LIQUIDITY RISK AND ITS DETERMINANTS IN MICROFINANCE INSTITUTIONS

A Dissertation submitted to the Office of the Dean, Faculty of Management, in partial fulfilment of the requirements for the Degree of Masters of Business Studies

by

Rashmila Maharjan

Campus Roll No: 131/074

Exam Symbol No: 6033/18

TU Registration No: 7-2-39-403-2013

Kathmandu

July, 2024

CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**LIQUIDITY RISK AND ITS DETERMINANTS IN MICROFINANCE INSTITUTIONS**" The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

.....

Rashmila Maharjan

REPORT OF RESEARCH COMMITTEE

Ms. Rashmila Maharjan has defended research proposal entitled **"Liquidity Risk and its Determinants in Microfinance Institutions"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidance of supervisor Dr. Pitri Raj Adhikari and submits the thesis for evaluation and viva voce examination.

Dr. Pitri Raj Adhikari
Dissertation Supervisor
Signature: ……..

Dissertation Proposal Defined Date:

…….

Dissertation Submitted Date:

…….

Asso. Prof. Dr. Sajeeb Kumar Shrestha
Head of Research Department
Signature: ……..

Dissertation Viva Voce Date:

…….

APPROVAL SHEET

We, the undersigned, have examined the dissertation **"Liquidity Risk and its Determinants in Microfinance Institutions"** presented Ms. Rashmila Maharjan candidate 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 worthy of acceptance.

……..
Dr. Pitri Raj Adhikari
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

ACKNOWLEDGEMENTS

The dissertation entitled "LIQUIDITY RISK AND ITS DETERMINANTS IN MICROFINANCE INSTITUTIONS" has been prepared in partial fulfilment for the degree of master of business studied (MBS) under the Faculty of Management, Tribhuvan University, in based on research models involving the quantitative aspect of bank profitability analysis.

I have great satisfaction and pleasure to express my appreciation and sincerity to my dissertation supervisors Dr. Pitri Raj Adhikari, Lecturer of Shanker Dev Campus TU for his excellent and effective guidance and supervision. I will remain thankful for their valuable direction useful suggestion and comments during the course of preparing this dissertation without his help this work would not have come in this form.

Furthermore, I am thankful to all the administrative and library team of Shanker Dev Campus. I would also like to express my thankfulness to my friends, my family members as well as all known people who supported as well as inspired me directly or indirectly to complete this thesis.

Rashmila Maharjan

Researcher

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

ABBREVIATIONS

AD	:	Anno Domini
AIC	:	Akaike information criterion
ATM	:	Automated Tailor Machine
BS	:	Bikram Sambat
DER	:	Debt to Equity Ratio
e.g.	:	Example
F/Y	:	Fiscal Year
i.e.	:	That is
LDR	:	Loan to Deposit Ratio
Ltd	:	Limited
MBS	:	Master of Business Studies
ROA	:	Return on Assets
ROE	:	Return on Equity
SC	:	Schwarz criterion
SD	:	Standard Deviation
SEM	:	Structural Equation Modelling

ABSTRACTS

The purpose of this study was to evaluate the bank's exposure to liquidity risk in the context of Nepal and to pinpoint the key factors influencing the bank's liquidity risks there. The demographic and sample, data source, and data analysis techniques are all covered under the research design. Five microfinance organizations are selected as a sample from the entire financial system; the analysis primarily uses secondary data. Research methodology provides a framework for methodically resolving research quandaries in order to achieve the study's main goal. It includes a succinct description of the study design, the types and sources of data, the procedure for gathering data, and the methodology of the instruments used to analyze the data. This study uses secondary data and a combination of casual and descriptive comparative research designs. Secondary data is gathered from the associated annual reports, periodicals, and other publications of the banks, as well as from the Nepal Stock Exchange, Nepal Rastra Bank, and other relevant magazines. The project spans ten years, with data collected from 2013/14 to 2022/23. Numerous statistical and financial methods, such as regression, correlation, standard deviation, average (mean), and others, have been utilized for mathematical analysis. In a similar manner, calculations have been done using Word, Excel, SPSS, and spreadsheets. The analysis's conclusions indicate that there is no meaningful correlation between GDP and the Capital Adequacy Ratio (CAR) and the Liquid Assets to Total Assets Ratio (LATA). On the other hand, there are somewhat negative correlations between LATA and both inflation (IN) and non-performing loans (NPL). Furthermore, there is a marginally positive correlation found between LATA and Return on Equity (ROE), suggesting that an increase in the Liquid Assets to Total Assets Ratio will lead to a minor improvement in ROE. The investigation yields some significant results about the factors influencing the liquidity of microfinance enterprises in Nepal. First, the correlation study shows how important it is to handle non-performing loans (NPL).

Key words: *Liquid Assets to Total Assets Ratio, Capital Adequacy, Non-performing loan , Return on Equity, Inflation Rate, GDP*

CHAPTER I

INTRODUCTION

1.1 Background of the study

One of the largest global economic catastrophes, the global financial crisis of 2007–2008 caused the banking and financial industry to express serious concerns about their liquidity risk (Winoto & Bustaman, 2020). A substantial liquidity mismatch was revealed, non-performing loans rose, and public trust in the banking and financial sector was negatively impacted by this economic crisis. Due to their negligence in managing their liquidity prudently, numerous banks and financial institutions encountered liquidity issues throughout the crisis (Ndlovu, 2014). The importance of liquidity to the smooth operation of the banking and financial sectors was highlighted by the global financial crisis (Vazquez & Federico, 2015). Asset markets were upbeat before the crisis, and financing was widely accessible and reasonably priced (Boyson et al., 2011). The abrupt change in market circumstances demonstrated how quickly liquidity may evaporate and how illiquidity can affect the world economy long-term, even if it only lasts temporarily (Liu et al., 2024).

Many economists believed that the global financial crisis predated the COVID-19 recession to be the worst financial crisis since the 1930s Great Depression (Reinhart & Reinhart, 2020). Increased loan-to-deposit ratios and a sharp rise in non-performing loans were the main causes of liquidity risk issues during these worldwide financial crises (Winoto & Bustaman, 2020). Similar to this, the COVID-19 recession may have caused the banking and financial industry to face some liquidity risk because of a rise in credit risk defaults, a decline in recoveries because of a stagnant market for collateral, a decrease in cash inflows from loan repayments, a rise in fair value losses because of an increase in credit spread, a decrease in profit margin, capital depletion, and a decline in the capital adequacy ratio (Mustafa, 2020). As a result, it is critical to address the liquidity issue and consider any internal and external influences that may be present (Krisnandi et al., 2024). Previous research indicates that the primary cause of financial institution failure is a reduction in bank liquidity both before and during the crisis. According to research, financial institutions' average liquidity might drop by 7% during a crisis (Boyson et al., 2011). Furthermore, because of the low level of market liquidity, financial institutions tend to keep more cash and appear less willing

to lend when a crisis is likely to occur. They thereby illustrated the link between the production of liquidity and financial crises. Simultaneously, a different study clarified that insufficient liquidity occurs when banks struggle to liquidate their holdings or turn them into cash without suffering a loss from the assets' depreciation. Financial institutions are compelled to liquidate their assets and investments at a discount if they do not have enough fast-selling liquid assets on hand to cover these unforeseen significant withdrawals. Furthermore, an illiquid financial system may limit the amount of loans that are made to consumers and businesses, which may impede economic development (Ndlovu, 2014). As a result, the economy will develop less quickly and some businesses will be forced to close. This will have an impact on the unemployment rate, the amount of non-performing loans, and consumer spending (Umam & Yusuf, 2024).

Financial institutions such as banks act as middlemen in the economy by directing financial resources from units of excess production to units of deficiency production (Madhuwanthi & Morawakage, 2019). By accepting short-term deposits and providing loans for long-term risk, they help the economy's saving and capital formation. According to Singh and Sharma (2016), liquidity is the bank's capacity to finance asset growth and pay bills on time without suffering intolerable losses. Therefore, banks play a crucial role in the maturity transformation of short-term deposits into long-term loans, which gives rise to liquidity risk (Vazquez & Federico, 2015). It is a well-known truth that all businesses, including banks, are subject to liquidity risk, as demonstrated by the mismatched loan and deposit maturities that they offer. Consequently, in order to maximize profits and fulfill their obligations, banks need to maintain the ideal amount of liquidity (Louhichi et al., 2024).

In conclusion, the financial sector of Nepal depends heavily on the questions of liquidity risk factors and their effects on financial performance. Moreover, it is still challenging to gauge the duration and intensity of the COVID-19 pandemic. The regulators' actions are intended to be stopgap fixes. While authorities work tirelessly to keep the banking and financial industry liquid, individual institutions should also be ready for any shifts and turns that are anticipated in the wake of the crisis. Therefore, the financial institutions must be able to sustain their liquidity position in order to perform well in the market. This study focuses primarily on the concerns and

factors of liquidity risk in financial management. Consequently, the purpose of this article is to discuss the variables influencing the liquidity risk of Nepali microfinance firms.

1.2 Problem statement

For banks and microfinance firms to be stable both operationally and financially, they need to have adequate liquidity. This fluidity is affected by a number of factors, each of which has a varied impact depending on the study and setting. Diep and Nguyen (2017) discovered a positive and substantial association between the Capital Adequacy Ratio (CAR) and liquidity, indicating that banks with higher CAR values are likely to retain better levels of liquidity. Liquidity is significantly at risk from non-performing loans (NPLs), on the other hand. NPLs, which are defined as loans that are past due by more than 90 days, put a pressure on banks' income statements and financial statements because they require provisioning for possible losses, as noted by Kumar and Tripathi (2012). This credit risk translates into a liquidity risk that might seriously impair banks' ability to conduct business.

Although research on profitability and bank liquidity has yielded conflicting results, profitability is still a significant factor. While some research, like that of Singh and Sharma (2016), indicates that profitability increases liquidity, other research, like that of Winoto and Bustaman (2020), suggests that profitability may actually result in less liquid asset holdings. There is also contradictory data on the economic growth rate's effect on bank liquidity. Mustafa (2020) contends that there is a positive association, however Chen and Phuong (2014) find a negative one. Another level of complication is added by inflation, which has different effects on liquidity depending on the study. Reduced liquidity is a result of increased loan demand and inflation, according to Trenca et al. (2015) and Bhati et al. (2012). El-Chaarani (2019) and Singh et al. (2016), on the other hand, discovered a potential correlation between growing inflation and greater liquidity.

The purpose of this study is to shed light on the variables influencing the liquidity of microfinance institutions. Due to their essential role in the maturity transformation of short-term deposits into long-term loans, banks are intrinsically exposed to liquidity risk, which can impact the economy as well as unique to their institutions. Both the capital and the earnings of the bank might be negatively impacted by liquidity risk.

Therefore, ensuring that there are enough funds available to meet future requests from providers and borrowers at acceptable costs is the bank's management's main priority. Although liquidity risk is a major worry in the conventional banking literature, the banking industry's research community hasn't given it much attention thus far. The entire economy is at risk from the liquidity issue in addition to the banking sector (Singh & Sharma, 2016).

This study attempts to elucidate the relationships between bank liquidity and key influencing factors—Capital Adequacy Ratio, non-performing loans, profitability, economic growth rate, and inflation—in light of these varied and occasionally contradicting findings. Policymakers and financial institutions must comprehend these processes in order to manage liquidity risks and guarantee financial stability. The performance of the banking industry has a significant impact on the public's trust in the country's economy. By addressing the following research questions, this study compares data from the chosen microfinance organizations and ascertains the elements influencing their liquidity:

i. How are the liquidity risk variables doing in Nepali microfinance firms?

ii. Is there a connection between the total assets of Nepali microfinance enterprises and liquidity risk factors?

iii. How does liquidity risk affect the proportion of liquid assets to total assets held by Nepalese microfinance companies?

1.3 Objectives of the study

This study's primary goal is to examine how liquidity risk affects the proportion of liquid assets to total assets held by Nepali microfinance firms. Thus, in order to examine the factors influencing the liquidity of microfinance companies, the following goals are taken into consideration:

i. To evaluate the state of liquidity risk variables in Nepali microfinance firms.

ii. To investigate how liquidity risk indicators and liquid assets compare to the overall assets of Nepalese microfinance firms.

iii. To assess how liquidity risk affects the proportion of liquid assets to total assets held by Nepalese microfinance firms.

1.4 Hypothesis of the study

The following hypothesis are tested in this study:

According to Diep and Nguyen (2017), there is a positive and significant correlation between the Capital Adequacy Ratio (CAR) and the liquidity of microfinance institutions. Specifically, a bank that has a higher CAR is generally more liquid. Based on this discovery, the subsequent conjecture has emerged:

H1: Liquidity risk and capital adequacy have a substantial relationship.

Winoto and Bustaman (2020) claim that because NPL requires provisions for loan losses, they damage banks' balance sheets and have a detrimental effect on their earnings. The primary source of liquidity risk, which leaves banks without the money to operate, is non-performing loans (NPLs). Based on this discovery, the subsequent conjecture has emerged:

H2: Liquidity risk and non-performing loans are significantly correlated.

According to a Mustafa (2020) study done in Central America, bank profitability has a negative relationship with liquidity. Based on the aforementioned data, the following theory has been formed:

H3: Liquidity risk and profitability have a substantial link.

A 2008 study by Delechat et al. (2012) found a positive correlation between the Economic Growth Rate and banks' liquidity; however, a subsequent analysis by Chen and Phuong (2014) found a negative correlation. These results have led to the development of the following hypothesis:

H4: Liquidity risk and gross domestic product have a substantial link.

