IMPACT OF LIQUIDITY ON PROFITABILITY OF JOINT VENTURE BANK IN NEPAL

A Dissertation Submitted to the office of the Dean, Faculty of Management, in partial fulfillment of the requirements for the Degree of Masters of Business Studies (MBS)

By

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of the dissertation entitled **"IMPACT OF LIQUIDITY ON PROFITABILITY OF JOINT VENTURE BANK IN NEPAL"**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has 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 has cited in the reference section of the dissertation.

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REPORT OF RESEARCH COMMITTEE

Ms. Sangita Sapkota has defended research proposal entitled **"IMPACT OF LIQUIDITY ON PROFITABILITY OF JOINT VENTURE BANK IN NEPAL"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Pitamber Lamichhane Submit the thesis for evaluation and viva-voce examination.

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APPROVAL SHEET

We, the undersigned, have examined the thesis entitled **"IMPACT OF LIQUIDITY ON PROFITABILITY OF JOINT VENTURE BANK IN NEPAL"** Presented by Sangita Sapkota 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 thesis is worthy of acceptance.

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This research study on **"IMPACT OF LIQUIDITY ON PROFITABILITY OF JOINT VENTURE BANK IN NEPAL"** has been prepared as the partial fulfilment of Master of Business Studies (MBS). The interest in the study arose from the group discussing with my colleagues by realizing that not many studies have been conducted in this sector in Nepal.

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Sangita Sapkota

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ABBREVIATIONS

&	:	And
ANOVA	:	Analysis of Variance
CV	:	Coefficient of Variation
DPR	:	Divident Peyout Ratio
DPS	:	Divident Per Share
EPS	:	Earning Per Share
et al.	:	And others
F.Y.	:	Fiscal Years
MPS	:	Market Price Per Share
N	:	Total Number of Observation
P/E	:	Price Earnings
SD	:	Standard Deviation

ABSTRACT

This study aims to analyze the impact of dividend policy on the stock price of Life insurance companies in Nepal. The study investigates the connections between different dividend policy indicators and stock prices using secondary data from ten insurance companies spanning an eight-year period, from 2014/15 to 2022/23. Market price per share (MPS) and important financial indicators, such as earnings per share (EPS), dividend per share (DPS), dividend payout ratio (DPR), and price-to-earnings (P/E) ratio, are found to positively correlate, according to the investigation. For these associations, statistical significance is reported at the 0.05 level. The analysis of the dividend policy components shows that the regression model has a moderate explanatory power, as it accounts for 25.90% of the variance in MPS. The results indicate that while DPR has no discernible effect, MPS is greatly impacted by DPS, P/E Ratio, and EPS. The model's fit is validated by the ANOVA results, supporting the conclusions' validity. The study also found the significance of earnings and valuation indicators in influencing stock prices and directing dividend policy decisions, offering insightful information to insurance company owners, managers, and directors.

Keywords: Divident Policy, Dividend Payout Ratio, Dividend Per Share, Earnings Per Share, P/E Ratio.

CHAPTER-I
INTRODUCTION

1.1 Background of the Study

The term liquidity is often used in multiple contexts. An asset's liquidity can be used to describe how quickly, easily and costly it is to convert that asset into cash (Berger & Bouwman, 2008). Liquidity can also be used to describe a company by the amount of cash or near cash assets a company has; the more liquid assets, the higher a company's liquidity. Financial ratios that measure liquidity are referred to as a company's liquidity ratios. One such ratio is the current ratio which determines a company's ability to pay short term debts as they come due (Van Der Vossen, 2010). Liquidity risk has many definitions but the one that can be derived from the ratio is the probability that a company will not be able to pay its short term obligations as they come due.

Profitability is a measure of the amount by which a firm's revenues exceeds its relevant expenses. The potential of making profits encourages entrepreneurs to take risks to invest in a business. So, the first role of profits is to reward owners for risks taken when investing in a business. The major portion of a bank's profit comes from the fees it charges for its services and the interest it earns on its assets. Its major expense is the interest paid on its liabilities. The major assets of a bank are its loans to individuals, businesses, and other organizations and the securities that it holds, while its major liabilities are its deposits and the money that it borrows, either from other banks or by selling commercial paper in the money market (Jeevarajasingam, 2014).

Liquidity and profitability are two crucial issues that organization's management always considers when evaluating the company's financial health. It is widely acknowledged that liquidity is one of the driving factors affecting the likelihood of a bank failure. Liquidity is a measure of the availability of cash for use in the day-to-day business. A liquid asset is one that is cash or can easily be turned into cash. Liquidity plays a crucial role to both the internal and external analysts because of its close relationship with day-to-day operations of a business. Weaker liquidity position poses a threat to the solvency as well as the profitability of a firm and makes it unstable. The current ratio' and the 'quick ratio' are two common measures of a company's liquidity. Usually, a high current ratio usually indicates the

firm's ability to promptly meet its short- term liabilities (Alshatti, 2015).

Banking is one of the most sensitive businesses worldwide and plays a very important role in the economy. They influence and facilitate integrating economic activities like resources mobilization, production activities, distribution of public finance, and social wellbeing. A bank can generate revenue in various ways including interest, transaction fees and financial advice. The main method is via charging interest on the capital it lends out to customers. The bank profits from the difference between the level of interest it pays for deposits and other sources of funds, and the level of interest it charges in its lending activities. This difference has referred to as the spread between the cost of funds and the loan interest rate. Historically, profitability from lending activities has been cyclical and dependent on the needs and strengths of loan customers and the stage of the economic cycle. Fees and financial advice constitute a more stable revenue stream and banks have placed more emphasis on these revenue lines to smooth their financial performance. The Banking Sector of Nepal consists of 3 government banks, 6 joint venture banks and 11 private domestic banks, making 20 banks (NRB, 2023) altogether.

1.2 Problem Statement

The researcher found that numerous studies have been made on the liquidity and profitability position of joint venture banks in Nepal. As a researcher, the research and findings are particularly focused on giving a clear picture of the overall banking sector liquidity and profitability relationship and their impact and influence on each other.

The relationship between liquidity, and profitability in banking sectors is essential for comprehending the financial health and stability of banks. The results of the extensive research conducted on the impact of these factors on profitability are inconsistent and frequently contradictory across various regions and types of financial institutions. For example, certain studies assert that profitability is positively correlated with liquidity (Afriyie & Akotey, 2012; Simotwo et al., 2018), while others imply that profitability is negatively impacted (Farooq et al., 2020; Aduda & Gitonga, 2011). In the same vein, the influence of liquidity management on profitability is inconsistent, with some studies indicating positive correlations (e.g., Chaudhury, 2018) and others indicating insignificant impact (e.g., Olarewaju & Adeyemi, 2015; Shrestha, 2018).

Given these gaps, there is a need for more comprehensive research that integrates these factors to provide a more nuanced and holistic understanding of the impact of liquidity, on profitability of joint venture banks in Nepal. This research will help in developing more effective strategies for managing liquidity and profitability banking sectors. The following questions have addressed to identify the impact of liquidity on profitability of joint venture banks in Nepal;

1. What is the liquidity and profitability position of joint venture banks of Nepal?
2. Is there relationship between liqudity and profitability of joint venture banks in Nepal?
3. Does the liquidity impact on profitability of joint venture banks in Nepal?

1.3 Objective of the Study

A study has conducted and report is prepared with certain objectives keeping in mind. In the absence of specific objective, the study loses its value. The general purpose of to study liquidity and profitability of joint venture banks in Nepal. The study has conducted to achieve the following objectives:

1. To analyze liquidity and profitability position of joint venture banks in Nepal.
2. To assess the relationship between liquidity and profitability of joint venture banks in Nepal.
3. To examine the impact of liquidity on profitability of joint venture banks in Nepal.

1.4 Research Hypothesis

This study has focused on finding out whether there is a relationship between liquidity and profitability of the joint venture banks. The study has based on Liquidity ratios and Profitability ratios of selected bank groups and finding out the relationship among one dependent and two independent variables, respectively.

The research hypothesis is:

H1: There is a significant relationship between CAR and ROA.

H2: There is a significant relationship between CAR and ROE.

H3: There is a significant relationship between CRR and ROA.

H4: There is a significant relationship between CRR and ROE.

H5: There is a significant relationship between NPL ratio and ROA.

H6: There is a significant relationship between NPL ratio and ROE.

H7: There is a significant relationship between credit risk and ROA.

H8: There is a significant relationship between credit risk and ROE.

1.5 Rationale of the Study

The study of liquidity's impact on banking sector profitability plays a vital role in managerial decisions. Every organization has to analyze its financial performance in the every step of its operation, promotion and expansion. The objective of profitability always guides commercial banks. All financial decisions of commercial banks are for the betterment of shareholder's wealth. There should be an effective system of funds allocation to safeguard the banks from the danger of illiquidity. An appropriate level must be achieved between them. The study ponders on relationship between the liquidity and profitability of joint venture banks in Nepal.

The findings on this research will contribute to the theory of finance since liquid assets generally have a relatively low return, holding them imposes an opportunity cost on a firm. The research will help distinguish empirically whether banks' holdings of liquid assets significantly impact their profitability. The study's findings can guide finance managers in banks to make investment decisions that will satisfy the stakeholders' interest with regard to liquidity and profitability needs of the investors. Identifying liquidity levels that maximize profits enables managers to revise and adopt relevant strategies. Additionally the regulators will have evidence as to what levels of liquidity are present in profitable banks. This will help them formulate rules and regulations that help minimize failure risk in the sector. Further the research adds to the body of knowledge in finance as well as further evidence on how banks are managed.

Similarly, since the study has been made taking into consideration overall banking sector segregated into three groups, it would help to know which group has higher significant relationship and which is on the lower side and further helps to analyze on which group would have higher impact on NRB liquidity policy introduced over time. Most of all, this research would be helpful in finding on nature and extent of relationship between liquidity and profitability on Nepalese banking sector which is ample to know for every investors, institutions, government authorities and especially bankers in their respective banks.

1.6 Limitations of the Study

The primary limitation of this study is its dependence on secondary data, which is fundamentally characterized by concerns regarding accuracy and incompleteness. The strength of the findings may be compromised by discrepancies and inconsistencies in the data, which is derived from a variety of financial statements, annual reports, and publications by the Nepal Rastra Bank. Furthermore, the study's exclusive focus on joint venture banks may confine the generalizability of the results to the broader banking sector in Nepal by excluding other commercial banks. The study offers valuable insights into the relationship between liquidity and profitability, despite these limitations. However, it is important to exercise carefulness when interpreting the results and extending them beyond the specified context.

1. The study has based on joint venture banks out of total commercial banks in Nepal.
2. The study has done based on secondary data. Therefore, the study has inherent limitations of the secondary data.
3. This study covers the analysis of only five years data from 2016/17 to FY 2022/23; hence the conclusion drawn confirms to the above periods only.

CHAPTER-II
LITERATURE REVIEW

2.1 Introduction

This chapter includes the literature relevant to the study. It has included the concept of credit risk management and profitability along with empirical studies related to credit risk management and its impact on profitability of Nepalese banks and the bank of other countries. It also includes the conceptual framework to better understand the factor that may influence the bank's financial performance. A literature Review is a search and evaluation of the available literatures, related and relevant to a given subject or the topic under study. It documents the state of the art with respect to the topic or the subject of study. A well-documented review shows the reader that the researcher had in-depth grasp and understanding of the subject matter. As a result, literary review has become an essential part of every research work. It surveys the available literatures, synthesizes the information into summary, critically analyzes the information gathered and presents it in an organized way.

2.2 Thepretical Review

This implies an opportunity cost associated with a bank's pursuit of profitability or liquidity. This theory posits that institutions that Choose to be liquid will not be profitable, and vice versa.

The primary objection to this theory is that it predicated the banks' ability to generate profit by granting a significant portion of their liquid resources as loans, enabling them to earn interest. However, the availability of sufficient liquidity, which allows the bank to meet the withdrawal demands of its depositors, may attract additional customers as banks expand into other revenue-generating areas, such as cost-on-transactions. This unexpected increase in revenue has a subsequent positive impact on profitability.

The relationship between liquidity and profitability has been widely studied in finance, with several theories explaining the trade-offs and interactions between these two critical financial aspects. Here are some of the key theories, along with relevant references:

Trade-off Theory

The Trade-off Theory suggests that firms balance the benefits of holding liquid assets against the opportunity costs associated with these holdings. Maintaining too much liquidity can lead to underinvestment in profitable opportunities, reducing overall profitability. Conversely, insufficient liquidity can lead to financial distress. This theory implies that there is an optimal level of liquidity where the marginal benefit of holding liquid assets equals the marginal cost of forgone profitability (Myers, 2001).

