBS | MLBS | SLBS | SWLBS |
|---|---|---|---|---|---|---|---|
| 2015/16 | 41616 | 9428 | 79698 | 46105 | 5778 | 15793 | 8422 |
| 2016/17 | 23188 | 11552 | 86063 | 62416 | 6388 | 22991 | 6516 |
| 2017/18 | 81398 | 16132 | 110258 | 65488 | 3821 | 51519 | 7488 |
| 2018/19 | 129436 | 25273 | 321456 | 63899 | 22637 | 53113 | 7079 |
| 2019/20 | 544676 | 111025 | 1325720 | 283181 | 19560 | 399448 | 57018 |
| 2020/21 | 163673 | 64858 | 237399 | 60290 | 65956 | 88954 | 48289 |
| 2021/22 | 246297 | 59802 | -5363 | 216831 | 79823 | 739180 | 45333 |
| 2022/23 | 875980 | 131836 | 297972 | 405242 | 125420 | 352709 | 23418 |

**Appendix 12**

*Financial Ratios of NUBLS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 5.36 | 57.83 | 9.29 | 10.85 | 16.29 | 0.41 | 54.45 | 9.28 |
| 2016/17 | 3.73 | 38.67 | 9.25 | 11.27 | 16.55 | 0.19 | 45.82 | 9.64 |
| 2017/18 | 3.02 | 31.51 | 7.26 | 8.3 | 16.7 | 0.53 | 37.55 | 9.59 |
| 2018/19 | 3.22 | 29.04 | 7.13 | 7.81 | 16.91 | 0.67 | 28.93 | 11.1 |
| 2019/20 | 1.76 | 14.1 | 7.03 | 8.34 | 16.98 | 2.74 | 20.75 | 12.49 |
| 2020/21 | 4.48 | 30.86 | 8.96 | 9.47 | 17.09 | 0.69 | 18.57 | 14.51 |
| 2021/22 | 2.53 | 16.21 | 7.14 | 6.89 | 17.2 | 0.91 | 14.94 | 15.62 |
| 2022/23 | 0.61 | 3.62 | 7.02 | 7.42 | 17.14 | 3.6 | 5.12 | 16.8 |

## Appendix 13

*Financial Ratios of LLBS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 4.05 | 39.59 | 9.67 | 9.92 | 14.25 | 0.68 | 107.10 | 10.22 |
| 2016/17 | 4.43 | 30.28 | 10.15 | 10.09 | 14.70 | 0.53 | 66.29 | 14.63 |
| 2017/18 | 2.93 | 23.04 | 8.03 | 7.47 | 14.91 | 0.60 | 46.84 | 12.73 |
| 2018/19 | 2.87 | 23.92 | 7.90 | 7.44 | 15.15 | 0.71 | 34.76 | 12.00 |
| 2019/20 | 1.42 | 13.18 | 7.58 | 7.65 | 15.34 | 2.62 | 16.19 | 10.81 |
| 2020/21 | 2.93 | 29.20 | 7.72 | 7.70 | 15.70 | 1.05 | 36.09 | 10.04 |
| 2021/22 | 1.81 | 17.73 | 6.90 | 6.41 | 15.89 | 0.78 | 23.32 | 10.21 |
| 2022/23 | 0.98 | 8.31 | 6.20 | 5.65 | 15.64 | 2.27 | -8.90 | 11.81 |

## Appendix 14

*Financial Ratios of DLBS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 4.26 | 34.69 | 9.29 | -2.88 | 15.31 | 2.03 | 39.21 | 12.29 |
| 2016/17 | 4.22 | 25.94 | 10.76 | -4.47 | 15.62 | 1.58 | 43.85 | 16.29 |
| 2017/18 | 2.64 | 19.94 | 10.84 | 7.19 | 15.96 | 1.42 | 44.02 | 13.25 |
| 2018/19 | 3.39 | 27.02 | 9.94 | 5.99 | 16.34 | 2.72 | 58.68 | 12.56 |
| 2019/20 | 2.12 | 16.19 | 7.12 | 8.36 | 16.42 | 11.47 | 29.03 | 13.11 |
| 2020/21 | 4.09 | 29.23 | 6.48 | 8.66 | 16.67 | 1.56 | 32.53 | 13.99 |
| 2021/22 | 2.95 | 18.25 | 7.19 | 6.57 | 16.78 | -0.03 | 21.86 | 16.14 |
| 2022/23 | 0.63 | 4.31 | 7.89 | 5.05 | 16.87 | 1.49 | 13.49 | 14.68 |