Bank liquidity will drop as a result of an increase in loan demand (Trenca et al., 2015). Furthermore, increased rates of inflation worsen macroeconomic circumstances generally and reduce liquidity (Chaudhary & Sapkota, 2023). Based on the aforementioned data, the following theory has been formed:

H5: Liquidity risk and inflation have a substantial relationship.

1.5 Rationale of the study

In order to fill in the aforementioned gaps, this research will add significantly to the body of knowledge by conducting a thorough investigation and analysis of the factors influencing the liquidity risk of microfinance institutions in Nepal. The significance of the study will be multifaceted and can be categorized under four main topics. First and foremost, the study will be useful in educating shareholders on the liquidity of the financial institutions in which they have made investments, as well as related aspects. Furthermore, the performance of the bank is of interest to external parties such as customers, lending agencies, stock exchanges, stock traders, students, etc. Customers and investors can find out which microfinance institutions to visit and what aspects to take into consideration with the help of the liquidity information. Lastly, the study aims to give policymakers knowledge and insights on how to create macroeconomic policies that will increase bank liquidity. In particular, the study may assist bank managers in better understanding which internal factors have a positive or negative impact on a bank's liquidity levels.

1.6 Limitations of the study

The limitations of the study are as follows:

- The study's period is limited to fiscal years 2013/14 to 2022/23.
- The analysis is based on only five microfinance institutions, which may not represent the entire microfinance sector in Nepal.
- The study's accuracy is contingent on the reliability and completeness of the available data from the selected institutions.
- The study focuses exclusively on microfinance institutions in Nepal, limiting the generalizability of the findings to other regions or countries.
- The study has conducted with secondary data from five microfinance institutions according to the highest capital investment.
- The study period may not account for long-term economic trends or sudden changes in the economy (e.g., natural disasters, political instability

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

This chapter includes reviews of several publications, books, research papers, journals, and earlier theses that are relevant to the subject of the study. To gain a comprehensive understanding of the influence of liquidity risk on the financial performance of Nepalese development banks and their relevance in other parts of the world, a review of various publications, research projects, journals, and books is offered. This chapter aids in reviewing the hypotheses and earlier research conducted by numerous researchers throughout the globe. A literature review is essentially a stocktake of the body of knowledge that is out there. Finding out what principles have been established, what research projects have been done in the field, and what needs to be done is the goal of a literature review.

This chapter has three topics, they are:

1. Conceptual review
2. Theoretical Review
3. Empirical review
4. Research Gap

2.2 Conceptual review

Liquidity

The total amount of liquidity includes cash on hand, bank accounts with Nepal Rastra Bank and other banks and financial institutions, call money, and Treasury bill investments. Santomero (1997) defined liquidity risk as the possibility of a funding crisis, which may include an unforeseen incident such as a significant charge-off, a loss of confidence, or a crisis of national significance as the existence crisis. Here, portfolio structure and liquidity facilities are the main areas of risk management. Understanding liquidity risk helps banks see liquidity as an asset in and of itself, as well as a challenge when designing portfolios when illiquidity is an issue. According to Drehmann and Nikolaou (2009), liquidity risk is the chance that a bank won't be able to meet its financial commitments immediately over a given period of time. It is

a risk brought on by a financial institution's incapacity to pay its debts on time and avoid suffering intolerable losses. Since this risk has the potential to negatively impact capital and profitability, a bank's management must make sure that there are enough funds available at affordable costs to meet future demands from both providers and borrowers. Funding risk and market risk define how vulnerable banks are to liquidity risk. As part of the enterprise-wide risk management process, liquidity risk must be dynamically managed and credit risk taken into consideration to maintain balance sheet stability. The reputation of banks is impacted by liquidity risk in addition to their performance (Jenkinson, 2008).

According to Anyanwu (1993), liquidity is a company's capacity to quickly and without suffering a loss of value transform its assets into cash. Since banks often run on sizable sums of money borrowed from depositors in the form of time and demand deposits, liquidity ratio is crucial to any organization. Liquidity, according to (Olagunju et al., 2012), is a bank's constant capacity to meet financial obligations at a fair cost. When banks need to meet their clients' withdrawal requests, they have money.

According to Nimer (2013), marketable securities should be liquid assets. Assets are considered liquid if they can be quickly turned into cash to cover obligations. Price stability is another characteristic of liquid assets. The feature states that because bank deposits and short-term securities have fixed prices compared to short-term securities, they are more liquid than equity investments.

Given the significance of banks to the financial system, we are worried about bank liquidity levels. If there aren't adequate safety margins, they are naturally sensitive. We have previously seen the severe harm that a crisis-induced credit freeze can do to an economy. Perhaps the most important safety net is capital. This is so that it can sustain the resources needed to recover from significant losses of any kind.

The most common reason for a bank to fail is usually a liquidity problem that prevents it from surviving a traditional "bank run" or, more recently, a contemporary version such as an incapacity to approach the debt markets for additional funding. Because a bank's liabilities have short maturities and its assets are illiquid, it is entirely conceivable for the bank to fail even though the economic value of its assets is greater than enough to cover all of its demands.

Deposits are seen as sticky. Demand deposits have the potential to be completely withdrawn in a single day, but during regular business hours, their average balances exhibit remarkably stable values. As a result, banks are able to accept the funds for longer periods of time while maintaining a reasonable level of security regarding the availability of the deposits or the ability to obtain equal deposits from other sources in accordance with demand, all while increasing deposit rates.

Liquidity risk

Maturity mismatches, in which liabilities have a shorter duration than assets, give rise to liquidity risk. Shortages of cash or liquid marketable assets may result from an abrupt increase in the borrower's needs above the anticipated level (Oldfield & Santamero, 1997). A banking institution's liquidity issue may cause bank runs and insolvency. As a result, one of the most crucial elements of banks' asset and liability management is reducing the liquidity risk. Mitigating the effect of the maturity mismatch on the banks' statement of financial condition is the main goal of liquidity risk management. To do this, one must comprehend how cash flows move throughout an organization, measure emerging liquidity pressures to determine the presence and location of cash flow strains, and take corrective action to stop these pressures from getting worse. One of the fundamental issues facing bank management is how much liquidity a development bank or development banking system should be able to maintain. Maintaining excessive liquidity indicates that the bank and the financial system are losing out on revenue. However, too little can be disastrous for a bank as well as the nation's economy, the country's financial system, and the developing banking system as a whole. The demands of depositors in the form of bank "runs" and insufficient liquidity are incompatible, much like oil and water (Reed, 2002).

Santomero (1997) defined liquidity risk as the possibility of a funding crisis, which may include an unforeseen incident such as a significant charge-off, a loss of confidence, or a crisis of national significance as the existence crisis. Here, portfolio structure and liquidity facilities are the main areas of risk management. Understanding liquidity risk helps banks see liquidity as an asset in and of itself, as well as a challenge when designing portfolios when illiquidity is an issue. By definition, a bank is said to be liquid if it has sufficient funds to offer loans and can satisfy its depositors' payment commitments. Liquidity risk, then, is the chance that a bank won't have enough cash on hand to cover its regular expenses. A bank must

have enough liquidity on hand to pay its obligations to other banks and financial institutions; otherwise, the bank's reputation and the price of its bonds on the money market could suffer greatly. A bank run, in which depositors rush to withdraw their money from a bank, can occasionally result from liquidity risk, exacerbating the problem. The state and portion of assets that can be utilized to satisfy obligations in development banks is known as liquidity. Both the liquidity seen on the balance sheet and the liquidity made possible by funds that have been purchased can be used to define liquidity.

Types of Liquidity Risks can be listed as:

i Market liquidity: The possibility that an asset won't be able to be sold because of a lack of market liquidity. This can be addressed by extending the holding duration for VaR computations, making explicit liquidity buffers, and widening the bid/offer gap.

ii Funding liquidity: The risk that obligations will not be paid when they are due, will only be paid at a price that is not reasonable, and may be systemic or name-specific.

Liquidity risk management

For all financial institutions, liquidity risk management is a crucial part of the financial services industry's overall risk management framework. A well-defined system for the identification, assessment, monitoring, and mitigation of liquidity risk should ideally be present in a well-managed bank. In order to prevent losses, a well-established system aids banks in quickly identifying the sources of liquidity risk. The management of liquidity risk has become increasingly difficult as bank balance sheets become more complicated and reliant on the capital markets. According to the Comptroller of the Currency (2001), liquidity risk is the possible loss banks may experience if they are unable to fund asset increases on time or fulfill their obligations without suffering unacceptably high expenses or losses.

Any organization's capacity to satisfy its commitments as they become due, both short- and long-term, and seize opportunities—such as paying debts on time to take advantage of discounts and finance corporate expansion—is essential to its existence. It is crucial to note that profitability does not always equate to liquidity. As a result, a successful cash management strategy requires a rigorous examination of the company's inflow and predicted outflow within an accounting period (Reed, 2002).

Administrators must determine the amount of cash best suited to their level of activity, schedule pertinent payments and collections, and develop a policy of investing in high-liquidity assets that can be converted to cash at a low transaction cost to support the company's treasury funds in order to prevent breaks or gaps in the trading cycle caused by a lack of cash (Srinivasan & Kim, 1986). Determining the appropriate ratio of liquid assets to short-term investments is consequently crucial for businesses. Incorrect cash or cash equivalent holdings have the potential to disrupt regular corporate operations. Furthermore, choosing the incorrect safety margin might put businesses in financial jeopardy by making it impossible for them to meet demands that could materialize at any time or to seize unforeseen investment possibilities. Thus, keeping cash on hand provides several benefits. It helps businesses to prevent treasury gaps and continue with regular transactions that come up throughout business operations. By serving as a precautionary balance, it also assists them in meeting any unforeseen financial needs. But being overly cautious can also have drawbacks, as evidenced by the opportunity costs associated with holding assets that are either unprofitable or very profitable (Reed, 2002).

Nevertheless, these authors discover and specify more sophisticated methods, tools, and functions that they also incorporate into treasury administration, using fundamental treasury concepts as a guide. They bring up advanced cash management, which is thought to cover bank connections, short-term borrowing, and the administration of investments. As a result, even while they emphasize the importance of treasury management, they also examine and outline more sophisticated tools and management strategies that are associated with cash management. Here, "optimal balance" refers to a situation in which the cash balance is at the optimal ratio, allowing the business to invest extra cash for a profit while also maintaining enough liquidity to meet future demands (Reed, 2002). The goal of this study was to reduce the opportunity cost of retaining cash balances as well as the total fixed costs of transactions. When opportunity cost and transaction cost are equal and the cost of retaining the cash is as low as it can be, you have the ideal cash balance (Bessis, 2011).

Indicators of bank’s liquidity risk

It is preferable to first determine the widely used indicators of a bank's liquidity risk before calculating the influence of the determinant on the microfinance organizations'

commercial liquidity risk. Aspachs et al. (2005) state that banks have access to a number of tools that can help them protect themselves from liquidity shocks. Banks maintain a buffer of liquid assets, for example, on the asset side of the balance sheet. The likelihood that the bank's sustainability may be threatened by liquidity needs is partially mitigated by having a sizable buffer of assets, such as cash, balances with other banks and central banks, government-issued debt instruments, and securities of a similar nature (Bessis, 2011).

A thorough understanding of the structure of balance sheets can be obtained by analyzing the liquidity risk of banks. Liquidity gap, also known as the flow approach, and liquidity ratio, sometimes known as the stock approach, are two methods used to quantify the liquidity risk of banks. The goal of the liquidity gap is to compare the fluctuations in the bank's inflows and outflows in order to estimate the amount of reserves required over a certain time period. A positive difference between assets and liabilities at any one time represents a deficit that needs to be closed (Bessis, 2011). The asset and liability section of the financial statements is the focal point of liquidity ratios, which use ratios to show trends in liquidity. In contrast, these percentages show that quick access to affordable credit is possible. A portfolio of the bank's easily sellable assets, such as cash reserves, statutory reserves, or investments in government securities, could serve as a representation of this.

Various authors endorse the use of different liquidity ratios to measure the liquidity risk of banks, including liquid assets to total assets, liquid assets to deposits, loans to total assets, loans to deposits, loans to deposits and short-term borrowings, and total loan to total liabilities (Chagwiza, 2014). The stock method uses a range of balance sheet measurements to pinpoint patterns in liquidity. Although both strategies are appealing, the flow strategy requires far more data and lacks standardized techniques for precise cash flow forecasting. As a result, the stock approach is employed increasingly frequently in academic and practical research.

This study has employed the liquid assets to total assets and loans to deposits ratios, two of the aforementioned liquidity ratios. The basic goal of calculating the liquidity ratio in the Nepalese context is to determine the proportion of liquid assets to total assets held by the bank. However, it is not a method of calculating liquidity risk in accordance with NRB regulations. Instead, all microfinance institutions must adhere to the specified statutory liquidity ratio under NRB directives. As a result, this study

uses the stock approach to calculate two liquidity ratios: the loans to deposits ratio and the liquid assets to total assets ratio.

The ratio of liquid assets to total assets shows how much of the assets are liquid. This metric provides an overview of the banks' overall liquidity position and their corresponding ability to withstand shocks to liquidity. The bank is better equipped to handle liquidity shortages when its portfolio contains more liquid assets. In this way, the loan-to-deposit ratio also offers crucial information about the liquidity risk faced by banks. Banks are more sensitive to consumer deposit withdrawals when the ratio is high. This metric aids in determining how susceptible banks are to funding sources. A lower ratio suggests that the bank is more capable of withstanding a liquidity shock (Bessis, 2011).