Liquidity Preference Theory

Proposed by John Maynard Keynes (1936), the Liquidity Preference Theory posits that individuals and firms prefer to hold their wealth in liquid form due to uncertainty about future needs. For businesses, this theory suggests a cautious approach to liquidity management. While high liquidity reduces insolvency risk, it can also result in lower returns on assets, as liquid assets generally generate lower returns compared to less liquid, but more profitable, investments.

Risk-Return Trade-off

The Risk-Return Trade-off theory asserts that firms with higher liquidity (lower risk) generally experience lower returns, while firms that take on more risk by reducing liquidity can achieve higher returns (Fama & French, 1992). This theory highlights the inverse relationship between liquidity and profitability, where firms must carefully decide on their liquidity levels based on their risk tolerance and profitability objectives.

Pecking Order Theory

The Pecking Order Theory, developed by Myers and Majluf (1984), suggests that firms prefer to finance investments first with internal funds, then with debt, and finally with equity. According to this theory, more profitable firms rely less on external financing and can maintain lower liquidity since they generate sufficient internal funds. However, firms with lower profitability might need to hold more liquidity to meet obligations, which can result in reduced profitability.

Agency Theory

Agency Theory, introduced by Jensen and Meckling (1976), addresses the conflicts of interest between shareholders and managers. In the context of liquidity and profitability, this theory suggests that managers may prefer to hold excess liquidity to reduce their personal risk, even if it leads to lower profitability. Shareholders, on the other hand, might prefer that the firm invests excess liquidity in profitable projects to maximize returns, creating potential conflicts in liquidity management decisions.

Bank-Liquidity Theory

Bank-Liquidity Theory emphasizes the critical role of liquidity in maintaining financial stability, particularly in the banking sector. According to this theory, banks need to balance liquidity and profitability carefully, as excessive liquidity can reduce returns (due to lower interest rates on liquid assets), while insufficient liquidity can lead to solvency issues, especially during financial crises (Diamond & Dybvig, 1983).

Free Cash Flow Theory

The Free Cash Flow Theory, proposed by Jensen (1986), argues that excess liquidity in the form of free cash flow can lead to inefficiencies and overinvestment in unprofitable projects, thereby decreasing overall profitability. This theory suggests that firms with high levels of free cash flow may experience agency problems, where managers invest in projects that do not maximize shareholder value, resulting in lower profitability.

Liquidity-Profitability Nexus

The Liquidity-Profitability Nexus is a conceptual framework that highlights the complex and dynamic relationship between liquidity and profitability. This theory suggests that the relationship is not linear but is influenced by various factors, including industry characteristics, economic conditions, and firm-specific variables. The Nexus emphasizes that the optimal balance between liquidity and profitability is context-dependent and may vary over time (Garcia-Teruel & Martinez-Solano, 2007).

2.3 Empirical Review

However, many international researches have conducted in similar field; few researches have conducted to assess the liquidity and profitability of banks. The effort has made in this present section to examine and review some related articles published in different economic journals, bulletins, magazines and newspapers. Besides, the findings of previous research (i.e., national and international) conducted in similar areas have also been described.

Table 2. 1

Meta Analysis

Author(s)	Title	Tools	Major findings
Chaurasiya (2023)	Impact of Liquidity Management on Profitability of Joint Venture Commercial Banks in Nepal	Correlation and Multivariate regression analysis.	The research findings also showed a significant positive relationship between the dependent variable and the set of independent variables, with an R square value of 0.615, meaning that 61.5% of the variation in the dependent variable is explained by the independent variables and 38.5% is explained by variables outside the model. According to the findings, TLTAR significantly affects ROA, while CDR, CAR, CRR, and TDTAR have little effect on joint venture commercial banks' ROA in Nepal.
Ahmeti et.al. (2021)	Impact of Liquidity Management on commercial banks Profitability in Kosovo During the Period 2011-2019	Descriptive Statistics, Correlation and Multivariate regression analysis	The findings determine whether there is a significant relationship between liquidity management and profitability in commercial banks in Kosovo. The current ratio, quick ratio, cash ratio and capital adequacy ratio have been taken as liquidity indicators, while return on assets and equity are considered profitability indicators.

Mishra et.al. (2021)	Profitability in Commercial Bank - A Case Study of Nepal	Descriptive Statistics, Correlation and Multivariate regression analysis	The size of banks is in increasing trend. The decreasing trend of standard deviation showed that the size of Nepalese commercial banks has lower variation in the use of total assets as the year increases. There is a negative relation between ROA and ROE with loan ratio, deposit ratio and capital ratio, while there is positive relation with bank size and inflation. However, in case of NIM, bank size, loan ratio, deposit ratio and inflation exhibit a positive relation while the capital ratio shows the negative relationship with NIM. Majority of the respondents feel that the publication of financial reports is one of the major influencing factors of bank profitability.
Sharma (2021)	Credit Risk Management and Its Impact on Profitability of Nepalese Commercial Banks.	Descriptive Statistics, Correlation and Multivariate regression analysis.	The major risk indicator and evaluate the banking risk in terms of credit risk. The relationship between CAR, NPL, CRR, and AGR shows a low impact on the profitability of commercial banks.
Farooq, et al. (2020)	Credit Risk and Profitability of Commercial Banks in Pakistan	Descriptive Statistics, Correlation and Multivariate regression analysis	The results attach great significance to the LLP as it negatively impacts performance. The negative impact of the credit risk on the financial institutions' profitability (financial gains) is suggestive of revisions in credit policies by the management of the respective banks. The positive capital ratio indicates that well-capitalized banks in the country are faced with lower cost of external financing; hence they have better opportunities to translate lower costs into higher profitability over the times. Loan

			ratio positively affects the profitability of commercial banks operating inside Pakistan.
Khati (2020)	Impact of Liquidity on Profitability of Nepalese Commercial Banks	Descriptive Statistics, Correlation and Multivariate regression analysis	The result showed that assets quality (AQ) has negative and significant relationship with return on assets (ROA) whereas it has positive and significant relationship with return on equity (ROE). Cash deposit ratio (CADR) has positive and insignificant relationship with return on assets (ROA) and return on equity (ROE). However, the study reveals that credit-deposit (CDR) has a positive but insignificant relationship with ROA and a negative relationship with return on equity (ROE).
Moussa and Boubaker (2020)	The impact of Liquidity on bank profitability: A case of Tunisia	Descriptive statistics, correlation and Regression analysis	The return on assets (ROA) is positively and significantly impacted by (liquid assets / total assets) and (total credits / total deposits), but not significantly by (current assets / current liabilities). Furthermore, we discovered that the ratios of liquid assets to total assets and total credits to total deposits had a negative and noteworthy effect on return on equity, or ROE. On the other hand, the ratio of current assets to current liabilities has no effect on ROE.
Nelson (2020)	The Impact of Credit Risk Management on the Profitability of a Commercial Bank: The Case of BGFI Bank Congo	Descriptive Statistics, Correlation and Multivariate regression	The key intention is to check whether the credit risk management indicators have the same significant impact on the return on equity (ROE) and return on total assets (ROA). The results show that the use of the non-performing loan ratio, the loan loss

		analysis	provision ratio to represent credit risk management strategies, has a negative impact on both of the profitability indicators used in this study. The result is not significant at the 5% threshold with the non-performing loan ratio but significant at the 5% threshold with the loan loss provision ratio. On the other hand, the study shows that a capital adequacy ratio (CAR) has a positive and statistically significant impact at the 5% threshold on the ROA of BGFI Bank Congo. This indicates that the bank should lend more to individuals if it holds a strong capital adequacy.
Poudel (2020)	The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Nepal.	Descriptive Statistics, Correlation and Multivariate regression analysis	The study revealed that all these parameters have an inverse impact on banks' financial performance; the default rate, on the other hand, is the best indicator of banks' financial performance.
Pokharel (2019)	Impact of liquidity on profitability in Nepalese Commercial Bank	Descriptive Statistics, Correlation and Multivariate regression analysis	The research concluded that bank's liquidity ratios have below the prescribed standard. Similarly, CRR is extremely heavy than prescribed by monetary policy 2016/17. The CRR and IGSCA are positively correlated with ROA while CRR and CBBISD are inversely correlated with ROA. In case of liquidity-ROE Relation, CR is inversely correlated to ROE but all other ratios (CRR, CBBISD and IGSCA) are positively correlated with ROE. It also has reported a significant relationship between liquidity ratios and profitability,

			except between IGSCA and ROA.
Madusanka and Bandara (2019)	Impact of the Credit Risk Management on Profitability of Licensed Finance Companies in Sri Lanka	Descriptive Statistics, Correlation and Multivariate regression analysis	This study found a significant negative association between non- performing loan ratio, loan provision to total loan ratio with return on assets which implies that when these variables increase, return on assets is decrease and vice versa. CAR is positively associated with the company's profitability, indicating that when these variables increase, ROA increase and vice versa. Furthermore, ratio of loan to deposit and loan provision to total asset also has a positive insignificant effect on return on assets and ratio of loan provision to non-performing loan have a negative insignificant effect on profitability of company.
Simotwo, et al. (2018)	Effects of credit risk management on profitability of savings and credit co-operative societies in Kenya.	Descriptive Statistics, Correlation and Multivariate regression analysis	The study concluded that asset quality using NPLs to Total Gross Loans increased return on asset for firms. On NPLs Net of provisions to capital was also affect profitability of Saccos. The study concluded that Asset quality using NPLs to Total Gross Loans increased return on asset for Saccos, because loans remain the main asset quality of deposit taking SACCOs. The study further concluded that nonperforming loans to total loans and total deposit had positive relationship with return on asset, because loans remain the main asset quality of deposit taking SACCOs.

Chaudhury (2018)	Impact of liquidity on banks' productivity: A study on selected commercial banks in Bangladesh	Correlation and Multivariate regression analysis and Beta analysis	The study's results support the notion that there is a positive and significant correlation between liquidity and productivity. The management of funds coming into and going out of a bank in a way that preserves productivity, profitability, solvency, and liquidity is known as liquidity management.
Akhter (2018)	The Impact of Liquidity and Profitability on Operational Efficiency of Selected Commercial Banks in Bangladesh: A Panel Data Study	Descriptive statistics, correlation and Regression analysis.	The study shows that, using the Fixed Effect Regression Model and the Panel Correlated Standard Error estimator, respectively, liquidity and profitability together account for roughly 66.23% and 98.85% of the bank's operational efficiency. The study comes to the conclusion that, in order to assure profits for its shareholders, the bank should use the deposits and borrowings of its customers by building a high-quality loan portfolio after preserving a minimum level of liquidity.
Mohanty and Mehrotra (2018)	The effect of liquidity management on profitability: A comparative analysis of public and private sector banks in India	Descriptive statistics, correlation and Regression analysis.	Research shows that CDR and IDR have a significant negative impact on ROA. But when it comes to ROE, it is found that, no matter the type or structure of the commercial banks in India, there is not a significant relationship between banks' profitability and liquidity when all the variables are taken into account. Therefore, it can be concluded that commercial banks can concentrate on raising their profitability without compromising their liquidity and vice versa.