## Appendix 15

*Financial Ratios of CLBS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 3.76 | 38.89 | 6.58 | 11.68 | 16.34 | 0.49 | 39.80 | 9.68 |
| 2016/17 | 3.71 | 38.00 | 7.80 | 10.44 | 16.56 | 0.50 | 30.86 | 9.77 |
| 2017/18 | 3.41 | 24.52 | 8.36 | 9.05 | 16.79 | 0.40 | 31.55 | 13.91 |
| 2018/19 | 3.10 | 20.66 | 8.04 | 8.84 | 17.00 | 0.33 | 28.98 | 15.02 |
| 2019/20 | 3.76 | 42.39 | 7.63 | 6.01 | 16.34 | 1.50 | 21.31 | 8.88 |
| 2020/21 | 3.71 | 38.00 | 7.14 | 5.41 | 16.56 | 0.24 | 20.22 | 9.77 |
| 2021/22 | 2.48 | 16.29 | 8.36 | 7.03 | 17.46 | 0.66 | 20.41 | 15.20 |
| 2022/23 | 2.40 | 15.19 | 8.04 | 9.34 | 17.57 | 1.26 | 13.68 | 15.79 |

## Appendix 16

*Financial Ratios of MBLS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 3.62 | 25.32 | 13.76 | 3.50 | 14.55 | 0.44 | 143.2 | 14.30 |
| 2016/17 | 3.48 | 25.65 | 11.99 | 8.28 | 14.80 | 0.27 | 101.5 | 13.58 |
| 2017/18 | 2.44 | 22.17 | 8.23 | 14.17 | 15.17 | 0.11 | 56.9 | 11.00 |
| 2018/19 | 2.92 | 14.99 | 7.76 | 8.37 | 15.50 | 0.49 | 54.5 | 19.48 |
| 2019/20 | 2.62 | 15.07 | 6.16 | 7.01 | 15.76 | 0.34 | 31.0 | 17.38 |
| 2020/21 | 3.06 | 27.41 | 7.09 | 7.07 | 16.49 | 0.49 | 52.3 | 11.17 |
| 2021/22 | 2.17 | 18.68 | 7.51 | 7.33 | 16.65 | 0.49 | 41.5 | 11.62 |
| 2022/23 | 0.32 | 2.50 | 6.22 | 6.05 | 16.50 | 0.90 | 0.2 | 12.94 |

## Appendix 17

*Financial Ratios of SBLS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 4.24 | 36.32 | 11.47 | 12.02 | 15.85 | 0.25 | -6.81 | 11.67 |
| 2016/17 | 2.64 | 24.40 | 12.25 | 11.24 | 16.12 | 0.29 | 107.22 | 10.80 |
| 2017/18 | 2.93 | 25.77 | 11.45 | 7.44 | 16.28 | 0.51 | 36.15 | 11.37 |
| 2018/19 | 2.66 | 23.37 | 9.46 | 6.44 | 16.58 | 0.37 | 30.01 | 11.39 |
| 2019/20 | 1.88 | 15.13 | 7.39 | 7.57 | 16.65 | 2.64 | 23.96 | 12.42 |
| 2020/21 | 3.62 | 25.41 | 6.77 | 7.81 | 16.76 | 0.51 | 14.41 | 14.24 |
| 2021/22 | 1.36 | 9.54 | 7.39 | 5.32 | 16.84 | 3.96 | 12.87 | 14.25 |
| 2022/23 | 1.35 | 8.75 | 7.91 | 5.08 | 16.80 | 1.94 | 6.80 | 15.48 |