Capital adequacy and liquidity risk

Recent theories on banking liquidity, however, contend that a bank's capital can also affect its capacity to provide liquidity. Previous literature showed that a bank's capital served as a cushion for risk absorption, including the risk resulting from liquidity crunches (Berger & Bouwman, 2009). According to one body of research known as the liquidity substitution hypothesis, bank capital decreases as liquidity creation increases (Distinguin et al., 2013). Conversely, increased capital helps banks absorb higher risks and allows them to supply the economy with more liquidity, according to the risk absorption hypothesis (Von Thadden 2004).

According to the liquidity substitution theory, banks may substitute more stable and liquid liabilities for capital when they encounter significant levels of illiquidity. Examples of these stable and more liquid liabilities include deposits (Otwoko & Maina, 2021). Therefore, in the liquidity substitution theory, greater liquidity lowers capital and raises liquidity risk. On the other hand, the risk absorption theory is predicated on the bank's functions in risk transformation (Suyanto, 2021). It implies that more capital facilitates the generation of liquidity. Because increased liquidity generation puts banks at greater risk for liquidity runs, banks typically increase capital to fortify their solvency position because larger capital serves as a buffer against liquidity runs (Horvath et al., 2014).

Non-performing loans and liquidity risk

According to Anbar and Alper (2011), non-performing loans are those on which a bank customer has not made principal or interest payments for more than three months as per the terms of the loan agreement. Non-performing loans are those that have a detrimental effect on banks' ability to grow the economy. A rapid rise in non-performing loans is frequently the cause of financial hardship in the banking industry. Financial systems are undoubtedly in charge of overseeing intricate and sophisticated financial transactions. In terms of resource mobilization and allocation, financial institutions, particularly microfinance institutions, are crucial. They ensure that those operations are managed successfully and economically (Mustafa, 2020). The process by which the financial institutions turn risk-free deposits into dangerous loans is known as "risk transformation" in technical parlance. For the financial institutions, these riskier loans yield the biggest returns. Nevertheless, a portion of these high-risk loans eventually lose their ability to be repaid and become non-performing. Financial stability is essential for both steady and quick economic growth. The non-performing loans held by the bank, which reflect on its asset quality, credit risk, and efficiency in allocating resources to profitable industries, are among the several indicators of financial stability. The primary cause of liquidity risk, which exposes banks to not having enough money for operations, is non-performing loans. The result of credit risk, or the incapacity of borrowers to fulfill their repayment obligations, is liquidity risk (Effiong and Ejabu, 2020).

Profitability and liquidity risk

Better financial soundness has an impact on the bank's capacity to take on risk and its ability to transform liquidity, and profitability takes this into consideration (Munteanu, 2012). Despite contributing significantly to the bank's operating profit, loans are the riskiest asset it may own. Because high risk loans are advanced against customer deposits, banks are hence frequently exposed to liquidity risk. On the other hand, more risk translates into higher returns, which increases the possibility for profit for microfinance institutions. It is important to note at this point that banks that issue a lot of loans will also be subject to increased liquidity risk. As a result, the microfinance organizations must balance profitability and liquidity. Banks lose out on profitable investments with high returns when they maintain a large number of liquid assets in their portfolio (Kamau, 2009). Liquidity risk and the rate of return from bank assets are always weighed against one another in terms of risk and return. It appears

that a loan increases a bank's return on investment while also raising its risk of liquidity, and vice versa. As a result, a larger liquidity ratio may indicate that the bank is not as profitable as its competitors. As a result, the management must decide how to balance profitability and liquidity. Financial institutions suffer from increased liquidity, as noted by Myers and Rajan (1998). They proposed that while having more liquid assets makes it easier to raise money quickly, it also makes it harder for management to genuinely commit to an investment plan that safeguards investors' money, which may make it harder for the company to obtain outside funding. This suggests that there is a negative correlation between bank liquidity and profitability.

Economic growth and liquidity risk

Economic expansion is probably going to have an impact on bank operations and investment choices, including bank liquidity profiles (Shen et al. 2010). For instance, during an economic boom, there is a greater need for unique financial products, which might help banks grow their loan and securities portfolios more quickly. Conversely, economic downturns exacerbate the declines in loan availability.

The relationship between banks' preference for liquidity and economic growth is crucial in explaining the underlying instability of the capitalism system as an endogenous market process, claims the theory of bank liquidity and financial fragility (Winoto & Bustaman, 2020). Investment levels rise during times of economic expansion, which are marked by a high degree of confidence among economic units on their profitability. Banks shift away from preferred liquidity during this expansion phase and toward riskier capital assets that yield larger returns. Banks are advancing higher-interest short-term debt rather than holding as much liquid assets in this context of expansion (Painceira 2010). In a similar vein, the loanable fund theory of interest states that while the economy is expanding or contracting, banks have a greater supply of loans, or illiquid assets.

A bank's propensity to hoard liquidity increases in recessionary times, when credit availability is limited. However, when lending prospects improve during economic expansion, banks reduce their liquidity buffers (Aspachs et al., 2005). It follows that increased economic growth should cause banks to deplete their liquidity reserves and encourage them to extend additional credit.

Two theories were put forth by Bordo et al. (2001) to explain why a bank's liquidity run occurred in response to an erratic and simultaneous rise in customer withdrawals. According to their explanation, bank liquidity runs are a result of panic or mass psychology, which means that if people act in a panicked manner expecting a financial crisis, the crisis is certain to occur. According to Bordo et al. (2001), shocks to the core components of the economy cause crises, which are an inherent component of economic growth. Asset returns are predicted to decline during recessions or depressions in the economy. Loan repayment will be difficult for borrowers, and depositors will attempt to safeguard their wealth by taking money out of banks as they expect a rise in defaults or nonperforming loans. Banks run the risk of going bankrupt because they are stuck between the illiquidity of their loans and the liquidity of their deposits.

Rate of inflation and liquidity risk

A rising body of theoretical work explains how the financial sector's ability to allocate resources efficiently is hampered by even predictable rises in the rate of inflation (Cheng, et al., 2020). The importance of informational asymmetries in credit markets is highlighted by recent theories, which also explain how a spike in inflation can have a negative effect on the credit market and negatively affect the performance and operations of the financial sector. These hypotheses are all characterized by an endogenous informational friction with varying degrees of intensity. Consequently, a rise in the overall rate of inflation has the potential to reduce the actual rate of return on assets as well as money (Munteanu, 2012). Credit market frictions are made worse by the projected decline in real returns. Credit is rationed as a result of these market frictions, and credit rationing gets worse as inflation increases. As a result, there are negative effects on capital and long-term investment, less loans are made by the financial sector, and resource allocation is less effective. Consequently, if inflation rises, so too will the quantity of short-term or liquid assets held by economic actors, such as banks (Munteanu, 2012).

2.3 Theoretical review

The Diamond-dybvig model

The Diamond-Dybvig Model is a fundamental theoretical framework in the study of banking and liquidity risk. It was developed in 1983 by Douglas Diamond and Philip

Dybvig. This model offers a comprehensive explanation of why banks are vulnerable to bank runs and how certain controls might reduce these risks. It also tackles the inherent instability in the banking system brought on by the maturity transition of short-term deposits into long-term loans.

Key concepts and structure

The Diamond-Dybvig model, at its foundation, highlights a basic conundrum that banks face: they engage in long-term, illiquid projects that offer higher profits while providing liquidity to depositors who may need to withdraw money at any time. According to the idea, banks keep assets that would lose value if they were to be swiftly turned into cash. If numerous depositors request their money back at the same time due to this maturity mismatch, there may be a risk of liquidity problems.

Three periods (t=0, t=1, t=2) and a continuum of depositors with various liquidity demands are included in the model's design. The liquidity demands of depositors are assumed to be unknown; early consumers, who have immediate consumption needs, will need to withdraw funds in the near term (t=1), whereas late consumers, who can wait until the long term (t=2), can do so. Banks combine these deposits and use the proceeds to make investments in long-term assets, which mature at t=2, but yield higher returns than liquid assets, which are withdrawable at t=1.

Bank runs and equilibria

The idea of numerous equilibria, which might result in bank runs, is a key takeaway from the Diamond-Dybvig model. Only individuals with urgent liquidity needs withdraw their deposits early in a "good" equilibrium, allowing the bank to meet their demands without incurring a loss on the sale of long-term assets. In this case, depositors feel safe and the bank runs smoothly.

The model also suggests a "bad" equilibrium, in which depositors hurry to take out money even though they don't need it right away out of worry that others will take it out and the bank won't be able to pay its responsibilities. This conduct has the potential to set off a bank run, a self-fulfilling prophesy. Even if the bank is essentially solvent in this scenario, it is compelled to sell its long-term assets at fire sale prices, which could result in insolvency.

Policy implications and preventative mechanisms

The Diamond-Dybvig model affects policy in a big way. It implies that confidence is essential to banks' stability and that their function in transforming liquidity makes them intrinsically susceptible to runs. The model encourages the use of safeguards like deposit insurance and central bank measures to reduce the danger of bank runs.

Deposit Insurance: Deposit insurance can reduce anxiety and stabilize depositor behavior by giving depositors a safety net—a promise that they will receive their money back even in the event that the bank fails. Because of this guarantee, depositors are less likely to take early withdrawals, preserving stability.

Lender of Last Resort: In the event that banks experience unexpected withdrawal pressure, central banks may serve as a lender of last resort, supplying them with emergency liquidity. By avoiding the need to sell off long-term assets at a loss, this feature assists banks in meeting withdrawal requests and keeps a liquidity crisis from developing into a solvency crisis.

Liquidity Requirements: To increase banks' resistance to runs, regulatory tools like stress testing and liquidity coverage ratios (LCR) help make sure they have enough high-quality liquid assets on hand to cover any short-term withdrawals.

Applications in this research

Several historical and modern banking crises demonstrate the applicability of the Diamond-Dybvig model. The model, for example, offers a prism through which to view bank runs during the Great Depression and the 2008 financial crisis, in which concerns over the viability of financial institutions resulted in large withdrawals and market volatility.

The Diamond-Dybvig model's guiding principles are practically used in contemporary banking regulation and financial system supervision. Insights from this model directly led to the creation of deposit insurance programs and the roles of lenders of last resort for central banks. Furthermore, the implementation of Basel III laws' liquidity requirements and stress testing are examples of an ongoing attempt to address the vulnerabilities brought to light by Diamond and Dybvig.

Liquidity preference theory

In 1936, John Maynard Keynes wrote "The General Theory of Employment, Interest, and Money," a fundamental study that presented the liquidity preference theory. This theory, which explains how the demand for money affects interest rates and total economic activity, significantly changed the way macroeconomic theory was thought about. Fundamentally, the theory asserts that people would rather store their money in liquid assets, such as cash or readily tradable assets, than in less liquid investments. Three main factors—transactional, precautionary, and speculative—each of which represents a distinct rationale for retaining liquid assets, give rise to this tendency.

Key motives for holding money

Transaction Motive

The motivation behind the transaction is simple: people and companies keep money in order to conduct daily business. To pay for regular expenses like groceries, rent, salaries, and operating costs, money is required. The amount of economic transactions as well as the consistency of revenue and payments are directly tied to this motivation. In an economy, the amount of liquid money required to enable commerce and income growth goes hand in hand.

Precautionary Motive

The necessity to keep money on hand as insurance against unforeseen circumstances or emergencies is known as the precautionary motive. Both people and businesses keep a safety net of liquid assets to pay for unanticipated costs like urgent repairs, medical expenditures, or unexpected drops in revenue. This motivation emphasizes how uncertainty plays a part in economic behavior; the more apprehensive the economic climate, the greater the desire to hoard money for safety.

Speculative Motive

In Keynes's theory, the speculative drive plays a particularly significant role by highlighting the importance of future expectations about bond prices and interest rates. Given the inverse relationship between bond prices and interest rates, investors expect bond prices to decline in response to an increase in interest rates. In these situations, people would rather store cash than bonds, waiting to make an investment until a better time. On the other hand, they are more inclined to invest in bonds today

in anticipation of an increase in bond prices when they anticipate a decline in interest rates. This motivation presents the idea of interest rate sensitivity in the money demand and links it to expectations about future financial conditions.

Implications for this research

According to the liquidity preference theory, giving up liquidity is rewarded with an interest rate. The money market's supply and demand dictate it. According to Keynes, the three factors mentioned above drive the demand for money, while the central bank normally regulates the amount of money in circulation.

Interest Rate Determination

Keynes believed that interest rates should be fixed at the point at which the amount of money given and demanded is equal. Interest rates rise when there is a greater demand for liquidity, or holding cash, than there is supply because consumers are prepared to give up possible investment returns in order to hold cash. In contrast, lower interest rates stimulate investment and consumption when there is less demand for liquidity or when the money supply grows.

Monetary Policy and Economic Stability

Keynes's theory emphasizes how monetary policy is used by central banks to manage economic stability. Central banks have the ability to impact interest rates and, in turn, the amount of investment and economic activity by manipulating the money supply. For instance, in order to cut interest rates and encourage borrowing and investment during economic downturns, central banks may decide to raise the money supply. This will promote economic activity.

Broader Economic Impact

A crucial foundation for comprehending the behavior of interest rates and the overall economy, particularly during periods of economic uncertainty or instability, was offered by Keynes's liquidity preference theory. It emphasized how crucial money is as a tool for controlling expectations for the future, a buffer against risk, and a vehicle for transactions.