Shrestha (2018)	The liquidity management and profitability of commercial banks in Nepal.	Descriptive statistics, correlation and Regression analysis	The relationship between liquidity management and profitability as well as how it affects profitability is the study's main objective. Pearson correlation analysis is utilized to investigate the relationship between profitability and liquidity management. Regression analysis is used to examine how liquidity affects profitability. It has been determined that the data covers Nepali commercial banks from 2012 to 2016. The factors of the current reserve ratio (CRR), credit deposit ratio (CDR), and profitability, including return on equity (ROA), are represented by liquidity management. The outcome shows that Nepalese commercial banks' profitability is not much impacted by liquidity.
Tuladhar (2017)	Liquidity and profitability of commercial banks in Nepal	Descriptive statistics, correlation and Regression analysis.	The result showed that coverage ratio, capital adequacy ratio and bank size positively impact bank performance. On the other hand, leverage ratio, non-performing loan ratio and female board members are found to harm the performance of bank, however, liquidity ratio, assets quality ratio, cash reserve ratio turned out to be not significant variables in determining bank performance.
Malik, et al. (2016)	Profitability and liquidity in Pakistani private sector banks.	The Ordinary Least Squares (OLS) technique was used to specify and	The empirical findings showed a statistically significant correlation between return on assets and bank liquidity indicators. It became statistically insignificant, nevertheless, when return on investment and return on equity were employed as proxies for profitability. The

		estimate three models.	banks' strategies for managing liquidity should be evaluated and reorganized, as advised. This will not only raise shareholder equity yields but also optimize the bank's asset utilization.
Olarewaju and Adeyemi (2015)	Causal Relationship between Liquidity and Profitability of Nigerian Deposit Money Banks	Descriptive statistics, correlation and Regression analysis	There is no causal relationship either one way or both between liquidity and the likelihood of Guaranty Trust Bank, Zenith Bank, Sterling Bank, Diamond Bank, IBTC, Unity Bank, UBA, Fidelity Bank, Wema Bank, Union Bank, and Eco Bank opening. For banks like Skye Bank, First Bank, Access Bank, and FCMB, the study also demonstrates the existence of a trace of a unidirectional causal relationship that runs from liquidity to profitability. The report recommends that the Central Bank of Nigeria, as the apex bank, maintain strict oversight and monitoring of deposit money institutions' strength based on its findings and conclusions.
Sharma (2015)	Liquidity and Profitability of Himalayan Bank Limited and Nabil Bank Limited	Descriptive statistics, correlation and Regression analysis.	The average ratio appeared higher in NABIL, which signifies that NABIL is more capable of meeting immediate liabilities in contrast to HBL. The net worth to total credit ratio appeared much higher in HBL than NABIL, which signifies that HBL, has used significantly larger extent of net worth for credit creation but ratio widely dispersed in HBL as compared to that in NABIL.
Bhattrai (2014)	Liquidity and Profitability of commercial banks	Descriptive statistics, correlation and	The commercial banks under consideration have been practicing poor credit risk management. The author concluded that the non-performing loan ratio had a

		Regression analysis	negative effect on bank performance and the cost per loan assets positively affected bank performance.
Adhikari (2013)	Liquidity and profitability of joint venture banks in Nepal	Descriptive statistics, correlation and Regression analysis	The liquidity position of NBBL has not better than that of HBL and NSBL. The NBBL is in better position regarding its on-balance sheet activities. The ratios of NBBL are highly variable, revealing NBBL has not followed stable policy. The profitability position of NBBL has comparatively not better than that of HBL but better than that of NSBL. The credit risk ratios and interest rate risk ratios of NBBL is higher than that of HBL and NSBL.
Berrios (2013)	Liquidity and financial performance of commercial banks in Nepal	Descriptive statistics, correlation and Regression analysis	The findings suggest that insider holdings and chief executive officer of higher tenure harm banks' performance. However, the study emphasizes that more evidence needs to be obtained before generalizing this finding. The findings from regression result show a negative relationship between loans to deposits and cash flows, but a positive relationship between lesser prudence in lending and financial performance.
Afriyie and Akotey (2012)	Impact of liquidity on the profitability of rural and community banks in Ghana.	Descriptive statistics, correlation and Regression analysis	The study's finding showed a significant positive relationship between non-performing loans and bank profitability, which means non-performing loans are increasing proportionately to profitability. The author has found the reason of ineffective credit risk management that the bank shifts cost of loan default to other customers with higher-interest loans.

Paudel (2012)	Impact of liquidity on the financial performance of commercial banks in Nepal	Descriptive statistics, correlation and Regression analysis	All these parameters inversely impact banks' financial performance. However, among the risk management indicators, default rate (NPLR) is the single most influencing predictor of bank financial performance in Nepal whereas cost per loan assets is not significant predictors of bank performance. The author concludes that credit risk management is crucial for bank performance since it has a significant relationship with bank performance.
Sthapit and Maharjan (2012)	Impact of liquidity management on profitability: A comparative study between NABIL and SCBN	Descriptive statistics, correlation and Regression analysis.	There is a significant effect of LFTDR, NRBTDR and CHIDR on profitability in SCBN. There are no significant effects of the liquidity ratios on profitability in NABIL.
Aduda and Gitonga (2011)	Liquidity and profitability of commercial banks in Kenya	Descriptive statistics, correlation and Regression analysis	The research used the non-performing loan ratio as an independent variable representing credit risk management and ROE as a dependent variable as a measure of bank profitability. The method used in this study is regression analysis. The findings from regression analysis show that NPLR is negatively related and statistically significant to ROE.
Shakya (2011)	Liquidity and Profitability of the Development banks in Nepal.	Descriptive statistics, correlation and Regression analysis	The research was conducted mainly on the basis of secondary data. The liquidity ratio indicates better liquidity position of the NB bank. Although liquidity position of NBL and NABIL are lower, they are still able to meet their current obligation. The leverage or capital structure ratio indicates that long-term debt to net worth ratio of NB bank is the highest and NABIL is the

			lowest.
Kithinji (2010)	Liquidity and profitability of commercial banks in Kenya	Descriptive statistics, correlation and Regression analysis	This study's results show no relationship between bank profit and the amount of credit and level of non-performing loans. This means that the amount of credit and non-performing loan does not influence the bulk of banks' profitability. Hence, the author suggests that commercial banks aiming to enhance profitability to focus on factors other than the amount of credit and non-performing loans.

The literature on the relationship between liquidity and profitability across various financial institutions provides valuable insights.

Chaurasiya (2023) studies about impact of liquiditymanagement on profitability of joint venture commercial banks in Nepal using correlation and multivariate regression analysis research design from 2011/12 to 2020/21 for this study. The research findings also showed a significant positive relationship between the dependent variable and the set of independent variables. According to the findings, TLTAR significantly affects ROA, while CDR, CAR, CRR, and TDTAR have little effect on joint venture commercial banks' ROA in Nepal.

Ahmeti et al. (2021) analyzed the impact of liquidity management on Kosovo's commercial banks during the period 2011 to 2019. He used descriptive statistics, correlations and multivariate regression analysis to identify significant relationships between liquidity indicators and profitability. He researched about whether there is a significant relationship between liquidity management and profitability incommercial banks in Kosovo. The current ratio, quick ratio, cash ratio and capital adequacy ratio have been taken as liquidity indicators while return on assets and equity are considered profitability indicators.

Mishra et.al. (2021) studied about profitability in commercial banks – A case study of Nepal during 2013 to 2019. He used descriptive statistics correlation and multivariate regression analysis reported a negative relationship between various financial ratios and profitability

indicators in Nepalese commercial banks. He finds the size of banks is in increasing trend.The decreasing trend of standard deviation showed that the size of Nepalese commercial banks has lower variation in the use of total assets as the year increases. There is a negative relation between ROA and ROE with loan ratio, deposit ratio and capital ratio, while there is positive relationwith bank size and inflation. However, in case of NIM, bank size, loan ratio, deposit ratio and inflation exhibit a positive relation while the capital ratio shows the negative relationship with NIM. Majority of the respondents feel that the publication of financial reports is one of the major influencing factors of bank profitability.

Sharma (2021) studied credit risk management and it's impact on profitability of Nepalese commercial banks. He noted a low impact of credit risk indicators on the profitability of commercial banks in Nepal. He used descriptive statistics correlation and multivariate regression analysis. He finds major risk indicator and evaluate the banking risk in terms of credit risk. The relationship between CAR, NPL, CRR, and AGR shows a low impact on the profitability of commercial banks.

Farooq et.al. (2020) analyze credit risk and profitability of commercial banks in Pakistan. He used descriptive statistic correlation and multivariate regression analysis to find out effects of credit risk on the profitability of commercial banks in Pakistan. He finds great significance to the LLP as it negatively impacts performance. The negative impact of the credit risk on the financial institutions' profitability (financial gains) is suggestive of revisions in credit policies by the management of therespective banks. The positive capital ratio indicates that well-capitalized banks in the country are faced with lower cost of external financing; hence they have better opportunities to translate lower costs into higher profitability over the times. Loan ratio positively affects the profitability of commercial bank operating inside Pakistan.

Khati (2020) studied impact of liquidity on profitability of Nepalese commercial banks. He used descriptive statistic correlation and multivariate regression analysis as research design and variables. He researched the relationship between asset quality with ROA and ROE. He made conclusions that assets quality (AQ) has negative and significant relationship with return on assets (ROA) whereas it has positive and significant relationship with return on equity (ROE). Cash deposit ratio (CADR) has positive and insignificantrelationship with return on assets (ROA) and return on equity (ROE). However, the study reveals that credit-deposit (CDR) has a positive but insignificant relationship with ROA and a negative relationship with return on equity (ROE).

Moussa and Boubaker (2020) researched on the impact of liquidity on banks profitability -A case of Tunisia. He used descriptive statistic correlation and multivariate regression analysis as

research design and variables to find impacts of liquidity ratios on profitability measures in Tunisian banks. The outcomes are return on assets (ROA) is positively and significantly impacted by (liquid assets/ total assets) and (total credits / total deposits), but not significantly by (current assets / current liabilities). Furthermore, wediscovered that the ratios of liquid assets tototal assets and total credits to total deposits had a negative and noteworthy effect on return on equity, or ROE. On the other hand, the ratio of current assets to current liabilities has no effect on ROE.

Nelson (2020) investigate the impact of credit risk management on the profitability of commercial bank: the case of BGFI bank Congo. He used descriptive statistic correlation and multivariate regression analysis as research design. The key intention is to check whether the credit risk management indicators have the same significant impact on the return on equity (ROE) and return on total assets (ROA). The results show that the use of the non-performing loan ratio, the loan loss provision ratio to represent credit risk management strategies, has a negative impact on both of the profitability indicators used in this study. On the other hand, the study shows that a capital adequacy ratio (CAR) has a positive and statistically significant impact on the ROA of BGFI Bank Congo. This indicates that the bank should lend more to individuals if it holds a strong capital adequacy.

Poudel (2020) investigate on the impact of credit risk management on financial performance of commercial banks in Nepal. He used descriptive statistic correlation and multivariate regression analysis as research design. His study emphasized that relationship of credit risk management parameters impacted financial performance in Nepalese commercial banks. The study reveals that all these parameters have an inverse impact on banks financial performance; the default rate, on the other hand, is the best indicator of bank's financial performance.

Pokharel (2019) studied on impact of liquidity on profitability in commercial bank of Nepal. He used descriptive statistic correlation and multivariate regression analysis as research design. Pokharel explored liquidity's impact on the profitability of Nepalese commercial banks and concluded that bank's liquidity ratios have been below the prescribed standard as CRR is extremely high.The CRR and IGSCA are positively correlated with ROA when CRR and CBBISB are inversely correlated with ROA. In case of liquidity and ROE relation, CR is inversely correlated with ROE but all other ratios are positively correlated to ROE and it has reported significant relationship between liquidity ratio and profitability except between IGSCA and ROA.

Madusanka and Bandara (2019) investigate impact of the credit risk management on profitability of licensed finance companies in Sri Lanka This study found a significant negative association between non- performing loan ratio, loan provision to total loan ratio with return on assets which

implies that when these variables increase, return on assets is decrease and vice versa. CAR is positively associated with the company's profitability, indicating that when these variables increase, ROA increase and vice versa. Furthermore, ratio of loan to deposit and loan provision to total asset also has a positive insignificant effect on return on assets and ratio of loan provision to non-performing loan have a negative insignificant effect on profitability of company.

Simotwo et.al. (2018) studied about the effects of credit risk management on profitability of savings and credit co-operative society in Kenya. He studied the effects of credit risk management on the profitability of savings and credit co- operative societies in Kenya using descriptive statistics, correlation, and multivariate regression analysis, concluding that asset quality, particularly non-performing loans (NPLs), positively influenced return on assets (ROA).

Chaudhury (2018) studies on impact of liquidity on banks productivity; a study on selected banks on Bangladesh using correlative and multi regressive analysis and beta analysis to found a correlation between liquidity and productivity in selected commercial banks. The study's results support the notion that there is a positive and significant correlation between liquidity and productivity. The management of funds coming into and going out of a bank in a way that preserves productivity,profitability, solvency, and liquidity is known as liquidity management.

Akhter (2018) evaluate the impact of liquidity and profitability on operational efficiency of selected commercial banks in Bangladesh: A panel data study by assist of descriptive statistics, correlation and regression analysis. The study shows that, using the Fixed Effect Regression Model and the Panel Correlated Standard Error estimator, respectively, liquidity and profitability together lower than of the bank's operational efficiency. The study comes to the conclusion that, in order to assure profits for its shareholders, the bank should usethe deposits and borrowings of itscustomers by building a high-quality loan portfolio after preserving a minimum showed that liquidity and profitability significantly influence operational efficiency in Bangladeshi banks.

Mohanty and Mehrotra (2018) examine effect of liquidity management on profitability: A comparative analysis of public and private sector banks in India. Research shows that CDR and IDR have a significant negative impact on ROA. But when it comes to ROE, it is found that, no matter the type or structure of the commercial banks in India, there is not a significant relationship between banks' profitability and liquidity when all the variables are taken into account. Therefore, it can be concluded that commercial banks can concentrate on raising their profitability without compromising their liquidity and vice versa.

Shrestha (2018) conduct a study about the liquidity management and profitability of commercial

bank in Nepal using regression, correlation and descriptive statistics analysis to study. He finds the relationship between liquidity management and profitability as well as how it affects profitability is the study's main objective. Pearson correlation analysis is utilized to investigate the relationship between profitability and liquidity management. Regression analysis is used to examine how liquidity affects profitability. It has been determined that the data covers Nepali commercial banks from 2012 to 2016. The factors of the current reserve ratio (CRR), credit deposit ratio (CDR), and profitability, including return on equity (ROA), are represented by liquidity management. The outcome shows that Nepalese commercial banks' profitability is not much impacted through liquidity.

Tuladhar (2017) investigated the capital adequacy ratio (CAR), liquidity ratio (LR), bank size (BS), asset quality ratio (AQR), leverage ratio (LER), non-performing loan ratio (NPLR), cash reserve ratio (CRR), coverage ratio (CR) and the number of female board members (FBM) have been used as indicator of credit risk management while dependent variable includes return on equity (ROE) and return on assets (ROA) as indicator of profitability. The result showed that coverage ratio, capital adequacy ratio and bank size positively impact bank performance. On the other hand, leverage ratio, non-performing loan ratio and female board members are found to harm the performance of bank, however, liquidity ratio, assets quality ratio, cash reserve ratio turned out to be not significant variables in determining bank performance. The study recommends an effective credit risk management for commercial bank of Nepal that should maintain the optimal level of above-mentioned variables to enhance financial performance.

Sharma (2015) concluded that entitled Liquidity and Profitability of Himalayan Bank Limited and Nabil Bank Limited. The main research objective of the study has analyze liquidity and profitability position of sample banks, to examine the trend of total deposit, total investment, loan and advances, net worth, net profit, earning per share and market value (per share of these banks for coming five years). The research has used the secondary data and mainly financial tools have embodied for analyzing comparative study on financial performance of Himalayan Bank Limited and Nabil Bank Limited. Both banks could not maintain the conventional standard. However, the average ratio appeared higher in NABIL, which signifies that NABIL is more capable of meeting immediate

liabilities in contrast to HBL. The net worth to total credit ratio appeared much higher in HBL than NABIL, which signifies that HBL, has used significantly larger extent of net worth for credit creation but ratio widely dispersed in HBL as compared to that in NABIL.

Bhattrai (2014) found that the capital adequacy ratio, non-performing loan ratio, cost per loan assets, cash reserve ratio and bank size as indicator of independent variables while the

dependent variable includes return on assets. Regression analysis has been used to assess the data. The study's findings showed that the commercial banks under consideration have been practicing poor credit risk management. The author concluded that the non-performing loan ratio had a negative effect on bank performance and the cost per loan assets positively affected bank performance. In contrast to other studies, the capital adequacy ratio and cash reserve do not influence bank performance. Since there is a significant relationship between credit risk andbank performance. The author recommended that the banks establish proper credit risk management strategies by conducting sound credit evaluation before granting customers loans.

Adhikari (2013) study the liquidity and profitability of joint venture banks, evaluate the trends of deposit utilization towards total investment and loan & advances and to analyze the various risks in investment of development banks in Nepal. The study has used the analytical research design and based on secondary data. The research concludes that the liquidity position of NBBL has not better than that of HBL and NSBL. The NBBL is in better position regarding its on-balance sheet activities. The ratios of NBBL are highly variable, revealing NBBL has not followed stable policy. The profitability position of NBBL has comparatively not better than that of HBL but better than that of NSBL. The credit risk ratios and interest rate risk ratios of NBBL is higher than that of HBL and NSBL. At the end, Deposit collection position, lending position, investment position and net profit position of NBBL hasnot better in comparison to HBL but than NSBL.

Berrios (2013) attempted to explore the relationship between the increase in bank risk and the global financial crisis, conducting the analysis in two phases. The first phase considered the latest available data, including insider holdings, chief executive officer compensation, and tenure. While the second phase employed regression modelling using the Merchant Online database as data source. The sample size for the second phase is 40 banks which have been selected randomly from the database, for the period 2005 to 2009 totaling to about 200 observations. The performance variables used for the second phase are net interest margin, return on assets, return on equity, and cash flow to assets. Whereas, the independent variables used are insider variable for bank, less prudence variable for bank,

compensation variable for bank, tenure variable for bank, loans to deposits, and total debt to equity. The findings suggest that insider holdings and chief executive officer of higher tenure harm banks' performance. However, the study emphasizes that more evidence needs to be obtained before generalizing this finding. The findings from regression result show negative relationship between loans to deposits and cash flows, but a positive relationship between lesser prudence in lending and financial performance.

Afriyie and Akotey (2012) examined the impact of liquidity on the profitability of rural and community banks in Ghana using panel regression model for the period 2006 to 2010. The authors have taken non-performing loan and capital adequacy ratio as indicators of credit risk management, and ROA and ROE as indicators of bank profitability. The study's findings show a significant positive relationship between non-performing loans and bank profitability, meaning that even though there is huge loan default, non-performing loans are increasing proportionately to profitability. The authors have found the reason for ineffective liquidity practice among Ghana's rural and community banks and reported that banks shift the cost of loan default to other customers with higher interest on loans. Due to this practice the community banks remained profitable. However, this reveals that rural and community banks in Ghana do not have sound and effective credit risk management practice because theoretically, non-performing loans reduce the bank profitability. The authors strongly recommend for 16 the Bank of Ghana to tighten its control mechanism of the rural banking industry to stop this practice.

Paudel (2012) examined the impact of liquidity on the financial performance of commercial banks in Nepal using the financial report of 31 banks for eleven years (2001-2011). The study's data analysis methods were descriptive, correlation and multiple regressions. The financial performance indicator used in the study was return on assets (ROA). The banks' financial performance predictors used in the study were: default rate, these parameters inversely impact banks' financial performance. However, among the risk management indicators, default rate (NPLR) is the single most influencing predictor of bank financial performance in Nepal whereas cost per loan assets is not significant predictors of bank performance. The author concludes that credit risk management is crucial for bank performance since it has a significant relationship with bank performance.

Aduda and Gitonga (2011) investigated the relationship between liquidity and profitability of thirty commercial banks in Kenya using primary and secondary data. Preliminary data

was collected through a questionnaire while secondary data was obtained from bank's annual report and financial statements from 2000 to 2009. The authors used the non-performing loan ratio as an independent variable representing credit risk management and ROE as a dependent variable as a measure of bank profitability. The method used in this study is regression analysis. The findings from regression analysis show that NPLR is negatively related and statistically significantto ROE.

Shakya (2011) conducted entitled Liquidity and Profitability of the Development banks in Nepal. This research main research objective have, to analyze the liquidity and profitability of joint venture bank and find the relation each other. The research was conducted mainly on the basis of secondary data. The liquidity ratio indicates better liquidity position of the NB bank. Although liquidity position of NBL and NABIL are lower, they are still able to meet their current obligation. The leverage or capital structure ratio indicates that long-term debt to net worth ratio of NB bank isthe highest and NABIL is the lowest. Banks have extremely leveraged. Total debt to net worth and total asset ratio of HBL is the highest and that of NABIL has relatively lower leverage. Return on investment, interest earned to total assets ratio and commission and discount earned to personnel expenses ratio of NB bank has higher than NABIL bank and HBL, while return on shareholder's equity is higher in HBL and interest income to interest expense ratio is higher in NABIL bank. The valuation ratios used for analysis showed the following results. The PE ratio and DPR of NABIL bank is the highest and HBL is the second highest, while the MVPS to BVPS ratio of HBL is the highest and NB is the lowest. The operating profit of NABIL is higher than that of HBL and NB bank.

Kithinji (2010) examined the relationship between liquidity and profitability of commercial banks in Kenya from 2004 to 2008. The independent variables specified by the author include the amount of credit and non-performing loans, whereas the dependent variable used is the return on total assets. In contrast to the finding of other studies, this study's results show no relationship between bank profit and the amount of credit and level of non-performing loans. This means that the amount of credit and non-performing loan does not influence the bulk of banks' profitability. Hence, the author suggests that commercial banks aiming to enhance profitability to focus on factors other than the amount of credit and non-performing loans.

Previous research showed no clear-cut liquidity and profitability of commercial banks in Nepal. The research can help the people who wanted to know about the overall liquidity and profitability of commercial banks in Nepal. Therefore, this topic may not be new, but the research efforts may be appreciable.

2.4. Research Gap

Previous research has found that the relationship between liquidity and profitability of joint venture banks in Nepal has been conducted by few researchers.

The synthesis of a variety of studies on the relationship between liquidity and profitability in various financial contexts and regions reveals a complex and frequently contradictory landscape. Although some studies indicate a positive correlation between profitability and non-performing loans (e.g., Afriyie and Akotey, 2012; Simotwo et al.,

2018), others point to a negative impact (e.g., Farooq et al., 2020; Aduda and Gitonga, 2011). In the same vein, the findings regarding the impact of liquidity management on profitability are inconsistent, with some studies indicating positive correlations (e.g., Chaudhury, 2018) and others demonstrating no significant impact or conflicting results (e.g., Olarewaju and Adeyemi, 2015; Shrestha, 2018).

The studies that were examined yielded inconsistent findings regarding the influence of liquidity and credit risk management on profitability in various countries and financial institutions, including commercial banks, rural banks, and joint venture banks. This inconsistency implies the necessity of conducting more thorough, cross- regional studies that consider contextual factors, including regulatory environments, market conditions, and institutional practices. There needs to be more examination of how these factors interact and jointly influence profitability, even though many studies concentrate on either liquidity or credit risk management in isolation. A more comprehensive approach that investigates the combined impact of credit risk and liquidity management on financial performance could be advantageous for future research. The dynamic nature of the relationship between liquidity, credit risk management, and profitability may need to be adequately captured by cross-sectional data, which prevails in most studies. Longitudinal studies that monitor these variables over time could offer more profound insights into their long-term effects and causal relationships.

Non-financial factors, including governance, regulatory changes, and macroeconomic conditions, may influence the relationship between liquidity, credit risk management, and profitability. Yet, few studies have taken these factors into account. By including these factors in future research, it is possible to develop a more comprehensive comprehension of the factors influencing financial performance. Most current research concentrates on developing countries, particularly in Africa and South Asia. The literature on developed economies is deficient regarding the financial systems, regulatory frameworks, and market dynamics, which exhibit substantial differences. The generalizability of findings could be improved, and comparative insights could be obtained by broadening the geographical scope of research to encompass all developed countries. Limited research has been conducted on theimpact of technological advancements, such as fintech innovations, on the relationship between liquidity, credit risk management, and profitability despite the growing adoption of technology in banking. The function of technology in enhancing or mitigating these financial dynamics could be the subject of future research.

This research can contribute to a more nuanced and comprehensive understanding of the complex impact of liquidity on the profitability of joint venture banks in Nepal by addressing these gaps.

CHAPTER-III
RESEARCH METHODOLOGY

3.1. Research Design

This research was designed to study the liquidity and profitability of joint venture banks in Nepal. To achieve the research objective, descriptive and causal-comparative research designs have been used. For liquidity measures, CAR, CRR, NPL ratio, and credit risk have been considered whereas for profitability measures i.e. ROA, and ROE has been considered.

3.2. Population and Sample

Population or universe refers to the industries of the same nature of its service & product. It is the collection or the aggregate of objects or the set of results of an operation. On the other hand, sample means the representative parts of the population selected from it to investigate its properties. Thus, a sample is just a portion of the population selected to conclude the population under study. The population of this study is the commercial banks of Nepal. In the context of Nepal, 20 commercial banks operate in Nepal (December 2023). Among them 6 joint venture banks in Nepal. Out of 6 joint venture banks, five joint venture banks i.e. NABIL, EBL, HBL, NSBI, SCBNL and NMB have taken samples from cluster sampling.

3.3. Nature and Source of Data

Data was collected from secondary data. Likewise, data has emanated from listed banks' financial reports, published and unpublished books, scholarly journals, business and financial newspapers, and other magazines and corporate journals. As the study needs historical financial data, which are from corporate reports, accessing publicly available data is assumed as a suitable method for the accuracy of the data. As public data is accessible to everyone, the study made use of the financial performance data, which were of interest to the present research. Financial reports and other relevant information of the listed banks for 2015/16 to 2022/23 have been retrieved from the internet by search engines.

3.4 Methods of analysis

The collected data has been analyzed with the help of different financial and statistical tools.

3.5.1 Financial tools

A. Liquidity Ratio

A bank is an institution that deals in money. Cash is the most liquid fund and it is considered as the defense of banks. The bank should maintain a certain amount of cash to meet the cash requirements of the depositors. The structure of the cash will be in the form of cash in its vault and the cash kept in other banks as well as in the central bank of the country. The central bank, NRB also directs all the commercial banks to maintain a certain percentage of cash and bank balance for maintenance of liquidity. The liquidity ratio measures used in this study involve:

B. Profitability Ratio

Each firm has been established to earn profit by fulfilling human needs and wants. Profit is a kind of fuel for business enterprises or firms. Without profit, no firm can survive. Therefore profit is essential for a firm's survival and future growth. Hence, the management of the firm is interested in the operating efficiency of the bank. The profitability ratio is one of the important indicators of operating efficiency. One of the focuses of commercial banks is to be enough profitable to meet a variety of objectives like achieving a desirable liquidity position, meeting fixed interest obligations, overcoming future contingencies, explicit hidden investment opportunities, encouraging branch expansion, etc. The profitability ratio is the best indicator of the overall efficiency of the bank. The profitability ratios used in the study involve:

a. Return on Total Asset

$$\text{Return on Total Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}}$$

It measures the efficiency of the bank in the utilization of the overall assets. A high ratio indicates the success of management in overall operation. A lower ratio means insufficient operation of the bank.

b. Return on Equity

Equity shareholders are the real owners of a company and are the risk bearers and are entitled to total profits earned by the company after preference

dividend. Return on equity relates the profitability of a company to equity shareholders' equity. ROE measures the company's profitability in terms of return to equity shareholders. It has been calculated as:

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax}}{\text{Shareholders' Equity}}$$

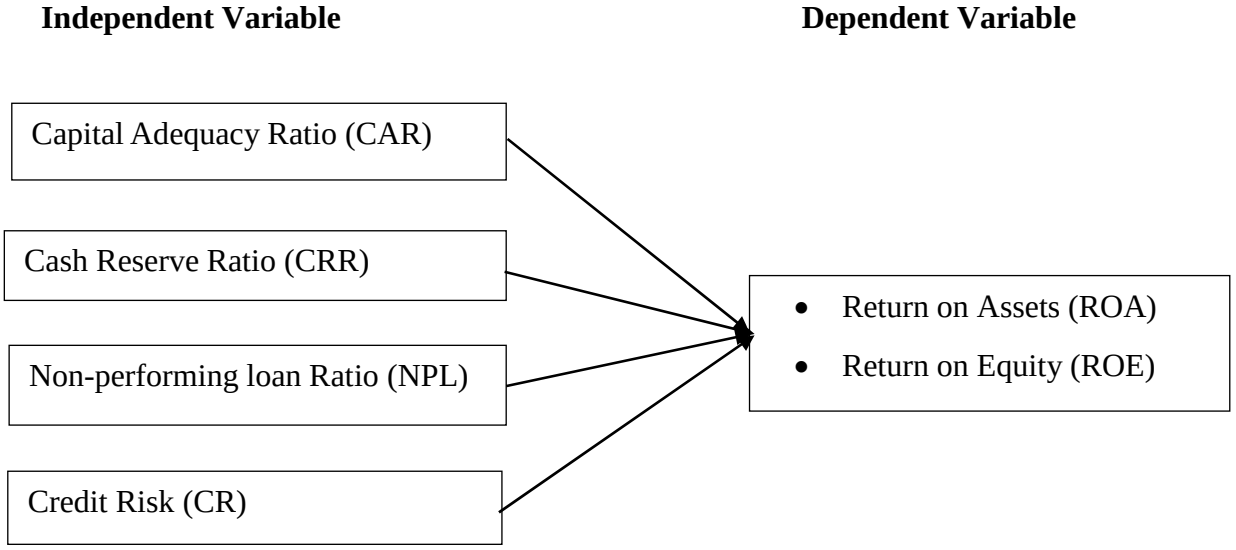
The ratio has been tested to see if the profitability of the owner's investment "reflects the extent to which the objective of business is accomplished". The ratio is of great interest to present as well as prospective shareholders and of great significance to management, which has the responsibility of maximizing the owner's welfare, so a higher ratio is desirable.

3.5.2 Statistical Tools

Statistical tools are the measures or instruments to analyze the collected data from different sources. In statistics, there are numerous statistical tools to analyze the data of various natures. In this study, mainly statistical tools such as Trend analysis, Coefficient of correlation (r), and Regression analysis have been used keeping into consideration the key tools required for the study. For primary data, frequency analysis, descriptive statistics, and one sample t-test have been developed for the analysis.

3.6 Conceptual Framework

This study has focused on finding out whether there is a relationship between the Nepalese Banking sector's liquidity and profitability from 2012/13 to 2022/23. The study has therefore based on Liquidity ratios and Profitability ratios of joint venture banks in Nepal and finding out the relationship among one dependent and two independent variables respectively. Hence, this study focuses on finding whether there is a relationship between liquidity and profitability of the selected banks and the nature and extent of their relationship.



***Source**: Shrestha and Jha (2020)*

Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR) is a crucial financial metric used to evaluate a bank's financial strength and stability. It measures a bank's capital in relation to its risk-weighted assets, ensuring that the bank has enough capital to absorb potential losses and protect depositors. CAR is expressed as a percentage and is calculated by dividing the bank's capital by its risk-weighted assets.

CAR is divided into two types of capital:

1. Tier 1 Capital: This includes core capital, such as common equity, retained earnings, and certain types of preferred stock. Tier 1 capital is the primary funding source for a bank and is essential for absorbing losses without ceasing operations.
2. Tier 2 Capital: This includes supplementary capital, such as subordinated debt, hybrid instruments, and loan-loss reserves. Tier 2 capital provides additional protection to depositors and creditors.

The formula for CAR is:

CAR= (Tier 1 Capital + Tier 2 Capital)/ Risk-Weighted Assets×100%

Regulatory bodies, such as the Basel Committee on Banking Supervision, establish minimum CAR requirements to ensure the banking sector's soundness and stability. The Basel III framework, for example, mandates a minimum CAR of 8%, with additional buffers to account for systemic risks.

The Capital Adequacy Ratio (CAR) is a vital measure of a bank's financial health, ensuring that it maintains sufficient capital to cover potential losses and support ongoing operations. By adhering to regulatory CAR requirements, banks contribute to the overall stability and confidence in the financial system.

Cash Reserve Ratio (CRR)

The Cash Reserve Ratio (CRR) set by the Nepal Rastra Bank (NRB) is a critical regulatory measure designed to maintain the liquidity and stability of the country's banking system. It mandates that commercial banks hold a specified percentage of their total deposits as cash reserves with the NRB. This requirement ensures that banks have enough liquidity to meet depositor demands and aids the central bank in controlling the money supply. By adjusting the CRR, the NRB can influence the lending capacity of banks, thereby managing inflation and stimulating or moderating economic activity. A higher CRR means banks have less money to lend, which can help control inflation by reducing the money supply. Conversely, a lower CRR increases the funds available for loans, which can boost economic activity. This regulatory tool is essential for implementing monetary policy and maintaining financial stability in Nepal. However, it also presents challenges, as higher reserve requirements can reduce bank profitability and operational flexibility. Overall, the CRR set by the NRB is a fundamental mechanism for ensuring the soundness of Nepal's banking sector.

The formula for calculating the Cash Reserve Ratio (CRR) is:

$$\text{Cash Reserve Ratio (CRR)} = \frac{Cash\ Reserve}{Total\ Deposit} \times 100$$

Non-Performing Loan (NPL)

The Non-Performing Loan (NPL) Ratio is a vital financial metric used to evaluate the health and performance of a bank's loan portfolio. It measures the percentage of loans that are in default or close to being in default compared to the total loans issued by the bank, with loans typically classified as non-performing when payments are overdue by 90 days or more. A high NPL Ratio indicates a significant level of credit risk, suggesting that a considerable portion of the bank's loans are at risk of not being repaid, which can erode profitability and capital adequacy. This ratio is crucial for assessing a bank’s asset quality, with lower ratios being preferable as they indicate that most loans are performing well. High NPL ratios can stem from economic downturns, ineffective credit risk management, or sector-specific issues, leading to reduced profitability, constrained lending capacity, and potential financial instability. Regulatory authorities, such as central banks, closely monitor NPL ratios to ensure the stability and soundness of the banking system. The formula for calculating the Non-Performing Loan Ratio (NPL ratio) is:

$$\text{Non-Performing Loan Ratio (NPL ratio)} = \frac{Non\text{–}Performing\ Loan}{Total\ Loan} \times 100$$

Credit risk (CR)

Credit risk (CR) is the potential for loss that a lender faces if a borrower fails to meet their repayment obligations as agreed. It represents the chance that a borrower will default on their financial commitments, which can negatively impact the lender's profitability and stability. Credit risk is assessed through various methods, including credit scoring, credit ratings, and risk models, which evaluate the likelihood of default based on borrowers' credit history and financial status. High credit risk can lead to increased loan loss provisions, reducing a bank's profitability and potentially affecting its capital adequacy. To mitigate credit risk, banks implement rigorous credit assessments, diversify their loan portfolios, and use collateral or guarantees. Regulatory authorities also require financial institutions to maintain adequate capital reserves and adhere to effective credit risk management practices. Overall, managing credit risk is crucial for ensuring the financial health and stability of lending institutions. The formula for calculating the credit risk ratio (CR) is:

$$\text{Credit Risk Ratio (CD)} = \frac{Total\ Loan\ and\ Advance}{Total\ Deposit} \times 100$$

Return on Assets (ROA)

Return on Assets (ROA) is a crucial financial metric that measures how efficiently a company uses its assets to generate profit. Calculated by dividing net income by total assets, ROA reflects the effectiveness of management in leveraging the company's asset base to produce earnings. A higher ROA indicates that a company is effectively utilizing its assets to achieve greater profitability, suggesting strong operational efficiency. Conversely, a lower ROA may point to inefficiencies or challenges in asset management. While ROA provides valuable insights into a company's performance and asset utilization, it may not fully account for differences in asset intensity across industries or variations in accounting practices, making careful interpretation necessary. The formula for calculating the Return on Assets (ROA) is:

$$\text{Return on Assets (ROA)} = \frac{Net\ Income}{Total\ Assets} \times 100$$

Return on Equity (ROE)

Return on Equity (ROE) is a critical financial metric that measures how effectively a company generates profit from its shareholders' equity. Calculated by dividing net income by shareholders' equity, ROE reflects the company's ability to utilize the capital invested by shareholders to produce earnings. A higher ROE indicates strong financial performance and efficient use of equity, often attracting investors due to the higher returns on their investment. Conversely, a lower ROE may suggest inefficiencies or weaker profitability relative to equity. While ROE provides valuable insights into a company's profitability and capital management, it can be influenced by financial leverage and may vary across industries, requiring careful interpretation to fully understand its implications. The formula for calculating the Return on Equity (ROE) is:

$$\text{Return on Equity (ROE)} = \frac{Net\ Income}{Total\ Assets} \times 100$$

CHAPTER-IV
RESULTS AND DISCUSSION

4.1 Results

In this section, detail study has made about credit management of sample banks. This chapter deals with the various aspects of credit management such as current ratios, capital adequacy ratio, cash reserve ratio, non-performing loan, correlation and trend analysis.

4.1.1 Credit risk

Credit risk is the risk of default on a debt that may arise from a borrower failing to make required payments. In the first resort, the risk is that of the lender and includes lost principal and interest, disruption to cash flows, and increased collection costs. The loss may be complete or partial. In an efficient market, higher levels of credit risk will be associated with higher borrowing costs. Because of this, measures of borrowing costs such as yield spreads can be used to infer credit risk.

Table 4. 1

Credit Risk of Joint Venture Banks

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	66.63	64.43	78.39	79.12	75.32	48.92
2015/16	75.14	70.49	72.9	83.59	84.07	56.88
2016/17	84.05	65.38	78.07	85.1	85.5	62.2
2017/18	81.86	82.66	89.6	88.31	90.46	66.45
2018/19	87.01	81.96	90.52	87.37	94.61	70.11
2019/20	83.52	79.72	85.5	82.31	92.31	56.75
2020/21	85.3	89.84	95.58	89.87	96.69	71.27
2021/22	90.77	92.49	92.37	92.14	87.75	82.17
2022/23	85.87	84.19	81.42	88.64	83.46	86.87
Mean	82.24	79.02	84.93	86.27	87.80	66.85
S.D.	6.81	9.54	7.22	3.86	6.21	11.60
C.V.	8.28	12.07	8.50	4.47	7.07	17.35

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.1 shows that the average credit risk (CR) of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 82.24, 79.02, 84.93, 86.27, 87.80 and 66.85 respectively. The average credit risk of NMB Bank limited is highest value and SCBNL is lowest value.

minimum average credit risk than other sample joint venture bank. The increase in credit risk does not indicate either good or bad bank position, but in terms of fulfilling the commitments, the bank seems to be safe.

4.1.2 Cash Adequacy Ratio

The capital adequacy ratio is a metric that quantifies a bank's capital resources as a proportion of its credit exposures adjusted for risk. The capital adequacy ratio, sometimes referred to as the capital-to-risk weighted assets ratio, is utilized to safeguard depositors and enhance the stability and effectiveness of global financial institutions. There are two forms of capital that are measured in banking: tier-1 capital, which allows a bank to sustain losses without having to stop operating, and tier-2 capital, which can absorb losses in the case of a bank's closure and offers less protection to depositors.

Table 4. 2

Cash Adequacy Ratio

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	13.33	11.57	14.03	10.84	11.13	13.1
2015/16	12.66	11.73	13.49	12.15	10.98	16.38
2016/17	14.54	12.9	15.71	12.15	13.61	21.08
2017/18	14.20	13	15.15	12.46	15.75	22.99
2018/19	13.74	12.5	14.12	12.6	15.45	19.69
2019/20	13.38	13.07	15.55	14.89	15.08	18.51
2020/21	12.48	12.77	13.86	13.89	15.08	17.71
2021/22	11.89	13.09	13.25	11.75	13.59	19.67
2022/23	13.30	12.54	12.58	12.31	13.33	22.34
Mean	13.28	12.57	14.19	12.56	13.78	19.05
S.D.	0.79	0.53	1.01	1.12	1.67	2.90
C.V.	5.95	4.25	7.12	8.89	12.14	15.24

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.2 shows that the average Cash Adequacy Ratio (CAR) of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 13.28, 12.57, 14.19, 12.56, 13.78 and 19.05 respectively. The average Cash Adequacy Ratio of SCBNL is highest value and

NABIL is minimum average Cash Adequacy Ratio than other sample joint venture bank. The NABIL bank is less variation and SCBNL is highest variation.

4.1.3 Cash Reserve Ratio

The cash reserve ratio is the amount of cash that banks are required to hold wit hout investing or lending it at interest. This percentage, often known as the reserve rat io, allows commercial banks to determine the proportion of monetary reserves they m ust maintain with their respective central banks.

Table 4. 3

Cash Reserve Ratio

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	24.17	14.55	10.92	28.74	13.32	24.03
2015/16	16.61	6.77	8.33	26.64	10.81	7.98
2016/17	16.52	10.02	10.04	26.64	7.72	19.71
2017/18	17.75	10.05	7.18	23.05	6.68	18.91
2018/19	18.56	4.78	6.65	26.25	4.19	7.52
2019/20	14.43	11.2	8.89	31.39	5.93	14.49
2020/21	18.15	3.66	3.22	26.51	5.66	7.53
2021/22	6.50	4.13	3.05	23.48	5.33	8.96
2022/23	7.11	6.89	4.06	27.38	5.63	6.57
Mean	15.53	8.01	6.93	26.68	7.25	12.86
S.D.	5.29	3.47	2.76	2.37	2.79	6.20
C.V.	34.03	43.34	39.86	8.88	38.46	48.26

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.3 shows that the average Cash Reserve Ratio of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 15.53, 8.01, 6.93, 26.68, 7.25 and 12.86 respectively. The average Cash Reserve Ratio of HBL is highest value and NMB is minimum average Cash Reserve Ratio than other sample joint venture bank. The HBL bank is less variation and SCBNL is highest variation.

4.1.4 NPL Ratio

The NPL ratio, short for nonperforming loan ratio, is a measure that compares the quantity of nonperforming loans in a bank's loan portfolio to the total amount of

outstanding loans held by the bank. The NPL ratio quantifies a bank's ability to collect loan repayments, thereby indicating its effectiveness. A non-performing loan refers to a debt where the borrower has either delayed or is at risk of failing to make payments. Loans that have not been paid for 90 days are classified as non-performing. However, any loan that is in default or at risk of default may also be referred to as non-performing.

Table 4. 4

Non- Performing Loan (NPL Ratio)

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	0.66	1.82	0.19	3.22	0.42	0.34
2015/16	0.38	1.14	0.14	1.23	1.81	0.32
2016/17	0.25	0.8	0.1	0.85	1.68	0.19
2017/18	0.20	0.55	0.2	1.4	0.88	0.18
2018/19	0.16	0.74	0.2	1.12	0.82	0.15
2019/20	0.22	0.98	0.23	1.01	2.68	0.44
2020/21	0.12	0.84	0.23	0.48	2.27	0.96
2021/22	0.12	1.62	0.15	1.59	1.45	0.93
2022/23	0.79	3.39	2.43	4.93	2.75	1.06
Mean	0.32	1.32	0.43	1.76	1.64	0.51
S.D.	0.23	0.83	0.71	1.34	0.78	0.35
C.V.	71.29	62.89	164.71	75.94	47.73	68.60

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.4 shows that the average NPL Ratio of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 0.32, 1.32, 0.43, 1.76, 1.64 and 0.0.51 respectively. The average CRR of NMB is highest value and SBI is minimum average CRR than other sample joint venture bank. It means that SBI bank is better loan.

4.1.5 Profitability

Return on Assets

This particular instance of the profitability ratio has been evaluated in terms of the connection that exists between the assets and the net earnings. It is also possible to refer to the ROA as the profit-to-assets ratio. It evaluates the total efficiency of management in terms of creating profits with the assets that are available to the

company. Ideally, the return on total assets of the company should be as high as possible. The effectiveness of the bank in their utilization of the total assets is evaluated using this metric. When the ratio is high, it implies that management is successful in the whole business. A lower ratio indicates that the bank is not operating effectively enough.

Table 4. 5

ROA of Joint Venture Banks

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	1.85	2.06	1.64	1.94	1.4	1.99
2015/16	1.59	2.32	1.59	2.03	1.92	1.98
2016/17	1.83	2.69	1.57	2.19	1.82	1.84
2017/18	1.97	2.61	1.97	1.67	1.8	2.61
2018/19	1.94	2.11	1.94	2.21	1.83	2.61
2019/20	1.42	1.58	1.17	1.79	1.09	1.71
2020/21	0.89	1.71	0.7	1.68	1.32	1.22
2021/22	1.13	1.2	1.07	1.09	1.35	1.67
2022/23	1.41	1.42	1.06	0.47	1.19	1.89
Mean	1.56	1.97	1.41	1.67	1.52	1.95
S.D.	0.36	0.49	0.41	0.53	0.30	0.42
C.V.	22.89	25.10	28.96	31.82	19.57	21.37

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.5 shows that the average Return on Assets (ROA) of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 1.56, 1.97, 1.41, 1.67, 1.52 and 1.95 respectively. The average Return on Assets (ROA) of Nabil Bank limited is highest value and SBI is minimum average ROA than other sample joint venture bank.

Return on Equity

A measure of the return earned on the investment common stockholders have made in the company is referred to as the return on common equity. Equity shareholders are the true owners of a company. They are also the ones who carry the risk of the firm's failure, and they are entitled to every penny of the company's profits once preference dividends have been paid out. A corporation's profitability is related to the equity shareholders' equity through the concept of return on equity. In terms of return to equity shareholders, return on equity (ROE) is a measurement of the

organization's profitability. Generally speaking, the owners are in a stronger financial position when these returns are higher. The owners are often better off the higher these returns are. The following is the calculation for return on common equity:

Table 4. 6

ROE of Joint Venture Banks

	EBL	NABIL	SBI	HBL	NMB	SCBNL
2014/15	27.2	29.93	17.08	24.53	16.4	21.69
2015/16	29.75	25.61	17.46	21.22	21.96	17.18
2016/17	26.75	22.41	14.87	21.58	16.49	11.98
2017/18	22.86	20.94	15.81	14.17	13.54	18.66
2018/19	21.13	17.76	16.2	18.34	13.32	19.49
2019/20	16.25	13.61	10.44	15.4	8.94	15.15
2020/21	13.54	15.19	6.26	14.89	12.08	9.14
2021/22	14.29	9.78	9.57	10.76	12.95	15.42
2022/23	13.99	11.66	10.77	4.65	11.65	14.67
Mean	20.64	18.54	13.16	16.17	14.15	15.93
S.D.	5.99	6.33	3.75	5.75	3.52	3.64
C.V.	29.01	34.14	28.50	35.56	24.90	22.83

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.6 shows that the average Return on Equity (ROE) of the EBL, NABIL, SBI, HBL, NMB and SCBNL are 20.64, 18.54, 13.16, 16.17, 14.15 and 15.93 respectively. Among them, the average Return on Equity (ROE) of EBL is greater and SBI is minimum ROE value than other sample banks. It indicates that ROE of NABIL is highly variation and SBI is less variation. The average ROE for each sample bank for the sample period is displayed in the figure below.

4.1.6 Descriptive analysis

Descriptive statistics refers to the process of analyzing data to provide a relevant summary that reveals patterns within the data. Descriptive statistics just provide information on the data that the researcher has evaluated and do not allow us to draw inferences beyond that. They also do not enable us to reach conclusions about

any hypotheses that have been established. Data description is their primary purpose. The researcher employed statistical measures such as mean, minimum, maximum, standard deviation, and standard error to examine the data.

Table 4. 7

Descriptive Statistics

	Min.	Max.	Mean	SD	N
ROA	0.47	2.69	1.6806	0.47849	54
ROE	4.65	29.93	16.4326	5.63669	54
CR	48.92	96.69	81.1833	10.68523	54
CAR	10.84	22.99	14.2396	2.74265	54
CRR	3.05	31.39	12.8748	8.11413	54
NPL Ratio	0.1	4.93	0.9965	0.99895	54

Note. Annual Reports of Joint venture banks, Fiscal Years 2014/15 - 2022/23

Table 4.7 shows that the average ROA of joint venture banks are 1.80. The minimum and maximum ROA are 0.70 and 2.69. The C.V of ROA is 24.24%. Similarly, the average ROE of joint venture banks is 17.79. The minimum and maximum ROE are 6.26 and 29.93. The C.V of ROE is 14.30%. The average credit risk of joint venture banks is 76.68. The minimum and maximum credit risk is 48.92 and 94.61. The C.V of credit risk is 79.42. The average CAR of joint venture banks is 14.27. The minimum and maximum CAR is 10.84 and 22.99. The C.V of CAR is 18.25%. Likewise, the average DPS of joint venture banks is 29.27. The minimum and maximum CRR are 3.22 and 31.39. The C.V of CRR is 56.98%. Similarly, the average NPL ratio of joint venture banks is 0.78. The minimum and maximum NPL ratio are 0.10 and 3.22. The C.V of NPL ratio is 94.45%.

4.1.7 Correlation Analysis

Table 4. 8

Correlation Analysis

		1	2	3	4	5	6
1)	ROA	-					
2)	ROE	.594**	-				
3)	CR	-.357*	-.377*	-			
4)	CAR	0.099	-.370*	-0.284	-		
5)	CRR	0.182	.368*	-0.184	-0.142	-	
6)	NPL Ratio	-0.03	0.066	0.22	-.346*	0.089	-
	N	54	54	54	54	54	54

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The correlation coefficient between the return on assets (ROA) and the capital ratio (CR), the capital adequacy ratio (CRR), the capital adequacy ratio (CAR), and the non-performing loan ratio (NPL) are -0.357, 0.099, 0.182, and -0.030 correspondingly. There was a direct association between the return on assets (ROA) and the capital adequacy ratio (CRR), the capital adequacy ratio (CAR) and the non-performing loans (NPL), and the return on assets (ROA) and the credit risk (CR) had a negative relationship. The correlation coefficient (r) of -0.357, 0.099, 0.182, and -0.030, with a sample size (n) of 54, was found to be statistically insignificant at the 0.01 level (two-tailed), with a p-value greater than 0.001.

A correlation coefficient between ROE and CR, CRR, CAR and NPL are -0.377, -0.370, 0.368 and 0.066 respectively. There was a positive correlation between ROE and CAR and NPL, and ROA and CR & CRR is negative relation.

4.1.8 Regression Analysis

Table 4. 9

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.518[a]	.268	.209	0.426

a. Dependent Variable: ROA
b. Predictors: (Constant), NPL, CRR, CR, CAR

The data presented in table 4.9 illustrates the correlation between the Return on Assets (ROA) and several financial indicators such as the Cash Reserve Ratio (CRR), Capital

Adequacy Ratio (CAR), Non-Performing Loan (NPL) ratio, and Credit Risk (CR) of joint venture banks. It indicates the sample banks' model summary analysis of ROA with CRR, CR, CAR and NPL ratio.

The R^2 value is 0.268. It indicates that the independent variable explain by dependent variable is only 26.80%.

Table 4. 10

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.258	4	0.814	4.495	.004
	Residual	8.877	49	0.181		
	Total	12.134	53			

a. Dependent Variable: ROA

b. Predictors: (Constant), NPL Ratio, CRR, CR, CAR

ANOVA table suggests that the fitted model or R square is significant (F = 4.495, p = 0.004), as shown in Table 4.10, which displays the results of the analysis of variance.

Table 4. 11

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.720	0.686	-	3.964	0.000
	CAR	-0.015	0.006	0.335	-2.516	0.015
	CRR	0.014	0.023	0.078	0.590	0.558
	CR	0.008	0.008	0.134	1.042	0.303
	NPL Ratio	-1.17	0.062	-0.245	-1.880	0.046

a. Dependent Variable: ROA

b. Predictors: (Constant), NPL Ratio, CRR, CR, CAR

An explanation of the estimated equation may be obtained by taking the values from model-1, which can be found in Table 4.11:

The equation is represented as $\hat{Y} = \alpha + \beta 1CAR + \beta 2CRR + \beta 3CR + \beta 3NPL + ei.$

The equation is $\hat{Y} = 2.623 - 0.006X1 + 0.007X2 - 0.013X3 - 0.027X4 + ei.$

Table 4.11 shows that CRR, and CR have positive effects on ROA and CAR and NPL ratio have negative effects on ROA, which is consistent with the findings of correlations of dependent variable with the independent variable.

Table 4. 12

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.639[a]	.408	.359	4.511

a. Dependent Variable: ROE

b. Predictors: (Constant), NPL, CRR, CR, CAR

The table 4.12 displays the correlation between Return on Equity (ROE) and several financial indicators such as Cash Reserve Ratio (CRR), Capital Ratio (CR), Capital Adequacy Ratio (CAR), and Non-Performing Loan (NPL) ratio of joint venture banks. It indicates the sample banks' model summary analysis of ROE with CRR, CR, CAR and NPL ratio. The R^2 value is 0.408. It indicates that the independent variable explain by dependent variable is only 40.80%.

Table 4. 13

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	686.759	4	171.69	8.437	.000
	Residual	997.169	49	20.350		
	Total	1683.928	53			

a. Dependent Variable: ROE

b. Predictors: (Constant), NPL, CRR, CR, CAR

The ANOVA data in data 4.13 shows that the fitted model or R square is statistically significant (F = 8.437, p = 0.000).

Table 4. 14

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	48.272	7.948	-	6.073	0.000
	CAR	-1.010	0.291	-0.479	-3.475	0.001
	CRR	0.149	0.089	0.215	1.666	0.004
	CR	-0.117	1.002	-0.016	-0.117	0.008
	NPL Ratio	-0.227	0.065	-0.469	-3.490	0.021

a. Dependent Variable: ROE

b. Predictors: (Constant), NPL Ratio, CRR, CR, CAR

The predicted equation from table 4.14 can be explained by extracting the values from model-1.

The equation $\hat{Y} = \alpha + \beta 1CAR + \beta 2CRR + \beta 3CR + \beta 3NP + ei$ can be paraphrased as:

$\hat{Y} = 48.272 - 1.010X1 + 0.149.X2 - 0.117.X3 - 0.227.X4 + ei.$

Table 4.14 shows that CAR, CR, and NPL ratio have negative effects on ROE and CRR has positive effects on ROA, which is consistent with the findings of correlations of dependent variable with the independent variable.

Table 4. 15

Summary of Research Hypothesis

	Research Hypothesis	Sig.	Results
H1	There is a significant effect of CAR on ROA	0.015	Accepted
H2	There is a significant effect of CRR on ROA	0.558	Rejected
H3	There is a significant effect of CR on ROA	0.303	Rejected
H4	There is a significant effect of NPL Ratio on ROA	0.046	Accepted
H5	There is a significant effect of CAR on ROE	0.001	Accepted
H6	There is a significant effect of CRR on ROE	0.004	Accepted
H7	There is a significant effect of CR on ROE	0.008	Accepted
H8	There is a significant effect of NPL Ratio on ROE	0.021	Accepted

Table 4.15 shows that six hypotheses are accepted, but only two hypothesis are rejected. The research examined the influence of liqudity on the profitability of commercial banks in Nepal. The results suggested that the Capital Adequacy Ratio, both ROA and ROE, implies that improved financial stability and capitalization lead to increased profitability and shareholder returns. The investigation emphasizes the significance of effective liqudity on profitability of joint venture banks in Nepal.

4.2 Discussion

The aim of this study is to analyze the credit risk management and profitability of commercial banks in Nepal. The researcher examined multiple factors and found a clear and meaningful correlation between capital adequacy and profitability. The study found that increasing the capital adequacy ratio of finance companies had a positive effect on profitability and helped protect them from financial losses due to default loans. The results also showed that being less cautious had a significant impact on determining profitability. NPL stands for non-performing loans, which are financial assets that a corporation no longer receives interest or installment payments from according to the scheduled terms. When companies experience delays or defaults in receiving interest, they will not be profitable. Interest is the primary revenue stream for corporations. If the level of interest income decreases, enterprises will no longer be profitable. The study revealed a strong correlation between the capital adequacy ratio (CAR) and profitability in banks. Specifically, as the CAR grows, both the return on assets (ROA) and return on equity (ROE) also increase, and vice versa.

The research examines the determinants of impact of liquidity on profitability of joint venture bank in Nepal. in commercial banks in Nepal, utilizing data from 2014/15 to 2022/23. The study employs financial and statistical instruments to derive its conclusions, identifying numerous significant findings.

Credit Risk (CR)

The average credit risk (CR) of the six institutions varies, with NMB having the highest (88.42) and SCBNL having the lowest (61.80). NMB may be more susceptible to credit risk than other institutions, whereas SCBNL maintains a more conservative risk profile.

Cash Adequacy Ratio (CAR)

SCBNL has the highest average CAR (18.49), which suggests strong liquidity, while NABIL has the lowest (12.51). SCBNL's financial stability is improved by its increased ability to cover its liabilities with available currency.

Cash Reserve Ratio (CRR)

HBL has the highest average CRR (27.03), which suggests a robust buffer against liquidity crises. Conversely, NMB has the lowest average CRR (7.76), which indicates a more aggressive liquidity management strategy.

Non-Performing Loan (NPL) Ratio

The study indicates that NMB has the highest average NPL ratio (1.51), which means a higher proportion of loans not generating income. Conversely, SBI has the lowest average NPL ratio (0.18), which suggests superior asset quality.

Return on Assets (ROA)

NABIL has the highest average ROA (2.15), which indicates its effective utilization of assets to generate earnings. SBI, which has the lowest ROA (1.51), may need to reevaluate its asset utilization strategies.

Return on Equity (ROE)

EBL exhibits the most significant average ROE (22.50), indicating effective shareholder equity management. In contrast, SBI has the lowest ROE (14.02), which suggests prospective opportunities to enhance profitability.

Variation in ROA and ROE

The joint venture banks demonstrate moderate variation in ROA (C.V. of 17.72%) and ROE (C.V. of 14.30%), which implies a degree of consistency in profitability across the sector. Nevertheless, the variation in credit risk (C.V. of 79.42%) suggests substantial disparities in risk management practices.

Relationship between Liquidity and Profitability

The investigation identifies a combination of positive and negative correlations between ROA, ROE, and various financial ratios. For example, ROA exhibits a mild positive correlation with CAR and NPL, while it has a negative correlation with CR. This implies that increased credit risk may diminish profitability while increased capital adequacy may enhance profitability.

Model Analysis

The regression analysis indicates that the independent variables account for only 37.90% of the variation in ROA, suggesting that other factors not included in the model also significantly influence profitability. The independent variables account for 65.70% of the variation in ROE, which implies a more robust correlation between these variables and shareholder returns.

ROA ANOVA Results

The ANOVA results for ROA are not statistically significant ($p = 0.208$), suggesting that the model may not be a good fit. Conversely, the model for ROE is statistically significant ($p = 0.000$), indicating that the variables included in the model adequately account for the variation in ROE.

Impact on ROA and ROE

The research concludes that CAR, CRR, and NPL have a positive impact on ROA, while CR has a negative impact. For ROE, CRR positively impacts returns, whereas CAR, CR, and NPL have a negative impact. This emphasizes the significance of managing credit risk and capital adequacy to improve profitability. The results emphasize the intricate relationship between credit risk, capital adequacy, and profitability in Nepalese commercial banks.

The results suggested that the Capital Adequacy Ratio, both ROA and ROE, implies that improved financial stability and capitalization lead to increased profitability and shareholder returns. The Non-Performing Loan (NPL) Ratio also significantly impacted both ROA and ROE, emphasizing the detrimental influence of insufficient loans on a bank's capacity to generate returns. The Cash Reserve Ratio (CRR) and ROE indicates that higher reserves are associated with improved equity returns. However, it did not significantly affect ROA, suggesting that liquidity reserves may be more valuable to equity holders than for the overall profitability of assets. Credit Risk (CR) had a significant adverse effect on ROE, which indicates the potential for increased credit risk to diminish shareholder value. However, it did not significantly impact ROA, which implies that its impact on total asset returns may be less direct. The investigation emphasizes the significance of effective liquidity on profitability of joint venture banks in Nepal.

The positive outcome corresponds to the findings of Charles and Kenneth (2013), who conducted their study in Nigeria. The researcher discovered that the three chosen variables have the potential to significantly influence the profitability of the organization. Profitability is a crucial determinant of a business's capacity to continue operating. Therefore, it is advised that corporate managers increase their efforts in credit risk management, particularly in controlling non-performing loans (NPL), capital adequacy ratio (CAR), and credit risk ratio (CRR) related to lending. Furthermore, the study's findings unequivocally demonstrate that capital adequacy is a highly accurate indicator of corporate performance. Thus, it is imperative to ensure that it is kept at an appropriate level.

CHAPTER–V

SUMMARY AND CONCLUSION

5.1 Summary

Credit risk is the possibility of losses associated with decline in the credit quality of borrowers or counterparties. Credit risk management encompasses identification, measurement, monitoring and control of the credit risk exposure. Failure to properly evaluate it may lead to insolvency and bankruptcy for banks.

The first chapter deal with credit risk management, background of the study, statement of the study, objective of the study, significance of the study and organization of the study. The credit risk, is the risk of default on a debt that may arise from a borrower failing to make required payments. Commercials banks in Nepal are also playing vital role to collect money. There are twenty-eight commercial banks in Nepal. In modern business age banks are undergoing sweeping changes in function and from these changes affect the banking business today. The origination of large money center bank is much more complex than that if a small bank. The key problem of such organization is a span of control. The banking sectors need to function effectively and efficiently as a market conditions and technology change in order to remain profitable. The study's main objective is to analyze the influence of credit risk management on the profitability of commercial banks in Nepal, as previously mentioned. For this purpose brief introduction about Nepalese commercial banks, credit risk, statement of problem, the main research objective is to analyze the determinants of credit risk management of Nepalese commercial bank.

Credit is all about risk, and credit management is assessing and managing that risk. Credit risk is the possibility of losses associated with decline in the credit quality of borrowers or counterparties. The effective management of credit risk s critical component of comprehensive risk management and is essential for the long term success of any banking organization. Credit risk management encompasses identification, measurement, monitoring and control of the credit risk exposure. Credit risk is one of the key risks for the banks as failure to properly evaluate it may lead to insolvency and bankruptcy. Credit management is core process for any banks and financial institutions. Credit management refers to systematic identification of customer, assessment of creditworthiness of potential customer, consistent application

of credit policy, ensuring adequate liquidity, safety of funds, assets quality management, risk management, returns from the fund, determining exposure, Credit Portfolio Management (CPM), balancing concentration, recovery performance.

The first chapter deal with credit risk management, background of the study, statement of the study, objective of the study, significance of the study and organization of the study. The credit risk, is the risk of default on a debt that may arise from a borrower failing to make required payments. Commercials banks in Nepal are also playing vital role to collect money. There are twenty-four commercial banks in Nepal. In modern business age banks are undergoing sweeping changes in function and from these changes affect the banking business today. The origination of large money center bank is much more complex than that if a small bank. The key problem of such organization is a span of control. The banking sectors need to function effectively and efficiently as a market conditions and technology change in order to remain profitable. For this purpose brief introduction about Nepalese commercial banks, credit risk, statement of problem, the main research objective is to analyze the credit risk and profitability of Nepalese commercial bank.

The objectives of identifying the relationship between credit risk and profitability of private domestic and joint venture banks, simple regression model has been used. The high credit risk of Nepalese banks as suggested by trend analysis showed that banks are struggling to find the perfect venture to invest and inability of Nepal to upgrade manufacturing industries, declining business houses has made the bank deposits unutilized. Similarly, the research has found that Nepalese commercial banks should give high consideration to their liquidity as it has major impact on its profit. The adequate utilization of their deposits and creation of investment opportunities in safe business environment can help Nepalese banking sector to foster and bring growth in their profitability.

The relationship between ROE and CRR, CR, CAR and NPL ratio of joint venture banks. It indicates the sample banks' model summary analysis of ROE with CRR, CR, CAR and NPL ratio. The R2 value is 0.657. It indicates that the independent variable explain by dependent variable is only 65.70%.

5.2 Conclusion

The main purpose of this study is to investigate relationship between credit risk and profitability of Nepalese commercial banks. The analysis of the liquidity and profitability positions of Nepal's joint venture banks provides numerous vital facts. The study found that liquidity, as determined by the Capital Adequacy Ratio (CAR) and Cash Reserve Ratio (CRR), has a significant impact on profitability, particularly Return on Equity (ROE). Banks with more excellent CAR and CRR tend to be more profitable since these ratios act as a buffer against financial instability, ensuring they can meet their obligations and increase shareholder returns. However, the impact of liquidity on Return on Assets (ROA) is less pronounced, implying that, while liquidity is critical for preserving financial stability and protecting equity investors, it may not directly drive total asset profitability. As measured by ROA and ROE, profitability is also heavily influenced by the quality of the bank's assets, particularly the Non-Performing Loan (NPL) ratio. Higher levels of non-performing loans reduce both ROA and ROE, demonstrating that poor loan quality directly undermines banks' capacity to create returns. This emphasizes the need for adequate credit risk management to sustain profitability. Joint venture banks in Nepal that maintain compact liquidity positions and effectively manage credit risk are more likely to produce more significant profits. The study emphasizes the importance of these banks balancing liquidity with risk management measures to improve financial performance while sustaining shareholder value.

The correlation coefficients analysis, conducted to evaluate the relationship between liquidity and profitability of joint venture banks in Nepal, reveals several significant findings. The complex relationship between the Capital Ratio (CR), Cash Reserve Ratio (CRR), Capital Adequacy Ratio (CAR), and Non-Performing Loan (NPL) Ratio and Return on Assets (ROA) is revealed by the correlation. In particular, ROA displays a slight positive relationship with CAR and CRR, which implies that increased liquidity may contribute to marginally improved asset profitability. However, the negative correlation between ROA and Credit Risk (CR) suggests that increased credit risk is correlated with decreased profitability, emphasizing the adverse effects of inadequate credit management on the overall performance of assets. Although these correlations were observed, none of these relationships were statistically significant at the 0.01 level, suggesting that the observed associations may

need to be sufficiently strong to draw definitive conclusions about their impact on profitability. Therefore, there is significant relationship between liqudity and profitability of joint venture banks in Nepal.

The Capital Adequacy Ratio, ROA, and ROE demonstrated that financial stability and capitalization enhance profitability and shareholder returns. The Non-Performing Loan (NPL) Ratio also had a detrimental effect on ROA and ROE, emphasizing the damaging impact of insufficient loans on a bank's profitability. Equity returns are enhanced by more enormous reserves, as evidenced by the CRR and ROE. Nevertheless, liquidity reserves did not substantially impact ROA, indicating that stockholders place a higher value on them than on asset profitability. The ROE was by Credit Risk (CR), implying that a higher credit risk level could potentially diminish shareholder value. It did not substantially impact ROA, meaning it had a less direct impact on total asset returns. The study found the significance of the effect of liquidity on the profitability of Nepalese joint venture banks.

5.3 Implications

Based on the above findings and conclusions, certain implication can be made here so that the concerned authorities, future researchers, academicians, bankers can get some insights on the present conditions on above topics. It has considered that this research will be fruitful for them to improve the present condition as well as for further research. Therefore, it is imperative for Nepalese commercial banks to adhere closely to the existing NRB Directive and Basel II Accord when it comes to credit risk management. Credit programs must have a small size and a narrow focus and be of limited duration with clear "sunset" provisions. It must be financed by long term funds to avoid inflation and macroeconomic instability, should form part of a broader credible vision of economic development, promoting growth with equity, and involving a long term strategy to develop a sound financial system operating on economic criteria.

5.3.1 Practical Implications

The management and strategic planning of joint venture institutions in Nepal are significantly impacted by the practical implications of this study. Bank managers should prioritize the maintenance of a strong Capital Adequacy Ratio (CAR) in light of the findings, as it directly influences both asset profitability (ROA) and shareholder returns (ROE). Strong capitalization not only improves financial stability but also enables banks to withstand economic downturns, thereby safeguarding and potentially increasing profitability.

Similarly, the investigation underscores the essential significance of overseeing Non-Performing Loans (NPLs). In order to reduce the prevalence of subprime loans, banks should establish rigorous credit risk assessment protocols and proactive loan monitoring. In order to maintain profitability, it is essential to effectively manage non-performing loans (NPLs), as excessive levels of these loans can significantly erode both return on assets (ROA) and return on equity (ROE).

The positive correlation between the Cash Reserve Ratio (CRR) and ROE implies that equity holders benefit from maintaining sufficient liquidity reserves. Consequently, it is imperative that banks maintain an adequate amount of reserves to accommodate unforeseen financial obligations, which in turn enhances shareholder value. Nevertheless, banks should maintain a balance between liquidity reserves and other investments that can improve asset profitability, as the CRR has a limited impact on ROA.

Finally, the detrimental effect of Credit Risk (CR) on ROE suggests that banks must meticulously oversee their credit portfolios to prevent the erosion of shareholder value. This could entail the diversification of credit exposures, the improvement of credit risk modeling, and the enhancement of the overall risk management framework. The research offers joint venture banks in Nepal practical insights for optimizing profitability by strategically managing liquidity, loan quality, and capital adequacy. Banks can enhance their financial performance and provide shareholders with superior returns by emphasizing these areas.

5.3.2 Theoretical Implication

This study analyze the impact of liquidity on profitability of joint venture bank in Nepal. It supports financial stability theories like the Trade off Theory, Liquidity Preference Theory, Pecking Order Theory, Agency Theory and Bank-Liquidity Theory were importance of higher capital reserves for better financial performance. The study also emphasizes the role of credit risk management in banking profitability, prominence the adverse effect of Non-Performing Loans on returns. The study also suggests that liquidity's role in profitability is multifaceted and may vary depending on asset returns versus shareholder returns. It also suggests a need for a more integrated theoretical approach considering the distinct influences of these factors on various aspects of bank profitability.

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APPENDIX

Bank	F.Y	ROA	ROE	CR	CAR	CRR	NPL Ratio
EBL	2014/15	1.85	27.2	66.63	13.33	24.17	0.66
	2015/16	1.59	29.75	75.14	12.66	16.61	0.38
	2016/17	1.83	26.75	84.05	14.54	16.52	0.25
	2017/18	1.97	22.86	81.86	14.20	17.75	0.2
	2018/19	1.94	21.13	87.01	13.74	18.56	0.16
	2019/20	1.42	16.25	83.52	13.38	14.43	0.22
	2020/21	0.89	13.54	85.3	12.48	18.15	0.12
	2021/22	1.13	14.29	90.77	11.89	6.50	0.12
	2022/23	1.41	13.99	85.87	13.30	7.11	0.79
NABIL	2014/15	2.06	29.93	64.43	11.57	14.55	1.82
	2015/16	2.32	25.61	70.49	11.73	6.77	1.14
	2016/17	2.69	22.41	65.38	12.9	10.02	0.8
	2017/18	2.61	20.94	82.66	13	10.05	0.55
	2018/19	2.11	17.76	81.96	12.5	4.78	0.74
	2019/20	1.58	13.61	79.72	13.07	11.2	0.98
	2020/21	1.71	15.19	89.84	12.77	3.66	0.84
	2021/22	1.2	9.78	92.49	13.09	4.13	1.62
	2022/23	1.42	11.66	84.19	12.54	6.89	3.39
NSBI	2014/15	1.64	17.08	78.39	14.03	10.92	0.19
	2015/16	1.59	17.46	72.9	13.49	8.33	0.14
	2016/17	1.57	14.87	78.07	15.71	10.04	0.1
	2017/18	1.97	15.81	89.6	15.15	7.18	0.2
	2018/19	1.94	16.2	90.52	14.12	6.65	0.2
	2019/20	1.17	10.44	85.5	15.55	8.89	0.23
	2020/21	0.7	6.26	95.58	13.86	3.22	0.23
	2021/22	1.07	9.57	92.37	13.25	3.05	0.15
	2022/23	1.06	10.77	81.42	12.58	4.06	2.43
HBL	2014/15	1.94	24.53	79.12	10.84	28.74	3.22

	2015/16	2.03	21.22	83.59	12.15	26.64	1.23
	2016/17	2.19	21.58	85.1	12.15	26.64	0.85
	2017/18	1.67	14.17	88.31	12.46	23.05	1.4
	2018/19	2.21	18.34	87.37	12.6	26.25	1.12
	2019/20	1.79	15.4	82.31	14.89	31.39	1.01
	2020/21	1.68	14.89	89.87	13.89	26.51	0.48
	2021/22	1.09	10.76	92.14	11.75	23.48	1.59
	2022/23	0.47	4.65	88.64	12.31	27.38	4.93
NMB	2014/15	1.4	16.4	75.32	11.13	13.32	0.42
	2015/16	1.92	21.96	84.07	10.98	10.81	1.81
	2016/17	1.82	16.49	85.5	13.61	7.72	1.68
	2017/18	1.8	13.54	90.46	15.75	6.68	0.88
	2018/19	1.83	13.32	94.61	15.45	4.19	0.82
	2019/20	1.09	8.94	92.31	15.08	5.93	2.68
	2020/21	1.32	12.08	96.69	15.08	5.66	2.27
	2021/22	1.35	12.95	87.75	13.59	5.33	1.45
	2022/23	1.19	11.65	83.46	13.33	5.63	2.75
SCBNL	2014/15	1.99	21.69	48.92	13.1	24.03	0.34
	2015/16	1.98	17.18	56.88	16.38	7.98	0.32
	2016/17	1.84	11.98	62.2	21.08	19.71	0.19
	2017/18	2.61	18.66	66.45	22.99	18.91	0.18
	2018/19	2.61	19.49	70.11	19.69	7.52	0.15
	2019/20	1.71	15.15	56.75	18.51	14.49	0.44
	2020/21	1.22	9.14	71.27	17.71	7.53	0.96
	2021/22	1.67	15.42	82.17	19.67	8.96	0.93
	2022/23	1.89	14.67	86.87	22.34	6.57	1.06

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