## Appendix 18

*Financial Ratios of SWLBS Limited*

| Ratio/year | ROA | ROE | NIM | IRS | LnTA | CR | DGR | CAR |
|---|---|---|---|---|---|---|---|---|
| 2015/16 | 4.00 | 29.29 | 3.12 | 13.05 | 13.00 | 2.19 | 100.00 | 13.67 |
| 2016/17 | 2.97 | 20.34 | 6.24 | 8.65 | 13.48 | 1.01 | 86.50 | 14.59 |
| 2017/18 | 2.89 | 28.54 | 8.06 | 6.55 | 14.15 | 0.62 | 74.21 | 10.12 |
| 2018/19 | 3.17 | 25.43 | 9.27 | 6.37 | 14.49 | 0.39 | 44.10 | 12.47 |
| 2019/20 | 0.87 | 4.59 | 5.90 | 6.33 | 14.69 | 2.62 | 39.99 | 18.96 |
| 2020/21 | 3.69 | 24.22 | 6.17 | 6.43 | 15.37 | 1.08 | 88.73 | 15.23 |
| 2021/22 | 0.88 | 7.61 | 5.14 | 3.96 | 16.26 | 1.06 | 161.75 | 11.54 |
| 2022/23 | 0.70 | 3.43 | 6.93 | 4.37 | 16.25 | 0.51 | 6.28 | 20.36 |

# THE IMPACT OF INTEREST RATE SPREAD ON PROFITABI...

**By: Mamta Khadka**

As of: Aug 9, 2024 11:27:12 AM
22,463 words - 36 matches - 6 sources

**Similarity Index**

**6%**

Mode: Summary Report

**sources:**

379 words / 2% - Internet from 19-Jun-2021 12:00AM
www.nepjol.info

343 words / 1% - Internet from 15-Jan-2015 12:00AM
en.m.wikipedia.org

229 words / 1% - Internet from 04-Mar-2023 12:00AM
www.researchgate.net

186 words / 1% - from 11-Jul-2023 12:00AM
www.balkumaricollege.edu.np

123 words / 1% - Internet from 24-Jun-2011 12:00AM
ep3.uum.edu.my

123 words / 1% - Internet from 17-Jan-2023 12:00AM
finmanep.blogspot.com

**paper text:**

ABSTRACT

**This study examines the relationship between interest rate spreads** and profitability **in**

microfinance institutions (MFIs). It analyzes data from various MFIs to explore the factors that influence interest rate spreads, such as interest rate spread, (IRS) net interest margin, (NIM) credit risk (CR), size (LnTA), capital adequacy (CAR) and deposit growth rate (DGR) are independent variables and return on asset (ROA) and return on equity (ROE). NIM and DGR positively influence ROA significantly ($p<0.05$), while CR has a significant negative impact ($p<0.05$). CAR, IRS, and LnTA influence ROA positively but insignificantly ($p>0.05$). CAR and CR negatively influence ROE significantly ($p<0.05$), while NIM has a significant positive impact ($p<0.05$). LnTA, IRS, and DGR positively influence ROE but insignificantly ($p>0.05$). The findings suggest that higher interest rate spreads initially increase profitability, but can lead to diminishing returns due to higher default rates and customer attrition. On the other hand, lower spreads may improve customer retention but could compromise financial viability if not managed effectively. The study emphasizes the importance of balancing interest rate policies to optimize profitability while also promoting financial inclusion and customer satisfaction. The research provides valuable insights for policymakers and practitioners seeking to enhance the sustainability and impact of MFI Key Words: Interest rate spread, (IRS) Net interest margin, (NIM) Credit risk (CR), Size (LnTA), Capital adequacy (CAR), Deposit growth rate (DGR), Return on asset (ROA) and Return on equity (ROE). CHAPTER-I INTRODUCTION 1.1