This theory has important practical ramifications for how central banks and governments handle economic policy. It implies that controlling the money supply and interest rates can be effective means of directing the economy, particularly when

it comes to lessening the effects of economic cycles. For example, expanding the money supply can cut interest rates during recessions and other times of economic crisis, so promoting investment and spending and reviving the economy.

Liquidity spirals

In their 2009 study "Market Liquidity and Funding Liquidity," Markus Brunnermeier and Lasse Pedersen proposed the notion of Liquidity Spirals, which examines the complex and self-reinforcing feedback loops between market liquidity and funding liquidity in financial markets. During the 2008 financial crisis, this concept became especially pertinent since it shed light on the ways in which systemic risks can intensify and spread throughout the financial system, resulting in catastrophic market disruptions and crises.

Market liquidity and funding liquidity

It's critical to distinguish between two forms of liquidity in order to comprehend liquidity spirals:

Market Liquidity

The ease with which assets can be purchased or sold on the market without a major impact on their price is referred to as market liquidity. Low market liquidity suggests that selling or purchasing huge amounts of an asset would result in major price fluctuations, whereas high market liquidity allows for massive transactions to occur with little effect on the asset's price.

Funding Liquidity

The capacity of institutions or investors to secure capital to support their positions or fulfill their commitments is known as funding liquidity. For market players to sustain leverage, pay margins, or cover short-term liabilities, this kind of liquidity is essential. Institutions can easily raise capital or borrow against their assets when financial availability is abundant. However, even fundamentally solid institutions may experience severe strain if funding availability disappears.

The mechanics of liquidity spirals

The relationship between these two types of liquidity and how their interplay can lead to self-reinforcing cycles, or "spirals," that worsen financial instability are

demonstrated by Brunnermeier and Pedersen's model. In their work, they primarily address two kinds of liquidity spirals:

Margin Spiral

Declining market liquidity causes asset prices to decrease in a margin spiral. Margin calls or higher collateral requirements from lenders result from a decline in asset prices, which also lowers the value of collateral held by banks. Institutions are compelled to sell assets in order to satisfy these demands, which drives down prices and exacerbates the liquidity crisis. Because of this, there is a vicious cycle that intensifies deeper price falls and liquidity issues as a result of decreasing market liquidity and rising finance costs.

Loss Spiral

When losses on leveraged positions are exacerbated by declining asset values, a loss spiral happens. Institutions' capacity to take on risk and leverage decreases as a result of losses eroding their capital base. They might have to sell assets to stabilize their financial situation, which would lead to more price drops. The procyclical character of risk management techniques, whereby rising volatility and decreasing asset values push people to take fewer risks and sell more assets, can potentially worsen this spiral.

The interaction of increasing funding requirements and diminishing market liquidity is what propels these spirals. Institutions' capacity to maintain their positions declines with worsening funding liquidity, which results in forced sales and increased market illiquidity. On the other hand, funding conditions tighten as market liquidity evaporates and prices decline, making it more difficult for institutions to hold onto their positions and fulfill their commitments.

Implications for this research

Understanding how financial markets can go from a stable condition to one of great volatility and distress is made easier with the help of the notion of liquidity spirals. This was clearly seen during the financial crisis of 2008, as falling asset values sparked widespread deleveraging and a lack of liquidity, which in turn fueled a downward spiral that made the crisis worse.

2.3 Empirical review

Munteanu (2023) investigated risk management and how it affected Nepali microfinance firms' profitability. Non-performing loans, capital adequacy ratios, credit to deposit ratios, cash reserve ratios, current ratios, and liquid asset ratios are the independent variables. Based on data gathered from secondary sources for ten microfinance organizations between 2011–12 and 2020–21, this study has 100 observations in total. The data were gathered from the annual reports of the chosen microfinance organizations and the Bank Supervision Reports issued by Nepal Rastra Bank. The data was analyzed by the study using both inferential and descriptive statistical techniques. To determine the importance of risk management and how it affects the profitability of microfinance firms in Nepal, regression models are estimated. The outcome demonstrates a favorable relationship between return on assets and capital adequacy ratio. The study also shows a favorable relationship between the current ratio and return on equity and return on assets. The research does show a negative correlation between return on equity and the capital adequacy ratio, though. It is suggested that banks create and implement plans that will reduce their risk exposure while simultaneously increasing their profitability.

Chaudhary and Sapkota (2023) looked into how Nepali microfinance companies' financial performance was impacted by liquidity risk. The Pooled Ordinary Least Square estimator is used in this work. For analysis, balanced panel data from ten microfinance organizations from 2011/2012 to 2020/2021 were employed. The capital ratio, investment ratio, liquidity management ratio, bank size, and asset quality are employed as explanatory factors in the study, which uses ROA and ROE as metrics for measuring bank performance. The findings indicated that the financial performance of banks was positively impacted by bank size, the liquidity management ratio, the capital ratio, and the investment ratio. The financial performance of banks was negatively impacted by the quality of their assets. The study comes to the conclusion that liquidity risk is a significant indicator of the microfinance enterprises' financial performance. Liquidity risk management is therefore essential to the banks' financial performance.

K.C. (2021) looked on what influences Nepalese microfinance institutions' liquidity. According to the study, liquidity was positively impacted by internal characteristics like size, profitability, and asset structure and negatively impacted by external factors like interest rates, inflation, and economic growth. The study also showed that the reserve requirement set by the central bank and the amount of non-performing loans had a major influence on the liquidity of microfinance institutions in Nepal. The study's findings emphasize how crucial it is to take into account both internal and external variables when assessing the liquidity of Nepal's microfinance institutions.

The effect of liquidity shortage risk (LSR) on the financial performance of Islamic microfinance businesses (ICBs) in Sudan (1992-2018) was investigated by Mustafa (2020). LSR was indicated by the following explanatory powers: total finance to total deposits, current deposits to total deposits, liquid assets to total assets, and inflation as a control factor. The return on assets served as a proxy for the dependent variable, which was the ICBs' financial performance. The Ordinary Least Squares technique was employed to examine the data and determine the relationship between the variables. The primary conclusions showed that inflation, total finance to total deposits, and current deposits to total deposits all had a negative impact on financial performance. However, the ratio of liquid assets to total assets improves ICB performance. Monetary policy increased the money supply, which indirectly increased ICBs' exposure to LSR. Furthermore, rising inflation encouraged depositors to take large amounts of cash out of their accounts, which exposed ICBs to LSR. According to the report, ICBs shouldn't rely solely on current deposits for funding because client default could result in LSR, which would lower profitability. Financial assets that are diversified and have a high degree of liquidity are also shielded from LSR. To enhance the financial performance of ICBs, the central bank must implement a contractionary monetary policy in order to contain inflation.

The impact of managing liquidity risk on the financial performance of consumer products companies was evaluated by Effiong and Ejabu (2020). In order to improve their financial performance, the study sought to determine how concerned consumer products companies were about managing their liquid cash, cash defensive intervals, long-term debts, and quick ratios. The annual reports and accounts of the enterprises under investigation provided the data, which were then transformed into parameters for measuring liquidity. Multiple regression analysis was used to analyze the data.

The results indicate that while cash ratio and long-term debts only have an impact on ROCE, long-term debts, quick ratios, and cash defensive intervals have a considerable impact on EPS and ROA. More specifically, an empirical study found a substantial correlation between consumer goods companies' financial performance and their ability to handle liquidity risk.

The potential risks in Nepali microfinance institutions (MFIs) during the loan distribution decision were examined by Lamichane (2020). MFIs can limit risks to their financial stability and take advantage of new opportunities by practicing effective risk management. In order to achieve their dual goals of sustainability and poverty outreach, MFIs voluntarily incur risks. As a result, they are open to a variety of hazards, such as financial, operational, institutional, and external risks. For MFIs to survive and grow, these risks must be managed. By giving money to borrowers who lack credit histories, business records, and frequently collateral, they assume risks on a daily basis. For an MFI to be a successful microfinance organization, it must take risks. However, it's crucial to take measured chances. The technique of taking measured risks is the main emphasis of risk management at all times. It encompasses both early problem detection and potential problem prevention. The continuous process of discovering, quantifying, tracking, and managing risks in MFIs is known as risk management. Making ensuring MFIs carry out their missions in a safe, responsible, and sound manner is crucial.

The impact of ownership, liquidity, and the global financial crisis on the profitability of Indonesian banks was examined by Winoto and Bustaman (2020). This study aims to analyze the impact of ownership, liquidity, and the global financial crisis on the profitability of Indonesian banks. The loan to financing ratio, cash ratio, and liquidity ratio were employed to measure liquidity. Ownership and the world financial crisis, meanwhile, employed dummy variables. Net Interest Margin was the dependent variable, capital adequacy ratio was the control variable, and the Ordinary Least Square approach was applied. The findings show that ownership and liquidity have no discernible effects on profitability, but that ownership and liquidity have a considerable impact. The first hypothesis in this study aims to determine how Indonesian banks' profitability and liquidity levels relate to one another. According to the findings, the profitability of Indonesian banks is not significantly impacted by the amount of liquidity. The purpose of the second hypothesis is to discuss how

ownership affects bank profitability. The developed model indicates that ownership has no bearing whatsoever on the profitability of Indonesian banks. The third hypothesis talks about how the global financial crisis has affected Indonesian banks' profits. The result demonstrates that, in the event that the crisis has a meaningful bearing on profitability, it even tends to raise Indonesian banks' profitability.

A 2019 study by Rudhani and Balaj looked at how liquidity risk affected financial performance. The purpose of this research is to investigate, over a six-year period, how liquidity risk affects the performance of banks in Kosovo. Linear regression is the foundation of the analysis. Indicators of liquidity risk include the bank's capacity to withstand liquidity shocks, its ability to handle high short-term liquidity demands, and its capacity to manage liquidity risk when dealing with non-liquid assets. Performance is determined by return on assets (ROA) and return on equity (ROE). Based on the results, which indicate a positive and significant relationship between liquidity risk and bank performance, microfinance companies in Kosovo could improve their performance by strengthening their capacity to manage risks associated with large non-liquid assets, short-term liquidity risk, and liquidity shocks.

Pokharel and Pokhrel (2019) investigated how liquidity affected the microfinance enterprises in Nepal's profitability. Examining the effect of liquidity on profitability based on total assets is the aim of this research. Of the twenty-eight microfinance firms in Nepal, five—the Agriculture Development Bank, Everest Bank, Prime Commercial Bank, Sunrise Bank, and Citizens Bank International—were chosen at random to serve as a sample for the current study. The data was evaluated for the study covering the years 2010–11–2016–17 AD. Considering that effective liquidity management can boost the bank's earnings. The study used a variety of statistical and financial tools to look at their profitability and liquidity management positions. Although the trajectory of the bank's liquidity ratios was erratic, the analysis showed that microfinance enterprises' average profitability generally followed a zigzag pattern. The study came to the conclusion that banks' liquidity ratios fell short of the required minimum. In a similar vein, CRR is far higher than that required under the 2016–17 monetary policy. While CRR and CBBISD have an adverse correlation with ROA, CRR and IGSCA have a positive correlation with ROA. Regarding the liquidity-ROE relationship, the correlation between CR and ROE is inverse, while the correlation between all other ratios (CRR, CBBISD, and IGSCA) and ROE is

positive. Additionally, it has been shown that, with the exception of IGSCA and ROA, there is a considerable correlation between profitability and liquidity ratios.

Ahmad and Rasool (2017) looked at the factors that affect the liquidity of microfinance firms. Out of the 37 microfinance companies in the population, we used a sample size of 31 listed microfinance companies that have a state bank of Pakistan. The stock approach method was utilized to measure the bank liquidity across a ten-year period, beginning in 2005 and ending in 2014. A convenience sample method was employed for data collection. The balance fixed effect model's findings demonstrated that while NPL and BS have a statistically significant and negative influence on bank liquidity, independent factors like CAP and GDP have a positive and substantial impact on bank liquidity. We then discovered that there is a positive but statistically insignificant correlation between ROE and INF and bank liquidity. Furthermore, when creating strategies to strengthen the banks' liquidity position, microfinance firms in Pakistan should not only concentrate on bank-specific variables but also take both internal and external aspects into account. The findings of this research hold significance for credit managers, regulators, and scholars, since they can aid microfinance firms in effectively allocating their resources.

In a 2017 empirical test, Hakimi and Zaghdoudi investigated the relationship between bank performance and liquidity risk for Tunisian banks. The goal of this study was to investigate how bank performance is impacted by liquidity risk. Their findings using the panel data method—more specifically, random effect regression—showed that bank performance is negatively impacted by liquidity risk. Empirical findings demonstrate that bank performance is considerably reduced by liquidity risk. Additionally, results show that inflation and the global financial crisis have a negative and substantial impact on bank performance. The impact of other bank characteristics, such as size, capital adequacy ratio, and credit risk, is negligible. The results also showed that inflation and the global financial crisis had a negative and substantial impact on banks' operations.

Workineh (2016) investigated how liquidity affected the profitability of private microfinance firms using nib International Bank as a case study. The purpose of this study is to look at how Sri Lankan licensed microfinance enterprises are affected by liquidity risk. According to the study's methodology, the four main independent variables are the loan-to-deposit ratio, the statutory liquid asset ratio, the percentage

of non-performing loans, and the liquidity gap. Convenience samples covering ten years from 2011 to 2020 were used to determine the dependent variables: return on assets, return on equity, and net interest margin. Multiple regression analysis and Pearson's correlation analysis were used to examine the data. The results of this investigation showed that loan to deposit and ROA had a positive correlation, while ROE and NIM and SLAR had a negative correlation with ROA. Additionally, NPL and LG demonstrated a negative correlation with ROE and ROA and a good correlation with NIM. Based on these findings, a proper liquidity position may be maintained. This study is helpful in understanding the determinants of liquidity risk and their impact on the financial performance of the banks.

Mehmed (2014) looked into the factors that affect liquidity risk in Bosnia and Herzegovina's (B&H) banking industry. This article uses data from the years 2002 to 2012 to investigate banks' exposure to liquidity risk in relation to 17 of the 28 microfinance enterprises in Bosnia and Herzegovina. Using a variety of data analysis approaches, multiple regression analysis will be used in the empirical portion of the research to examine the statistical significance and explanatory power of selected variables. Our paper is structured as follows for the purpose of subject matter analysis and research goal: Section 1 gives background information about the liquidity position trends and development of the banking sector in Bosnia and Herzegovina, while Section 2 gives a brief summary of recent research on the factors influencing the liquidity of microfinance companies. The models and variables utilized in the models and hypotheses are described in Section 3. In Section 4, the impact of explanatory variables on banks' exposure to liquidity risk is analyzed and interpreted based on empirical data. Ultimately, this study's research revealed that the majority of the variables under analysis had some bearing on how much banks were exposed to liquidity risk. The microfinance companies should use this information to further determine which variables are necessary to achieve the desired level of liquidity.

Table 1

Summary of Empirical Review

Author(s)	**Objectives**	**Methodology**	**Key Findings**
Munteanu	Examine risk	Secondary data	Capital adequacy ratio

(2023)	management's impact on profitability of microfinance companies in Nepal.	from 10 banks (2011/12-2020/21), regression analysis.	positively related to return on assets but negatively to return on equity. Current ratio positively affects both return on assets and equity. Other ratios negatively related to profitability.
Chaudhary and Sapkota (2023)	Investigate the effect of liquidity risk on financial performance of microfinance companies in Nepal.	Pooled OLS estimator, balanced panel data of 10 banks (2011/12-2020/21).	Bank size, liquidity management ratio, and capital ratio positively affect financial performance; investment ratio and assets quality negatively affect it.
Mustafa (2020)	Assess the impact of Liquidity Shortage Risk on financial performance of Islamic Microfinance companies in Sudan.	Data from 1992-2018 analyzed using Ordinary Least Squares technique.	Current deposits to total deposits, total finance to total deposits, and inflation negatively affect financial performance. Liquid assets to total assets positively influence performance.
Effiong and Ejabu (2020)	Examine the effect of liquidity risk management on financial performance of consumer goods	Multiple regression analysis of annual reports.	Long term debts, quick ratios, and cash defensive intervals significantly affect EPS and ROA; cash ratio and long term debts affect

	companies.		ROCE.
Lamichane (2020)	Analyze risks in microfinance institutions (MFIs) in Nepal during loan disbursement.	Risk analysis of MFIs' lending practices.	Effective risk management is crucial for MFIs' sustainability and outreach; calculated risks are necessary for success.
Winoto and Bustaman (2020)	Analyze the effect of liquidity, ownership, and global financial crisis on Indonesian banking profitability.	OLS method, liquidity ratios, ownership, and crisis as variables.	No significant effect of liquidity and ownership on profitability; crisis has a significant positive effect on profitability.
Rudhani and Balaj (2019)	Study the impact of liquidity risk on bank performance in Kosovo.	Linear regression analysis over six years.	Positive significant relationship between liquidity risk and bank performance; banks can improve performance by managing liquidity risks.
Pokharel and Pokhrel (2019)	Examine the impact of liquidity on profitability of Nepalese microfinance companies.	Analysis of 5 banks (2010/11-2016/17), statistical and financial tools.	Liquidity ratios below standard; CRR and IGSCA positively correlated with ROA; CR inversely correlated with ROE.
Ahmad and Rasool (2017)	Examine determinants of bank liquidity in Pakistan.	Convenience sampling of 31 banks, 2005-2014, balance fixed effect model.	CAP and GDP positively impact liquidity; NPL and BS negatively impact liquidity. ROE and INF have an insignificant positive

			relationship with liquidity.
Hakimi and Zaghdoudi (2017)	Examine the effect of liquidity risk on bank performance in Tunisia.	Panel data method, random effect regression.	Liquidity risk negatively impacts bank performance.
Workineh (2016)	Investigate the impact of liquidity risk on profitability of private microfinance companies in Sri Lanka.	Pearson's correlation and multiple regression analysis, data from 2011 to 2020.	Loan to Deposit and SLAR positively related to ROA; NPL and LG negatively related to ROA and ROE.
Mehmed (2014)	Investigate liquidity risk and its determinants in the banking sector of Bosnia and Herzegovina.	Multiple regression analysis of data from 17 banks (2002-2012).	Various analyzed variables significantly influence banks' exposure to liquidity risk; banks should manage these to maintain desired liquidity levels.

2.4 Research gap

A research gap is an area in a particular field of study where certain questions, themes, or concerns have not been thoroughly examined or addressed by previous research. Bhattarai and Sharma (2021) found that a number of variables greatly impact liquidity risk in Nepalese microfinance institutions, including capital adequacy, non-performing loans, return on equity, economic cycle, and inflation. They did not, however, investigate which factor affects liquid assets relative to total assets the greatest. Similar findings were made by Pandey and Acharya (2019), who discovered that non-performing loans and capital adequacy significantly contribute to

liquidity risk for microfinance institutions in Nepal. However, this study did not investigate the impact of additional factors on the ratio of liquid assets to total assets.

Which of these factors has the largest impact on the ratio of liquid assets to total assets for Nepalese microfinance firms is not well studied. This study has analyzed data from a large sample of microfinance institutions over several years in order to close this gap. Other other elements that could affect liquidity risk could also be taken into account in this study. Liquidity risk was not the primary focus of Cheng et al.'s (2020) study on the effects of credit, operational, and liquidity risk on bank profitability.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a sequential procedure and collection of scientific methods to be adopted in a A systematic investigation should employ a series of steps and a collection of scientific procedures known as research methodology. To put it another way, research methodology outlines the procedures and techniques used during the whole investigation. It is a method for methodically resolving the research issue. It might be viewed as a science that studies scientific research methodology. The five components of the research methodology are separated.

study. In other words, research methodology describes the methods and process applied in the entire study. It is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. The research methodology is divided into five parts.

3.1 Research design

This study employed a comparative descriptive and causal research design, aided by suitable statistical or financial instruments. The features of the sample during the period have been described using descriptive statistics like mean, standard deviations, minimum and maximum values of the variables. Regression of the econometric model and Pearson's Correlation Coefficient have been employed in inferential research. As a result, it facilitates inference from a sample of the population and helps determine the link between the variables employed in the research, i.e., how multiple independent variables might explain the dependent variable.

3.2 Population and sample technique

The study's scope is limited to Nepali microfinance organizations. NRB (2024) reports that there were 57 microfinance organizations operating in Nepal, spread throughout several regions of the nation. Based on their paid-up capital, five of the top microfinance institutions were chosen from the entire population. The sample reflects the features of the population from which it is collected, so a well-chosen sample can be used to represent the population. The paid-up capital of the top five microfinance institutions is the determining factor. The majority of the data was gathered from secondary sources, such as the published Annual Report covering the

ten-year period from 2013/14 to 2022/23. The following sample microfinance organizations were chosen for this study:

- Sana Kisan Bikas Laghubitta Bittiyasanstha Ltd. (SKBBL)
- Nirdhan Utthan Laghubitta Bittiya Sanstha Limited (NIBL)
- Deprosc Laghubitta Bittiya Sanstha Limited (DDBL)
- Chhimek Laghubitta Bittiya Sanstha Limited (CBBL)
- Jeevan Bikas Laghubitta Bittiya Sanstha Limited (JBLB)

The analysis of Nepalese microfinance organizations' determinants was conducted using secondary data. The commercial bank sample size for this investigation is displayed in Table 2.

Table 2

Sample Size of Microfinance Companies

Microfinance institutions	Study Period	Observation
Sana Kisan Bikas Laghubitta Bittiyasanstha Ltd. (SKBBL)	2013/14 to 2022/23	10
Nirdhan Utthan Laghubitta Bittiya Sanstha Limited (NIBL)	2013/14 to 2022/23	10
Deprosc Laghubitta Bittiya Sanstha Limited (DDBL)	2013/14 to 2022/23	10
Chhimek Laghubitta Bittiya Sanstha Limited (CBBL)	2013/14 to 2022/23	10
Jeevan Bikas Laghubitta Bittiya Sanstha Limited (JBLB)	2013/14 to 2022/23	10
Total Sample		50

3.3 Nature and sources of data

The majority of the secondary sources from which the research's data were gathered. The balance sheet, profit and loss account, and other necessary financial statements for this study were gathered from the five microfinance organizations' published annual reports and accounts spanning the fiscal years 2013/14 to 2022/23. Put another way, all the information required for this study was gathered from a variety of sources, including the annual reports of the relevant microfinance institutions, the official websites of Nepal Rastra Bank, the Security Board of Nepal, the Ministry of Finance, the Nepal Stock Exchange, professional associations, and various publications and online databases of the chosen microfinance institutions.

3.4 Methods of analysis

The gathered data were methodically imported into the SPSS program, and descriptive, multiple regression, and Pearson's correlation analyses were conducted in accordance with the study's methodology.

3.4.1 Descriptive statistic

Arithmetic mean

The value that represents the group of values and provides information about the concentration of values in the middle of the distribution is called the mean. We get a point from an average that best represents the data. It portrays the traits shared by the entire group. Between the two extreme observations of the total data set is where the arithmetic mean value is found. It is a messenger for the homogeneous bulk of info.

By adding up each item and dividing the sum by the total number of items, the AM's value can be found.

Mathematically,

Arithmetic Means (AM) is given by,

$$\bar{X} = \frac{\sum x}{n}$$

Where,

X=Arithmetic Mean

∑X= Sum of all the values of the variable X

n= Number of observation

Standard deviation

The absolute dispersion is measured by the standard deviation (σ). The magnitude of the values' departures from their mean will increase with increasing standard deviation. High levels of observational consistency and series homogeneity are indicated by small standard deviations, and vice versa.

3.4.2 Inferential analysis

Correlation coefficient (r)

Correlation is the term used to describe the right statistical tools used to uncover, measure, and express a quantitative relationship in a concise formula. A positive correlation exists when there is a direct proportionality between the values of the variables. Conversely, if the variable values are inversely proportional, the correlation is said to be negative; however, according to Karl Pearson, the correlation coefficient always stays between +1 and -1. The simple correlation coefficient (between two variables, for example, X and Y) is provided by (Blyth, 1994),

- There is perfect positive correlation when "r" = +1.
- There is perfect negative correlation when "r" = -1.
- There is no association when "r" = 0.
- There is a high degree of positive or negative correlation when "r" is between 0.7 and 0.999 (or -0.7 and -0.999).
- There is a moderate level of correlation when "r" is between 0.5 and 0.699.
- There is little degree of correlation when 'r' is smaller than 0.5.

Regression analysis

The econometric model that has been employed is multiple regression. numerous regressions are analyses in which numerous independent variables are jointly regressed against the dependent variable. The dependent variable estimate's value is impacted by changes in the independent variables, as indicated by the regression coefficient. Put another way, the regression coefficient of each independent variable represents the marginal relationship—that is, the influence of all other independent variables in the regression model being constant—between that variable and the value

of the dependent variable. A variety of financial and statistical tools are needed for the investigation of the performance of ten top microfinance institutions. These tools enable the researcher to evaluate financial documents, including balance sheets and profit and loss accounts, in order to arrive at a conclusion (Draper & Smith, 1998).

The functional form:

$LRit = \beta 0 + \beta xit + e_t$…… (i)

with 't' standing for the time-series dimension and 'i' for the observation of each bank at that particular point in time. β is a k×1 vector of parameters to be estimated on the explanatory variables, xit is a 1 × k vector of observations on the explanatory variables, t=1, and the dependent variable is the left-hand variable Lit. The intercept term is β0. ..T; i = 1. ..., N.

The regression models of this study has represented by the following equations:

LRit = f (CAR, NPL, ROE, LNTA, GDP, INF)

$LRit = \beta 0 + \beta 1CARit + \beta 2NPLit + \beta 3ROEit + \beta 4GDPit + \beta 5IFRit + e_t$

Where,

β0 = Constant

Liquid Assets to Total Assets Ratio, or LRit

CARit is the ith microfinance company's capital adequacy for the year t.

NPLit = The ith microfinance company's non-performing loan for the year t.

ROEit is the microfinance company's return on equity for the year t.

GDPit is equal to Nepal's real domestic product / GDP growth for the year t.

IFRit is equal to Nepal's inflation rate for year t.

et = Time-dependent error/stochastic term

3.5 Research framework and definition of variables

The entire study "The Determinants of Microfinance Institutions Liquidity Risk in Nepal" is built upon the research framework that is displayed below. The relationship between various variables is elaborated in the image below, which also discusses the theory underlying the relationships between various independent and dependent variables.

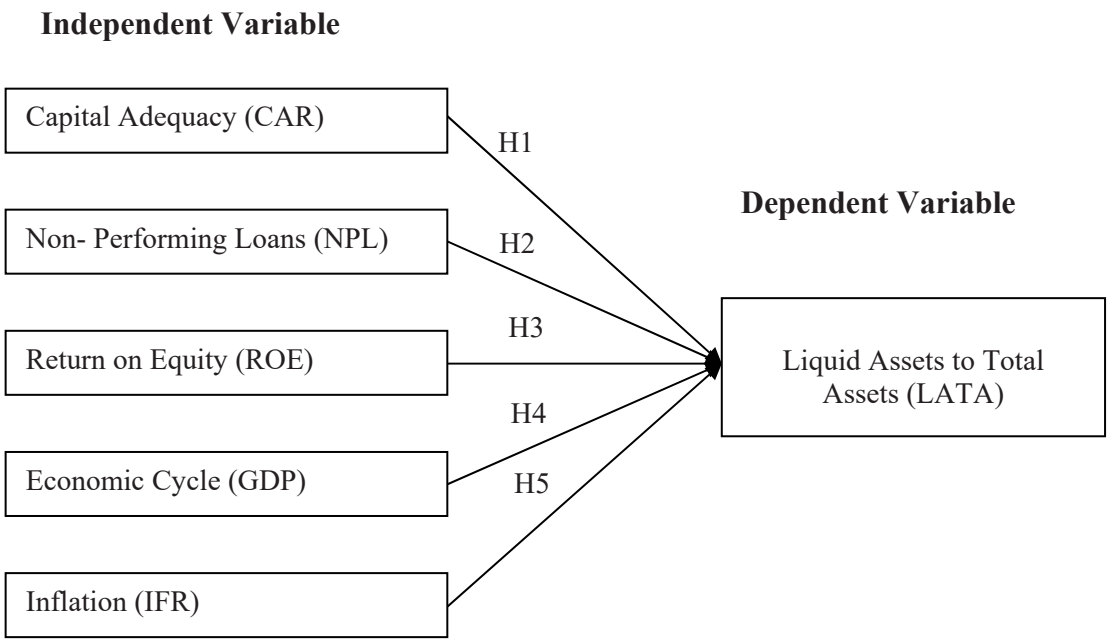

Figure 1 Conceptual framework of the study

Source: Singh and Sharma (2016)

The study intends to ascertain the influence of specific variables, such as capital adequacy, non-performing loans, profitability, economic growth, and inflation on the liquidity of microfinance organizations, based on this research methodology and the objectives. This study tests the hypothesis about the relationship between liquidity risks and its causes in an effort to better understand the relationship between dependent and independent factors. The factors that are utilized are as follows:

Liquidity of microfinance institutions

The quantity of cash and cash assets that a banking institution has available for conversion is referred to as its liquidity ratio. The ratio itself compares the bank's liquid assets to the amount of debt it has to pay off within the allotted period. Put another way, it evaluates whether the bank would have sufficient assets to meet its obligations to creditors and depositors in the event that they were called upon for payment right now.

Liquid assets to total assets ratio

We can learn more about a bank's overall ability to absorb liquidity shocks from this ratio (LR1). Assuming that all microfinance institutions in the sample have the same level of market liquidity, the ability to withstand a shock to liquidity is generally

higher the higher the proportion of liquid assets in total assets. However, a high LR1 value could also be seen as inefficient because liquid assets have higher opportunity costs for the bank and provide lesser income. As such, it is imperative to maximize the relationship between profitability and liquidity.

Loan to deposits ratio

Liquid liabilities and illiquid assets are related by the liquidity ratio (LR2). It shows the proportion of the bank's unstable funding that is invested in non-performing loans. A bank's liquidity can be evaluated by comparing its total loans to its total deposits over the same time period, which is known as the loan-to-deposit ratio. The bank could not have adequate liquidity to meet any unforeseen funding requests if the ratio is excessively high. On the other hand, the bank could not be making as much money as it could if the ratio is too low. Demand, time/fixed, and savings deposits make up the total amount of deposits used in this analysis.

Capital adequacy ratio

The capital of microfinance institutions acts as a safety net against unforeseen losses and a source of funding to address liquidity concerns. The link between bank capital and liquidity is explained by two theories. The first one makes the assumption that bank liquidity is positively impacted by capital levels. Khoury (2015) investigated the factors that affect liquidity in the banking industry in Lebanon. She discovered that the capital level influences the ratio of liquid assets to total assets and liquid assets to deposits in a positive and statistically significant way, supporting the risk absorption concept. Numerous other researchers discovered the same beneficial correlation between a microfinance institution's capital level and its liquid assets to total assets ratio. According to the second hypothesis (i.e., negative relationship), a larger capital level may interfere with the production of liquidity (Bhatia et al., 2012). As a result, the research anticipates that capital level and liquidity will positively correlate.

Non-performing loans

The quality of assets is mostly determined by the loans made by microfinance institutions, and it is seen to be the primary internal factor influencing a bank's liquidity. When a borrower misses three months or more of installment payments, the loan is deemed non-performing. It should come as no surprise that numerous research have established a negative correlation between bank liquidity and asset quality (El-

Chaarani, 2019). The outcome that surprised people the most was (Roman et al., 2015). Between 2004 and 2011, they investigated the factors that affected liquidity in the nations of Central and Eastern Europe. They anticipated that bank liquidity would be adversely and considerably impacted by the assets quality, as shown by the ratio of nonperforming loans to total loans. Unexpectedly, no nation's evidence of a bad relationship was found. Additionally, they discovered in the same study that bank liquidity in Romania, Lithuania, and the Czech Republic was positively correlated with the quality of assets. Additionally, they disclosed that throughout the global crisis, these countries' regulators forced banks to raise their liquidity ratios. As a result, the research anticipates that nonperforming loans and liquidity will be negatively correlated.

Profitability

It is one of the primary indicators of efficiency and the capacity of the company to turn a profit. According to Vodova's (2013) research, bank liquidity is significantly impacted negatively by performance level. Profitability and liquidity have an inverse relationship, meaning that the more liquid a company is, the more restricted its funds are to liquid assets, rendering them unavailable for investments or profitable activities. This is in line with the risk and return theory, which holds that the higher the risk, the higher the return, and vice versa. Therefore, the analysis anticipates that profitability and liquidity will be negatively correlated.

Economic growth

It is a very significant indicator of the state of the country's economy. Simply expressed, GDP represents the total monetary worth of completed goods and services produced in a nation over a specific time period. Business activity develops during economic growth, which is why it is expected that the need for loans would rise. Consequently, banks will find it easier to grant loans when their liquid assets decline. This may result in a negative correlation between liquidity and economic growth. From 2005 to 2011, Trenca et al. (2015) investigated the macroeconomic factors influencing 40 microfinance organizations across six countries in Southern Europe. They discovered that the GDP, which measures economic growth, has a statistically significant negative effect on bank liquidity. Furthermore, Singh and Sharma (2016) demonstrated that GDP has a negative impact on bank liquidity by using OLS

regression on a sample of 59 Indian banks. However, other researchers discovered that banks favor maintaining a high degree of liquidity in a boom since they don't think their clients will be able to make their installment payments when the economy is struggling. Ahmad and Jan (2017) examined 31 Pakistani banks over a ten-year period, from 2005 to 2014, and found a positive correlation between GDP and bank liquidity. As a result, the research anticipates a negative correlation between liquidity and economic growth.

Inflation rate

It is a quantitative indicator of how quickly the general level of pricing for certain goods and services is rising and how much less money can be bought with that money as a result. According to some writers, people's purchasing power would decrease as inflation rises, requiring them to spend more money on the same goods. As a result, bank liquidity will decline due to an increase in loan demand (Trenca et al., 2015; Bhatia et al., 2012). Additionally, increased rates of inflation worsen macroeconomic circumstances generally and reduce liquidity (Vodova, 2013). Conversely, other investigations found a favorable correlation. (El-Chaarani, 2019) employed WLS regression over a three-year period on 183 Middle Eastern banks and discovered that as inflation rises, liquidity rises as well. (Singh and Sharma, 2016) discovered similar findings. As a result, the research anticipates that the inflation rate and liquidity will positively correlate.

The study's dependent and independent variables, proxies, and anticipated results are shown in the tables below.

Table 3

Summary of Independent Variables, Indicators, and Expected Outcomes

Independent Variables		
Capital Adequacy	CAR	Capital Adequacy Ratio as per Basel III (+)
Non-Performing Loans	NPL	Non-Performing Loan to Total Loan (-)
Profitability	ROE	Net Profit/Total Shareholder's Equity (-)
Economic Growth	GDP	GDP growth rate (-)
Inflation	IFR	CPI inflation rate (+)

References

Adhikari, B. P., Pandey, P. R., & Shrestha, P. K. (2020). Factors affecting the liquidity of Nepalese microfinance institutions: A panel data analysis. *Journal of Banking and Financial Management, 4*(1), 1-18.

Ahmad, N. H., & Jan, M. (2017). Multi-country study of bank credit risk determinants. *International Journal of Banking and Finance, 5*(1). 135-152. https://e-journal.uum.edu.my/index.php/ijbf/article/download/8362/1328

Anyanwu, J. C. (1993). Stock market development and economic growth in Nigeria. *Vision*, *2*(1), 33-38 https://www.researchgate.net/profile/John-Anyanwu/publication/263662405_Stock_Market_Development_And_Economic_Growth_in_Nigeria/links/5ae8bdad45851588dd814f9a/Stock-Market-Development-And-Economic-Growth-in-Nigeria.pdf

Bhati, S. S., De Zoysa, A., & Jitaree, W. (2012). Factors affecting the liquidity of microfinance institutions in India: A longitudinal analysis.

Bhattarai, K., & Sharma, R. (2021). Liquidity risk management practices of Nepalese microfinance institutions. *Journal of Business and Social Sciences Research, 3*(1), 32-44.

Boyson, N., Helwege, J., & Jindra, J. (2014). Crises, liquidity shocks, and fire sales at microfinance institutions. *Financial Management*, *43*(4), 857-884.

Chen, K., & Phuong, C. (2014). An empirical study of credit risk efficiency of banking industry in Taiwan. *Web Journal of Chinese Management Review, 15*(1). 1-16.

Cheng, L., Nsiah, T. K., Ofori, C., & Ayisi, A. L. (2020). Credit risk, operational risk, liquidity risk on profitability. A study on South Africa microfinance institutions. A PLS-SEM Analysis. *Revista Argentina de Clínica Psicológica*, *29*(5), 5.

Comptroller of the Currency (2001). *Liquidity: Comptroller's Handbook, Comptroller of the Currency:* Administrator of the National Banks, Washington DC.

Delechat, M. C., Arbelaez, M. H., Muthoora, M. P. S., & Vtyurina, S. (2012). *The determinants of banks' liquidity buffers in Central America*. International Monetary Fund.

Diamond, D. W., & Rajan, R. G. (2000). Liquidity Risk, liquidity creation, and financial fragility: A Theory of Banking. *Journal of Political Economy, 109*(2), 287-327.

Drehmann, K., & Nikolaou, M. (2009). *Funding liquidity risk: Definition and measurement* (No. 1024).

Effiong, S. A., & Ejabu, F. E. (2020). Liquidity risk management and financial performance: are consumer goods companies involved. *International Journal of Recent Technology and Engineering*, *9*(1), 580-589.

El-Chaarani, H. (2019). Determinants of bank liquidity in the Middle East region. *International Review of Management and Marketing*, *9*(2), 64-75. https://www.researchgate.net/profile/Hani-El-Chaarani/publication/349608378_Determinants_of_Bank_Liquidity_in_the_Middle_East_Region/links/60381098299bf1cc26efa61b/Determinants-of-Bank-Liquidity-in-the-Middle-East-Region.pdf

Gorton, G. B. (2010). Systemic risk and the financial crisis: a primer. *National Bureau of Economic Research, 15*(1). 11-23.

Helleiner, E. (2011). Understanding the 2007–2008 global financial crisis: Lessons for scholars of international political economy. *Annual review of political science*, *14*, 67-87.

Jenkinson, N. (2008). Strengthening regimes for controlling liquidity risk. In *Euro Money Conference on Liquidity and Funding Risk Management, 6*(1), 9-14.

K.C. (2021). Factors affecting liquidity of Nepalese microfinance institutions. *Journal of Nepalese Finance, 35*(2), 35-42.

Kumar, D. K., & Tripathi, A. (2012). What Determines the Efficiency of Working Capital Among Rajasthan MSMEs?. *Indian Journal of Finance*, *17*(6), 45-62.

Madhuwanthi, R. M. R., & Morawakage, P. S. (2019). Impact of liquidity risk on the performances of Sri Lankan microfinance institutions. *Sri Lanka Journal of*

Social Sciences, *42*(1), 53-64. http://dl.nsf.gov.lk/bitstream/handle/1/24637/SLJSS_42_1_53.pdf?sequence=1

Mandelbrot, B., & Hudson, R. L. (2004). The Misbehavior of Markets: A Fractal View of Risk, Ruin, and Reward. Basic Books. https://users.math.yale.edu/users/mandelbrot/web_pdfs/misbehaviorprelude.pdf

Merton, R. C. (1974). On the pricing of corporate debt: The Risk Structure of interest rates. *The Journal of Finance, 29*(2), 449-470.

Munteanu, I. (2012). Bank liquidity and its determinants in Romania. *Procedia Economics and Finance*, *3*, 993-998.

Mustafa, O. A. O. (2020). Impact of liquidity shortage risk on financial performance of Sudanese Islamic banks. *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(2), 251-282.

Ndlovu, G. (2014). Access to financial services: Towards an understanding of the role and impact of financial exclusion in Sub-Saharan Africa.

Al Nimer, M., Warrad, L., & Al Omari, R. (2015). The impact of liquidity on Jordanian banks profitability through return on assets. *European Journal of Business and Management*, *7*(7), 229-232. https://core.ac.uk/download/pdf/234626337.pdf

Easley, D., & O'Hara, M. (1995). Market microstructure. *Handbooks in operations research and management science*, *9*, 357-383. https://www.sciencedirect.com/science/article/pii/S0927050705800568/pdf?md5=04ab98098869712e2496b72dde2b50ba&pid=1-s2.0-S0927050705800568-main.pdf&_valck=1

Olagunju, A., Olanrewaju, A., Olabode, D., & Samuel, O. (2011). Liquidity management and microfinance institutions' profitability in Nigeria. *Research Journal of Finance and Accounting, 2*(8), 24-39.

Oldfield, G. S., & Santomero, A. M. (1995). *The place of risk management in financial institutions*. Wharton School, University of Pennsylvania.

Otwoko, B., & Maina, K. (2021). Effect of liquidity risk on the financial performance of deposit taking savings and credit cooperative organisations (SACCOs) in

Kenya. *International Journal of Research in Business and Social Science (2147-4478)*, *10*(2), 203-211.

Pandey, R. P., & Addo, D. (2019). Liquidity risk management practices of Nepalese microfinance institutions. *Journal of Nepalese Business Studies, 14*(1), 48-60.

Paudel, R. P. & Shrestha S. (2018). The impact of credit risk management on financial performance of microfinance institutions in Nepal. *International Journal of Arts and Commerce, 1*(5). 9-15.

Reed, R. R. (2002). Liquidity risk, economic development, and the effects of monetary policy. *European Economic Review*, *54*(2), 252-268.

Reinhart, C., & Reinhart, V. (2020). The pandemic depression: The global economy will never be the same. *Foreign Aff.*, *99*, 84.

Santomero, A. M. (1997). Commercial bank risk management: an analysis of the process. *Journal of Financial Services Research*, *12*, 83-115.

Shrestha, P., & Shrestha, K. (2019). Liquidity determinants of Nepalese microfinance institutions: A panel data analysis. *Journal of Banking and Financial Management, 3*(1), 1-12.

Singh, A., & Sharma, A. K. (2016). An empirical analysis of macroeconomic and bank-specific factors affecting liquidity of Indian banks. *Future Business Journal*, *2*(1), 40-53.

Singh, T., Duong, H. N., & Nguyen, H. (2016). Stock market liquidity and firm value: An empirical examination of the Australian market. *International Review of Finance*, *16*(4), 639-646.

Suyanto, S. (2021). The effect of bad credit and liquidity on bank performance in Indonesia. *The Journal of Asian Finance, Economics and Business*, *8*(3), 451-458.

Trenca, I., Petria, N., & Corovei, E. A. (2015). Impact of macroeconomic variables upon the banking system liquidity. *Procedia Economics and Finance*, *32*, 1170-1177.

Van Horne, J.C. (2000). *Financial Management and Policy,* New Delhi: Prentice World Bank.

Vazquez, F., & Federico, P. (2015). Bank funding structures and risk: Evidence from the global financial crisis. *Journal of banking & finance*, *61*, 1-14.

Vodova, P. (2011). Liquidity of Czech microfinance institutions and its determinants. *International Journal of Mathematical Models and Methods in Applied Sciences*, *5*(6), 1060-1067.

Winoto, A., & Bustaman, Y. (2020). Impact of liquidity, ownership, global financial crisis, and capital adequacy ratio on Indonesian banking profitability period 2007-2016. *The Winners*, *21*(1), 43-48.

CHAPTER IV

RESULTS AND DISCUSSION

The data on the table and picture will be presented in this chapter. The study's primary goal is to offer data and analyze it using a variety of statistical and financial tools. The analysis and presentation of empirical data comprise this chapter. Since the crucial factors are highly sensitive and taken into account, the components of credit risk and their impact on financial performance will be analyzed in this chapter. Credit risk analysis has been conducted and the results interpreted.

such that this research will determine the sample microfinance companies' strengths and weaknesses, past performance, and current financial situation. The financial tools included regression and correlation analysis between variables in addition to graphical presentation. For the analysis, key variables such as CAR, NPL, ROE, GDP, INF, and LATA are used. Furthermore, the research also takes into account the factors that influence financial performance. The relationship between the variables impacting financial performance is reflected in the analysis, which is done using a variety of financial instruments and data displays.

4.1 Results

The minimum, maximum, mean, and standard deviation of the variables under investigation make up the descriptive statistics used in this study. Descriptive statistics, then, make it possible to show the data in a more meaningful form, making it easier to analyze the data.

Table 4 presents the descriptive statistics of the independent factors (bank size, capital adequacy ratio, non-performing loan ratio, cash reserve ratio) and dependent variables (return on assets) for a subset of Nepalese microfinance enterprises.

Descriptive statistics

For the study period of 2013/14 to 2022/23, Table 4 displays the descriptive statistics for the dependent and independent variables of three Nepalese microfinance organizations that were chosen. Return on assets is the dependent variable, whereas bank size, capital adequacy ratio, non-performing loan ratio, and cash reserve ratio are the independent factors.

Table 4

Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
LATA	0.10	0.19	0.1496	0.02258
CAR	10.84	15.96	12.5814	1.23448
NPL	0.12	3.32	1.4014	0.86805
ROE	8.90	32.78	17.0464	5.71660
IN	3.60	9.90	6.4600	2.42588
GDP	19.49	48.51	32.6220	9.59825

Six variables are shown in Table 4 with descriptive statistics: LATA, CAR, NPL, ROE, IN, and GDP. The variable LATA has a minimum value of 0.10 and a maximum value of 0.19. The standard deviation of 0.02258 indicates that there is a little degree of variance in the average of 0.1496. With a mean value of 12.5814 and a comparatively small standard deviation of 1.23448, the variable CAR indicates moderate variability. Its range is 10.84 to 15.96. In comparison to LATA and CAR, NPL has a larger range, ranging from 0.12 to 3.32, with an average value of 1.4014 and a standard deviation of 0.86805. With a mean of 17.0464 and a standard deviation of 5.71660, the variable ROE has significant variability, ranging from 8.90 to 32.78. With an average value of 6.4600 and a standard deviation of 2.42588, IN spans from 3.60 to 9.90, indicating considerable variability. In conclusion, the GDP has a reasonably large range of values, ranging from 19.49 to 48.51, with a mean value of 32.6220 and a standard deviation of 9.59825. Each variable in the dataset's distribution and central tendency are summarized by these descriptive statistics.

Correlation analysis

To determine relationships between the various factors, correlation analysis between variables was examined. The relationship between the many independent and dependent variables related to the research is ascertained using Pearson's Correlation analysis. Any two variables' linear correlation is measured.

The bivariate Pearson's correlation coefficients between the various study variables are shown in Table 5. The data from three chosen microfinance organizations with thirty observations from 2011/12 to 2022/23 form the basis of the correlation

coefficients. Return on assets is the dependent variable, and the capital adequacy ratio, non-performing loans, cash reserve, and bank size are the independent factors.

Table 5

Correlation Analysis

		LATA	CAR	NPL	ROE	IN	GDP
LATA	Correlation	1					
CAR	Correlation	0.023	1				
NPL	Correlation	-0.237	-.361*	1			
ROE	Correlation	0.157	-.408**	0.086	1		
IN	Correlation	-0.264	-.736*	0.169	0.586	1	
GDP	Correlation	0.065	.869**	-0.020	-.824**	-.766**	1

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

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

A correlation analysis between multiple variables is shown in Table 5. Liquid Assets to Total Assets Ratio (LATA), Capital Adequacy Ratio (CAR), Non-Performing Loan Ratio (NPL) of the ith bank on the year t, Return on Equity (ROE) of the ith bank on the year t, Inflation Rate (IN) of Nepal on the year t, and GDP (real domestic product/GDP growth of Nepal on the year t) are the variables included in the analysis.

The table displays correlation coefficients that indicate the direction and intensity of the linear link between two variables. There is no correlation when the correlation coefficient is 0, perfect negative correlation is represented by a value of -1, and perfect positive correlation is denoted by a value of 1.

Since the correlation of a variable with itself is represented by the table, we can see that the correlation between LATA and itself is always 1. Moving on to further correlations, we see that LATA and CAR have a very weak positive link, with a correlation coefficient of 0.023. The correlation between LATA and NPL is -0.237, indicating a moderately negative association; that is, non-performing loans tend to decline as the ratio of liquid assets to total assets rises. Similarly, there is a weak positive association (r = 0.157) between LATA and ROE.

Additionally, we find a negative connection (-0.264) between LATA and IN, indicating that the inflation rate tends to decline as the Liquid Assets to Total Assets

Ratio rises. There is a weak positive link (r = 0.065) between Nepal's real domestic product/GDP growth and the Liquid Assets to Total Assets Ratio (LATA).

Regression analysis

By fitting a linear equation to the observed data, linear regression is a statistical modeling technique that may be used to study the connection between a dependent variable and one or more independent variables. The objective is to create a linear relationship between the values of the independent variables and the dependent variable so that predictions about the dependent variable may be made. A multiple linear regression involves more than one independent variable, whereas a simple linear regression just involves one. The best-fit line through the data points is represented by the linear equation, which minimizes the discrepancy between the observed values and the predicted values. The model's effectiveness is frequently evaluated using metrics like the coefficient of determination (R-squared) and significance tests for the coefficients, which offer insights into the nature and direction of the correlations.

Table 6

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.909[a]	.826	.789	1.97819

a. Predictors: (Constant), GDP, NPL, IN, CAR, ROE

A regression model's summary is shown in Table 6, which also includes important metrics to assess the model's goodness of fit. The correlation coefficient (R), coefficient of determination (R Square), adjusted R Square, and standard error of the estimate are all listed in the table.

One important statistic that shows how strongly the independent and dependent variables are related is the coefficient of determination (R). In this case, a high degree of correlation between the variables is suggested by the coefficient of determination, which is reported as.909a. This number suggests a strong link since it shows that the independent variable(s) account for around 90.9% of the variability in the dependent variable. The coefficient of determination, or R Square value, provides additional

information about the percentage of the dependent variable's variance that can be ascribed to the independent variable or variables. The R Square in this instance is.826, meaning that the independent variable(s) accounts for approximately 82.6% of the variability in the dependent variable. This suggests that the independent variable(s) have a strong ability to explain variance in the dependent variable.

By accounting for the number of predictors in the regression model, the Adjusted R Square offers a more cautious estimation of the explanatory power of the model. After adjusting for the number of predictors, the Adjusted R Square of.789 indicates that the independent variable(s) account for around 78.9% of the variability in the dependent variable.

Table 7

ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.
Regression	444.582	5	88.916	22.722	.000[b]
Residual	93.917	24	3.913		
Total	538.500	29			

a. Dependent Variable: LATA

b. Predictors: (Constant), GDP, NPL, IN, CAR, ROE

The statistical significance and efficacy of a regression model in elucidating the correlation between independent and dependent variables are compiled in Table 7. The F-statistic (F), mean square, degrees of freedom (df), sum of squares (SS), and significance level (Sig) are some of its essential parts. The residuals' unexplained variability and the overall variability in the dependent variable explained by the regression model are represented by the statistical significance (SS). Regression model's stated SS of 444.582 and residuals' reported SS of 93.917 show that the model accounts for a sizable amount of the variability in the dependent variable. Moreover, the statistical significance of the regression model is indicated by the F-statistic of 22.722, which implies that it offers a significant explanation for the observed variability in the dependant variable.

The F-statistic's significance level is given as.000b, which denotes a highly significant outcome. This further supports the validity of the regression model by

implying that there is an extremely slim likelihood that such a result could have been obtained by chance alone. The results of the ANOVA table highlight how well the model explains the relationship between the independent and dependent variables, offering insightful information for additional study and interpretation. In many different research and analytical contexts, the ANOVA table is an essential tool for evaluating the statistical significance and dependability of regression models.

Table 8

Coefficient Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	37.404	8.989		4.161	.000
CAR	-18.126	6.100	-.352	-2.971	.007
NPL	-1.413	1.212	-.107	-1.166	.255
ROE	-.600	.158	-.743	-3.803	.001
IN	-.007	.160	-.008	-.046	.964
GDP	-.096	.526	-.027	-.182	.857

a. Dependent Variable: LATA

The coefficients derived from a regression analysis are displayed in Table 8. The regression model's intercept is shown by the first row, "(Constant)," labeled. With a standard error of 8.989, the constant's unstandardized coefficient (B) is 37.404. This shows that the anticipated value of LATA is 37.404 when all independent variables are zero. The constant is statistically significant at the 1% level, according to the t-value of 4.161 and the significance level of.000.

The coefficient for CAR is displayed in the next row. Its unstandardized coefficient is -18.126, and its standard error is 6.100. -.352 is the standardized coefficient (Beta). This negative figure implies that a bank's LATA falls as its capital adequacy rises. This association is statistically significant at the 1% level, according to the CAR t-value of -2.971 and the significance level of.007.

With a standard error of 1.212, the unstandardized coefficient for NPL is -1.413. The standardized coefficient is -.107, indicating that there may be a small inverse

association between LATA and non-performing loans. Nevertheless, this association is not statistically significant, as indicated by the t-value of -1.166 and the significance level of.255. The unstandardized coefficient of the ROE variable is -.600, and its standard error is.158. The correlation between return on equity and LATA is very negative, as indicated by the standardized coefficient of -.743. This association is statistically significant at the 1% level, according to the ROE t-value of -3.803 and the significance level of.001.

With a standard error of.160, the inflation rate (IN) has an unstandardized coefficient of -.007. With a standardized coefficient of -.008, inflation and LATA are shown to have a very weakly negative connection. There is no statistical significance in this association, as indicated by the t-value of -.046 and the significance level of.964. Lastly, the GDP growth rate has a standard error of.526 and an unstandardized coefficient of -.096. The standardized coefficient is -.027, indicating that GDP growth and LATA have a somewhat negative association. This association is not statistically significant, as indicated by the GDP t-value of -.182 and the significance level of.857.

Major findings

The major findings of the study are as follows:

- The variable LATA exhibits a minimum value of 0.10 and a maximum value of 0.19. The standard deviation of 0.02258 indicates that there is a little degree of variance in the average of 0.1496. With a mean value of 12.5814 and a comparatively small standard deviation of 1.23448, the variable CAR indicates moderate variability. Its range is 10.84 to 15.96. In comparison to LATA and CAR, NPL has a larger range, ranging from 0.12 to 3.32, with an average value of 1.4014 and a standard deviation of 0.86805.
- There is moderate variability in the ROE variable, which has a range of 8.90 to 32.78, a mean of 17.0464, and a standard deviation of 5.71660. With an average value of 6.4600 and a standard deviation of 2.42588, IN spans from 3.60 to 9.90, indicating considerable variability. In conclusion, the GDP has a reasonably large range of values, ranging from 19.49 to 48.51, with a mean value of 32.6220 and a standard deviation of 9.59825. Each variable in the dataset's distribution and central tendency are summarized by these descriptive statistics.

- Since LATA reflects the correlation of a variable with itself, the correlation between it and itself is always 1. Moving on to further correlations, we see that LATA and CAR have a very weak positive link, with a correlation coefficient of 0.023. The correlation between LATA and NPL is -0.237, indicating a moderately negative association; that is, non-performing loans tend to decline as the ratio of liquid assets to total assets rises. Similarly, there is a weak positive association (r = 0.157) between LATA and ROE.
- In addition, the LATA to IN correlation is negative (-0.264), indicating that inflation tends to decline as the ratio of liquid assets to total assets rises. There is a weak positive link (r = 0.065) between Nepal's real domestic product/GDP growth and the Liquid Assets to Total Assets Ratio (LATA).

4.2 Discussion

According to the first hypothesis's result, the capital adequacy ratio and the liquidity ratio of Nepali microfinance enterprises have a positive but statistically insignificant association. Diep and Nguyen (2017), who discover that the Capital Adequacy Ratio (CAR) has a positive and substantial link with the liquidity of microfinance enterprises, partially support this finding. Nonetheless, the outcome defies the conclusions drawn by Abu-đlrop and Kokh (2020), who discovered a negative correlation between the Capital Adequacy Ratio (CAR) and a noteworthy association with microfinance enterprises' liquidity.

The second hypothesis's result demonstrates the negligible and negative association between non-performing loans and liquidity risk. On the other hand, Otwoko and Maina (2021) discovered a strong and favorable correlation between the ratio of liquid assets to total assets and non-performing loans. On the other hand, Kumar and Tripathu (2012), who discovered that non-performing loans had a negative and negligible association with liquidity ratio, validated the result.

Once more, the third hypothesis states that the liquidity risk of Nepali microfinance enterprises is positively and marginally correlated with profitability. Khati (2020), who discovered a substantial and positive correlation between profitability and liquidity risk of microfinance enterprises in Nepal, has provided some evidence for this conclusion. Conversely, Chen and Phuong's (2014) result indicates a strong and unfavorable correlation with the liquidity risk of microfinance firms.

The fourth hypothesis's outcome shows a positive but statistically insignificant association between Nepal's microfinance companies' liquidity ratio and the country's gross domestic product. El-Chaarani (2019), who discovers that there is a positive and significant correlation between the GDP and the liquidity of microfinance enterprises, provides some evidence for this conclusion. The outcome, however, runs counter to Trenca et al. (2015)'s findings, which showed a substantial correlation between the liquidity of microfinance enterprises and the GDP.

The fifth hypothesis's outcome demonstrates the negligible and negative association between liquidity risk and inflation. On the other hand, Kumar and Tripathu (2012) discovered a strong and favorable correlation between liquidity risk and inflation. On the other hand, the findings are corroborated by Otwoko and Maina (2021), who discovered a negligible and negative correlation between inflation and liquidity risk.

CHAPTER V

SUMMARY AND CONCLUSION

The summary, the conclusion, and the recommendation make up the three primary sections of this chapter. All four chapters are revised or summarized in the summary section. The study findings are summarized in the conclusion section, and recommendations and suggestions are offered based on the knowledge and expertise gained from this thesis project. Recommendations are offered for both additional research and for the interested parties to improve the current situation.

5.1 Summary

Although liquidity risk is a major worry in the conventional banking literature, the banking industry's research community hasn't given it much attention thus far. The entire economy is at risk from the liquidity problem in addition to the banking sector. The performance of the banking industry has a significant impact on the public's trust in the country's economy. The purpose of this study was to evaluate the bank's exposure to liquidity risk in the context of Nepal and to pinpoint the key factors influencing the bank's liquidity risks there. A review of the literature is a way to gather data from many sources regarding the research topic that has been chosen. Reviewing the literature is taking a stock of what is written about a particular topic of study. A literature review is an in-depth analysis of earlier publications on the general and particular subjects covered in the report. The literature review may also function as a reader's guide and bibliographic index. It also shows how the current study fits into the bigger picture. The purpose of the literature review is to provide fundamental information on a subject linked to microfinance companies and a number of well-known authors from various books, journals, and research papers. This chapter reviews a number of independent investigations, unpublished prior theses, articles, and publications. Examining each of these gives us context for the research project and instructions for handling the prospective issues below in order. The following topics are examined under this heading.

The demographic and sample, data source, and data analysis techniques are all covered under the research design. Five microfinance organizations are selected as a sample from the entire financial system; the analysis primarily uses secondary data. Research methodology provides a framework for methodically resolving research

quandaries in order to achieve the study's main goal. It includes a succinct description of the study design, the types and sources of data, the procedure for gathering data, and the methodology of the instruments used to analyze the data. This study uses secondary data and a combination of casual and descriptive comparative research designs. Secondary data is gathered from the associated annual reports, periodicals, and other publications of the banks, as well as from the Nepal Stock Exchange, Nepal Rastra Bank, and other relevant magazines. The project spans ten years, with data collected from 2013/14 to 2022/23. Numerous statistical and financial methods, such as regression, correlation, standard deviation, average (mean), and others, have been utilized for mathematical analysis. In a similar manner, calculations have been done using Word, Excel, SPSS, and spreadsheets.

In conclusion, the research shows that there is no meaningful correlation between GDP and the Capital Adequacy Ratio (CAR) and the Liquid Assets to Total Assets Ratio (LATA). On the other hand, there are somewhat negative correlations between LATA and both inflation (IN) and non-performing loans (NPL). Furthermore, there is a marginally positive correlation found between LATA and Return on Equity (ROE), suggesting that an increase in the Liquid Assets to Total Assets Ratio will lead to a minor improvement in ROE.

5.2 Conclusion

The investigation yields some significant results about the factors influencing the liquidity of microfinance enterprises in Nepal. First, the correlation study shows how important it is to handle non-performing loans (NPL). The liquidity of Nepalese microfinance enterprises tends to decline as the percentage of non-performing loans rises, according to the negative correlation coefficient between the liquidity ratio (LATA) and NPL. This highlights the requirement for efficient methods to keep an eye on, manage, and cut down on non-performing loans in order to preserve ideal levels of liquidity. The report also emphasizes the difficulties larger banks have in keeping high levels of liquidity. The somewhat negative relationship shown between LATA and bank size (IN) implies that controlling liquidity gets more difficult as banks get bigger. Larger banks must have strong procedures for managing liquidity, diversify their sources of funding, and make sure they have enough liquid assets to handle the risks related to growing their activities.

However, the capital adequacy ratio (CAR) and LATA have a moderate positive correlation coefficient, suggesting that capital adequacy has little direct impact on bank liquidity. Financial stability still depends on maintaining a sufficient capital base, but other variables, such asset-liability management and liquidity risk management, are more crucial in setting liquidity levels. Similarly, there may be a small relationship between profitability and liquidity based on the weak positive correlation coefficient found between LATA and return on equity (ROE). Higher profitability by itself, however, does not ensure better liquidity unless it is accompanied by suitable asset-liability management plans and efficient procedures for managing liquidity risk. Finally, there is little correlation between macroeconomic conditions and bank liquidity, as evidenced by the very modest positive correlation between LATA and GDP. Although macro factors have an indirect impact on liquidity, their own power seems to be restricted. As a result, banks should concentrate on internal variables including managing non-performing loans, controlling liquidity risk, and keeping the right amount of liquid assets on hand.

This study's result highlights how crucial it is for Nepalese microfinance institutions to manage non-performing loans and handle liquidity issues. Liquidity and financial stability depend on efficient methods for loan monitoring, credit risk assessment, and prompt resolution of non-performing assets. Sound liquidity management procedures must be implemented by banks of all sizes, taking into consideration the difficulties posed by their size. To maintain a strong liquidity position and general stability in the Nepalese microfinance sector, comprehensive liquidity risk management procedures should take into account capital adequacy, profitability, and macroeconomic considerations.

5.3 Implications

Based on the results of the empirical analysis, this paper makes the following inference:

5.3.1 Managerial implications

- The LATA (liquid assets to total assets ratio) and non-performing loans (NPL) have a moderately negative connection, indicating that keeping a larger percentage of liquid assets relative to total assets may help lower the incidence of non-performing loans. It follows that in order to reduce the risk of non-

performing loans (NPLs) and improve overall asset quality, managers should concentrate on optimizing the allocation of liquid assets.

- The return on equity may be enhanced by raising the Liquid Assets to Total Assets Ratio, as suggested by the weakly positive association between LATA and ROE. Managers that wish to improve ROE performance can maximize the LATA by making strategic changes to liquidity management and asset allocation.
- A larger percentage of liquid assets compared to total assets may assist lessen the effects of inflation, as indicated by the moderately negative correlation found between LATA and inflation (IN). Using this knowledge, managers can put into practice efficient liquidity management plans that take the market's possible inflationary pressures into account.

5.3.2 Research implications

- Although they suggest possible linkages, the correlations between LATA and other factors do not prove causation. In order to ascertain the direction of influence, additional research can investigate causal links between LATA and variables like NPL, ROE, IN, and GDP using sophisticated econometric tools.
- The effects of LATA may differ depending on the industry. Subsequent investigations may concentrate on performing sector-specific examinations to comprehend the variations in the correlations among LATA and other variables. For managers in particular industries, this can offer insightful information on how to improve their liquidity management procedures.
- The correlations are shown as of a certain moment in time in the current analysis. A more thorough knowledge of how these interactions develop and their consequences for managerial decision-making can be obtained through longitudinal studies that monitor changes in LATA and its linkages with other factors over time.
- Analyzing correlations between LATA and other factors across various nations or regions can shed light on how market dynamics, regulatory frameworks, and economic situations affect liquidity management procedures.

Policymakers and practitioners who want to comprehend the cross-national differences in the interactions underlying LATA may find this to be helpful.

-

LIQUIDITY RISK AND ITS DETERMINANTS IN MICROFIN...

By: Rashmila Maharjan

As of: Jul 4, 2024 2:29:12 PM
18,942 words - 91 matches - 4 sources

Similarity Index

7%

Mode: Summary Report

sources:

767 words / 4% - from 03-May-2023 12:00AM
elibrary.tucl.edu.np

367 words / 2% - Internet from 14-Jan-2023 12:00AM
elibrary.tucl.edu.np

94 words / 1% - from 23-Oct-2023 12:00AM
irgu.unigoa.ac.in

93 words / 1% - Internet from 29-Sep-2018 12:00AM
www.nbp.pl

paper text:

ABSTRACTS The purpose of this study was to evaluate

the bank's exposure to liquidity risk in the context of Nepal

and to pinpoint the key factors influencing the bank's liquidity risks there. The demographic and sample, data source, and data analysis techniques are all covered under the research design. Five microfinance organizations are selected as a sample from the entire financial system; the analysis primarily uses secondary data. Research methodology provides a framework for methodically resolving research quandaries in order to achieve the study's main goal. It includes a succinct description of the study design, the types and sources of data, the procedure for gathering data, and the methodology of the instruments used to analyze the data. This study uses secondary data and a combination of casual and descriptive comparative research designs. Secondary data is gathered from the associated annual reports, periodicals, and other publications of the banks, as well as from the Nepal Stock Exchange, Nepal Rastra Bank, and other relevant magazines. The project spans ten years, with data collected from 2013/14 to 2022/23. Numerous statistical and financial methods, such as regression, correlation, standard deviation, average (mean), and others, have been utilized for mathematical analysis. In a similar manner, calculations have been done using Word, Excel, SPSS, and spreadsheets. The analysis's conclusions indicate that there is no meaningful correlation between GDP and

the Capital Adequacy Ratio (CAR) and **the Liquid Assets to Total Assets Ratio** (LATA). On **the**

other hand, there are somewhat negative correlations between LATA and both inflation (IN) and non- performing loans (NPL). Furthermore, there is a marginally positive correlation found between LATA and Return on Equity (ROE), suggesting that an increase in the Liquid Assets to Total Assets Ratio will lead to a minor improvement in ROE. The investigation yields some significant results about the factors influencing the liquidity of microfinance enterprises in Nepal. First, the correlation study shows how important it is to handle non-performing loans (NPL). Key words: