

**TRADE-OFF BETWEEN LIQUIDITY AND PROFITABILITY OF
COMMERCIAL BANKS IN NEPAL**

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Certificate of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertations entitled **"TRADE-OFF BETWEEN LIQUIDITY & PROFITABILITY OF COMMERCIAL BANKS IN NEPAL"**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degree nor has it been proposed and presented as part of requirement for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the references sections of the dissertation.

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Report of Research Committee

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ABBREVIATION

ADBL	:	Agriculture Development Bank
AQ	:	Asset Quality
BFI	:	Banking and Financial Institutions
BJ	:	Banking and Financial Institutions
C.V	:	Coefficient of Variance
CAR	:	Capital Adequacy Ratio
CD	:	Credit to Deposit
CR	:	Current Ratio
CRR	:	Cash Reserve Ratio
EQ	:	Earnings Quality
GHR	:	Green Human Resource
IRS	:	Interest Spread Rate
NBL	:	Nepal Bank Limited
NFS	:	Nepal Rastra Bank
NIBL	:	Nepal Investment Bank Limited
QR	:	Quick Ratio
RBB	:	Rastriya Banijay Bank
ROA	:	Return on Assets
ROE	:	Return on Equity
S.D.	:	Standard Deviation
SBL	:	Siddhartha Bank Limited
SPSS	:	Statistical Package for Social Sciences

Abstract

This study examines the relationship between liquidity and profitability of Nepalese commercial banks, addressing the critical balance between these two factors crucial for bank growth and sustainability. Using a descriptive research approach, secondary data from annual reports of ten prominent commercial banks in Nepal over a decade (2016/17-2022/23) was analyzed. Liquidity was measured by current ratio, Quick Ratio Credit to Deposit Ratio, Cash Reserve Ratio, Interest Rate Spread and Capital Adequacy Ratio while profitability was assessed using indicators such as Return on Assets (ROA) and Return on Equity (ROE). Correlation and regression analyses were employed to explore the relationship between liquidity and profitability. The findings reveal a positive and statistically significant association between liquidity and profitability among Nepalese commercial banks during the study period. Specifically, banks like ADBL and NABIL demonstrated strong positions in both liquidity and profitability. These results underscore the importance of effectively managing liquidity to enhance profitability in the banking sector, offering insights relevant for strategic decision-making and policy formulation within Nepalese financial institutions.

Key Words: Liquidity, Return On Assets, Capital Adequacy Ratio, Credit to Deposit Ratio

CHAPTER I INTRODUCTION

1.1 Background of the Study

The trade-off between liquidity and profitability is a fundamental consideration for businesses across industries. Liquidity ensures a company's ability to meet short-term obligations, while profitability indicates its capacity to generate earnings. This relationship through cross-industry analysis, aiming to provide insights into financial decision-making. Balancing liquidity needs with profitability pursuits is a perpetual challenge for firms. High liquidity often entails low-yielding assets, while prioritizing profitability may lead to liquidity constraints. This research seeks to unravel the complexities of this trade-off, examining factors influencing it across industries and implications for decision-making. By analyzing data from various sectors, including banking and manufacturing, the study aims to contribute to understanding liquidity-profitability dynamics. Ultimately, insights from this research can aid practitioners in formulating strategies for sustainable business growth in today's competitive landscape (Khan & Akbar,2023)

In the realm of corporate finance, both liquidity and profitability are fundamental aspects, each with nuanced definitions that vary depending on the context or analytical perspective. These metrics serve as crucial indicators of a firm's financial health, with the overarching objective being to optimize profitability while ensuring sufficient liquidity. However, excessive focus on profitability may overlook liquidity needs, potentially leading to bankruptcy. Conversely, holding excessive liquid assets can dampen profitability. Managers' expertise is pivotal in striking the right balance between liquidity and profitability to achieve optimal financial performance. They rely on various financial metrics to understand the relationship between these indicators and determine whether a trade-off exists. Achieving a sustainable profit level supported by long-term interest and ample liquidity is particularly challenging in volatile and complex industries (Niresh, 2012).

Profitability can be explained as the capability of making profit out of all the business activities which are undertaken by an organization, firm or an enterprise (Njure, 2014). Thus, the profit is the end result of how effectively they manage and use all the

resources which are available on the market. Although the terms “profitability” and “profit” are very often used as synonyms, there is a difference between their meaning. The profit is the amount of income generated after covering all incurred costs whatever the type of the firm, its size or the industry where it operates. The end result of the calculation of the profit is an absolute number derived when we exclude the total expenses from the total revenues. According to Sivathaasan, Tharanika, Sinthuja and Hanitha (2013), “The ultimate goal of a firm is to earn profit in order to ensure the sustainability of the business in prevailing market conditions for the purpose of being profitable to the highest possible degree.” Similarly, Pandey (1980), with very simple words defined the profitability “as the final outcome of the ability of a business”.

Liquidity is essential to ensure that firms can fulfill their short-term obligations promptly, playing a pivotal role in their operational success. It is crucial for a firm to strike a balance, avoiding both insufficient and excess liquidity, to meet immediate financial commitments. Both internal and external analysts recognize the significance of studying liquidity due to its direct impact on daily business operations (Bhunia, 2010).

Liquidity management is often approached through the lens of working capital management, as many indicators used to assess corporate liquidity are derived from working capital components. The management of liquidity holds substantial importance in contemporary business environments, given its profound effects on corporate profitability. Effective working capital management necessitates maintaining liquidity to ensure seamless operations and meet obligations promptly (Eljelly, 2004).

The relationship between liquidity and profitability hinges on maintaining an optimal level of working capital. This notion aims to strike a balance where liquidity and profitability are harmonized, indicating that the company's investment in working capital should be adequate. While it is commonly assumed that there is a negative correlation between the two, this is not universally true. There exists a linear relationship, albeit not consistent, between profitability and liquidity when firms hold current assets up to a certain threshold (Bhunia, Khan & Mukhuti, 2012).

profitability and liquidity serve as crucial indicators of the overall health and performance of not only commercial banks but also all profit-driven enterprises. These performance metrics hold significant importance for shareholders and depositors, who constitute major stakeholders of a bank. Shareholders prioritize profitability levels, while depositors focus on liquidity positions, which determine a bank's ability to meet withdrawal demands promptly, typically on short notice.

Liquidity management plays a pivotal role in monetary policy implementation. It complements other essential components of monetary policy, such as economic management, which aims to foster sustainable economic growth over the long term by aligning monetary and credit expansion with the economy's noninflationary output potential. Liquidity or reserve management, on the other hand, operates on a shorter time horizon. It is instrumental in maintaining relative macroeconomic stability by mitigating fluctuations in liquidity growth within the banking system (Eljelly, 2004)

In the banking sector, managing the trade-off between liquidity and profitability is of paramount importance due to its direct impact on financial stability and performance. Banks play a critical role in the economy by inter mediating between savers and borrowers, facilitating efficient capital allocation. Liquidity, the ability to meet short-term obligations, is vital for banks to maintain depositor confidence and fulfill regulatory requirements. However, excessive liquidity can constrain profitability by reducing returns on assets and equity.

Conversely, prioritizing profitability may lead to liquidity risks, as banks may invest in higher-yielding but less liquid assets. Striking the right balance between liquidity and profitability is, therefore, essential for banks to ensure financial resilience and sustainable growth (Patel, Sharma, & Gupta, 2022).

In the context of commercial banks in Nepal, the trade-off between liquidity and profitability holds significant importance, reflecting the delicate balance between short-term financial obligations and long-term financial performance. Liquidity, representing a bank's ability to meet immediate payment demands, and profitability, indicative of its capacity to generate earnings, are pivotal variables influencing the financial stability and resilience of these institutions. Achieving an optimal balance between liquidity and profitability is essential for ensuring sustained viability and

growth in Nepal's banking sector. This balance is intricately linked to variables such as financial stability, risk management practices, and the regulatory environment. Effective risk management strategies and adherence to regulatory guidelines are crucial for commercial banks to navigate this trade-off successfully, safeguarding against potential losses while maximizing returns for shareholders. By understanding and managing these variables effectively, commercial banks in Nepal can enhance their overall performance and contribute to the stability and development of the country's financial system

1.1.1 Profile of the Sample Banks

The study included Agriculture Development Bank, Nepal Bank Limited, Nepal Investment Bank, NMB, and Siddhartha Bank due to their status as established commercial banks. Here is a concise overview of these banks:

A. Agriculture Development Bank limited

Established in 1968 under the ADBN Act of 1967, the Agricultural Development Bank Nepal (ADBN) was created to provide institutional credit aimed at boosting production and productivity within the agricultural sector, succeeding the Cooperative Bank. In 1973, it merged with the Land Reform Savings Corporation and underwent subsequent legislative amendments that broadened its mandate to include extending credit under group liability to small farmers and supporting cottage industries. These changes also enabled the bank to engage in commercial banking activities to mobilize domestic resources. ADBN has historically played a crucial role as a rural credit institution in Nepal, primarily focusing on agricultural credit supply. Since 1984, it has expanded its operations to include commercial banking services. The bank operates with a shareholding structure where the Government of Nepal holds 51% of shares, and the remaining 49% is held by the general public, including customers and employees. With the enactment of the Banks and Financial Institutions Act (BAFIA), all banks and financial institutions in Nepal, including ADBN, came under its regulatory oversight. The ADBN Act was subsequently repealed, and since 2006, the bank has functioned as a public limited company under the Companies Act of 2006, holding an "A class financial institution" license from Nepal Rastra Bank. With a proud history spanning over 53 years, ADBN is recognized as one of Nepal's leading

commercial banks. It serves a diverse customer base exceeding 1.2 million across agriculture, industry, trade, commerce, and households, contributing significantly to the nation's economic growth and financial inclusivity goals.

B. Nepal Bank Limited

Nepal Bank Limited (NBL) is the first commercial bank in Nepal, established on November 15, 1937. It was a landmark in the history of banking in Nepal, marking the beginning of an organized financial sector in the country. NBL was founded as a joint venture between the government and the private sector, with the aim of fostering economic development and providing banking services to the public.

Over the years, Nepal Bank Limited has played a crucial role in the economic development of Nepal by offering various financial services, including deposit accounts, loans, credit facilities, and foreign exchange services. The bank has a widespread network of branches throughout the country, ensuring accessibility to banking services for both urban and rural populations.

NBL has also embraced modern banking technologies, offering online and mobile banking services to its customers. It continues to be a key player in the Nepali banking sector, contributing to the overall financial stability and growth of the economy.

C. Nepal Investment Bank Limited

Nepal Investment Bank Limited (NIBL), originally established in 1986 as a joint venture between Nepalese and French partners under the name Nepal Indosuez Bank Ltd., underwent significant ownership changes over the years. Initially, the French partner, Credit Agricole Indosuez, held 50% of the bank's capital. In 2002, a consortium of Nepalese entities, including bankers, professionals, industrialists, and businessmen, acquired Credit Agricole Indosuez's share, leading to the renaming of the bank as Nepal Investment Bank Ltd. (NIBL). In response to Nepal Rastra Bank's policy aimed at consolidating commercial banks, NIBL entered into a Memorandum of Understanding (MoU) with Mega Bank Nepal Ltd. on June 10th, 2022, to merge operations. Mega Bank Nepal Ltd., established on July 23rd, 2010, had operated for 12 years with a total paid-up capital of NPR 16.12 billion. The joint operations of

Nepal Investment Bank Ltd. and Mega Bank Nepal commenced under the unified entity named Nepal Investment Mega Bank Ltd. (NIMB) on January 11th, 2023. As a merged entity, NIMB continues to strive for excellence in delivering banking services to its growing clientele, thereby making significant contributions to Nepal's financial sector.

D. NMB Bank Limited

NMB Bank Limited, established over twenty years ago and licensed as an "A" class financial institution by Nepal Rastra Bank in May 2008, stands as a prominent entity in Nepal's financial market. The bank has achieved significant milestones and is recognized as one of the leading commercial banks in the country. A pivotal aspect of NMB Bank's strategic framework is its Joint Venture Agreement with (FMO), the Dutch development bank. Initially entering into this agreement in September 2016, FMO acquired 13.69% of NMB Bank's shares, subsequently becoming the largest shareholder. This partnership aligns NMB Bank with FMO's expertise and resources, particularly in managing environmental and social risks, and positions it as a key player in sectors such as renewable energy and agribusiness. The collaboration with FMO underscores NMB Bank's commitment to sustainable banking practices and responsible corporate citizenship. By leveraging FMO's experience in sustainable finance, NMB Bank enhances its capacity to integrate environmental, social, and governance (ESG) considerations into its operations. This strategic alignment not only supports NMB Bank in navigating and mitigating risks associated with environmental and social impacts but also enhances its credibility as a leader in promoting sustainable development initiatives within Nepal's financial sector. Furthermore, NMB Bank's alliance with FMO strengthens its market position and reinforces its capabilities to innovate and lead in sectors critical to Nepal's economic growth, such as renewable energy and agribusiness. Through this partnership, NMB Bank not only aims to bolster its financial performance but also to contribute positively to societal and environmental outcomes, thereby fostering long-term sustainability and resilience in the communities it serves.

E. Siddhartha Bank Limited

Established in 2002, Siddhartha Bank Limited (SBL) is renowned as one of Nepal's most efficient and professional banks, emphasizing strong customer relationships as a core principle. The bank integrates digital banking extensively to provide convenient access to its services, accessible through online banking and the Siddhartha BankSmart App, facilitating global accessibility for customers. Continuous enhancements in technology aim to improve customer experience, earning SBL a reputation as a trusted commercial bank in Nepal due to its reliable services and customer-centric approach. SBL adheres strictly to regulatory requirements, ensuring compliance with all operational rules, processes, and laws mandated by the governing authorities. Beyond serving its clients and stakeholders, SBL actively contributes to Nepal's development by engaging in numerous corporate social responsibility (CSR) initiatives nationwide, demonstrating its commitment as a responsible corporate citizen.

1.2 Problem Statement

The problem outlined in the statements revolves around the challenge of managing the trade-off between liquidity and profitability in commercial banks, particularly within the context of Nepal's banking sector. The statements highlight that firms with high liquidity, while able to meet short-term obligations, may suffer from lower profitability due to the opportunity cost associated with holding liquid assets. Conversely, excessive focus on profitability may lead to insufficient liquidity, damaging the firm's goodwill and credit standings and potentially resulting in forced asset liquidation. The inefficiency in liquidity management within commercial banks is further exacerbated by inadequate mobilization of capital and ineffective allocation of funds to productive sectors, reflecting weaknesses in financial statement analysis. These challenges underscore the need for commercial banks in Nepal to strike a balance between liquidity and profitability to ensure financial stability and performance (Patel, Sharma, & Gupta, 2022).

Effective management of liquidity is imperative for businesses of all sizes, whether small, medium, or large. Poor liquidity management can lead to cash shortages, making it difficult for a business to meet its financial obligations on time. According

to Rafuse (2010), liquidity crises are often cited as a primary cause, if not the primary cause, of small business failures in both developed and developing countries. Given the unpredictable nature of the current business environment, it is crucial for firms to implement robust liquidity management policies to navigate challenging times successfully. In the face of fierce competition from local and international rivals, the ability of a firm to reliably meet its short-term obligations is paramount. Managing liquidity requirements effectively is not only essential for enhancing a firm's market value and profitability but should also be an integral part of its strategic planning to ensure operational efficiency (Brigham, 2013).

Previous studies have highlighted the critical importance of understanding the trade-off between liquidity and profitability in commercial banks, both globally and within specific national contexts. For instance, research by Eljelly (2004) emphasized the inverse relationship between liquidity and profitability, where an excessive focus on liquidity may compromise profitability and vice versa. Moreover, in the context of commercial banks in Nepal, there is a lack of comprehensive studies that specifically address the dynamics of this trade-off within the unique socio-economic and regulatory environment of the country. Additionally, while some research has explored the liquidity-profitability nexus in other banking sectors globally, such findings may not be directly applicable to the Nepalese banking landscape due to contextual differences. Therefore, there is a clear need for empirical research to examine how commercial banks in Nepal navigate the trade-off between liquidity and profitability to inform effective strategic decision-making and regulatory policies within the country's banking sector.

Regmi & Paudel, (2019) involves the examination of the relationship between liquidity and profitability within the commercial banking sector of Nepal. Specifically, the study seeks to empirically analyze how liquidity levels impact the profitability of commercial banks operating in Nepal. This implies a recognition of the importance of understanding how commercial banks in Nepal manage their liquidity positions and the subsequent effects on their profitability. The study may aim to identify any challenges or constraints faced by Nepalese commercial banks in maintaining an optimal balance between liquidity and profitability objectives.

Additionally, it may seek to provide insights into the specific factors driving the liquidity-profitability relationship in the context of Nepal's banking industry.

The intricate relationship between liquidity and profitability in commercial banks and its broader impact on the financial system. Previous studies have indicated that a commercial bank's liquidity position significantly affects its profitability and plays a crucial role in the functioning of capital and money markets. However, there is a potential trade-off between maximizing returns and maintaining adequate liquidity, as the pursuit of higher returns may jeopardize liquidity, while focusing excessively on liquidity may dilute returns. Moreover, previous studies have aimed to compare the liquidity positions of commercial banks operating within the same economy and environment to identify any differences. This research aims to contribute to the existing literature by investigating how a commercial bank's liquidity position influences its profitability within the broader economic context, addressing the complexities and challenges inherent in balancing liquidity and profitability objectives in banking operations

Research Questions:

In order to gain an insight and understand the nexus, if any, between liquidity and profitability in a profit-oriented business, the following questions below are addressed in the course of the study:

- i. What is the current Situation of Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA and ROE In Nepalese Commercial Banks?
- ii. Is there any relationship between Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA and ROE In Nepalese Commercial Banks?
- iii. Is there any Impact of Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA and ROE In Nepalese Commercial Banks?

1.3. Objectives of the Study

The present study is envisaged with the following objectives:

- i. To understand the relationship between liquidity and profitability in a profit-driven business enterprise.
- ii. To access the current Situation of Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA and ROE In Nepalese Commercial Banks.
- iii. The Relationship Between Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA .
- iv. The Impact of Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread rate On ROA and ROE In Nepalese Commercial Banks.

1.4 Hypothesis

Here are the positive hypotheses for your research topic on the trade-off between liquidity and profitability of commercial banks in Nepal, based on the independent variables (Cash to Deposit Ratio, Capital Adequacy Ratio, Current Ratio, Quick Ratio, Cash Reserve Ratio, Interest Spread Rate) and dependent variables (ROA and ROE) of Sample Banks (Pradhan & Shrestha , 2015)

H₁: There is a positive relationship between Cash to Deposit Ratio (CDR) and Return on Assets (ROA) for commercial banks in Nepal.

H₂: There is a positive relationship between Cash to Deposit Ratio (CDR) and Return on Equity (ROE) for commercial banks in Nepal.

H₃: There is a positive relationship between Capital Adequacy Ratio (CAR) and Return on Assets (ROA) for commercial banks in Nepal.

H₄: There is a positive relationship between Capital Adequacy Ratio (CAR) and Return on Equity (ROE) for commercial banks in Nepal.

H₅: There is a positive relationship between Current Ratio and Return on Assets (ROA) for commercial banks in Nepal.

H₆: There is a positive relationship between Current Ratio and Return on Equity (ROE) for commercial banks in Nepal.

H₇: There is a positive relationship between Quick Ratio and Return on Assets (ROA) for commercial banks in Nepal.

H₈: There is a positive relationship between Quick Ratio and Return on Equity (ROE) for commercial banks in Nepal.

H₉: There is a positive relationship between Cash Reserve Ratio (CRR) and Return on Assets (ROA) for commercial banks in Nepal.

H₁₀: There is a positive relationship between Cash Reserve Ratio (CRR) and Return on Equity (ROE) for commercial banks in Nepal.

H₁₁: There is a positive relationship between Interest Spread Rate (ISR) and Return on Assets (ROA) for commercial banks in Nepal.

H₁₂: There is a positive relationship between Interest Spread Rate (ISR) and Return on Equity (ROE) for commercial banks in Nepal.

1.5 Relations of the Study

The banking and financial sector in Nepal is currently grappling with liquidity issues, posing challenges to their overall financial performance in the market. The lack of comprehensive understanding regarding the impact of liquidity on bank profitability exacerbates these challenges, leading to liquidity-related problems. Hence, this study holds significant importance for various stakeholders such as banks, researchers, scholars, executives, planners, professionals, and investors, as it aims to address this research gap and fulfill both individual and organizational objectives. Moreover, the study's findings will benefit multiple parties including management, shareholders, government entities, competitors, and customers, aiding in the selection of appropriate banking institutions. Additionally, regulatory authorities can utilize the study's insights to formulate effective policies, guidelines, and rules related to liquidity and

capital adequacy for commercial banks. This, in turn, will facilitate efficient fund mobilization within banks and enhance organizational investment opportunities. Financial agencies, stock exchanges, stock traders, and customers are also keen on understanding bank performance metrics, particularly liquidity and profitability, which serve as crucial indicators. Furthermore, the study enables banks to conduct self-assessment, identifying weaknesses and strengths in their operations. Lastly, policymakers at the macro level, including the government and the Nepal Rastra Bank, can utilize the study's findings to inform policy formulation and decision-making processes concerning liquidity management in banks.

1.6 Limitations of the Study

The study is subject to certain positive and negative aspects, which necessitate adherence to a specific framework and regulatory guidelines. Factors such as time constraints, data availability, costs, and information gaps pose significant challenges. Moreover, there are potential concerns regarding the accuracy, reliability, and validity of the study, including the period under examination, the reliability of statistical tools, and the variability of data sources. Several limitations are identified in the investigation of the impact of liquidity on the profitability position of selected commercial banks:

The reliance on secondary data introduces potential inaccuracies and inadequacies, particularly in capturing psychological aspects.

- i. The study's focus on only 5 banks, including Nepal Bank Limited, Agriculture Development Bank Limited and RBB, may limit the generalization of the results to all 20 commercial banks.
- ii. The analysis is confined to data from fiscal years 2016/17 to 2022/23, restricting the scope of the findings to that specific period.
- iii. The study solely examines liquidity and profitability analysis, neglecting other facets of bank activities.
- iv. The validity of secondary data sources is contingent upon the reliability of commercial banks' annual reports.

CHAPTER II

LITERATURE REVIEW

The literature review holds significant importance in thesis writing as it encompasses the theoretical framework from previous scholarly works such as journals, articles by scholars, research papers, and other relevant studies in the field of dividend policy. This academic foundation provides researchers with insights into prior investigations, helping to clarify the scope and nature of their own research while minimizing the risk of redundancy. Literature review is typically documented in written form and serves as a primary source of information for research endeavors. It can take various forms including critical analysis, experimental studies, structural frameworks, and logical presentations, all of which contribute to a comprehensive understanding and simplification of the subject matter discussed in the main body of academic work.

2.1 Theoretical Review

2.1.1 The Commercial Loan Theory

The Commercial Loan Theory posits that commercial banks can effectively manage liquidity by strategically adjusting the composition of their asset portfolios, particularly by increasing or decreasing the proportion of commercial loans. This theory suggests that by extending credit to businesses and individuals, banks can maintain liquidity levels as these loans can be readily converted into cash when necessary. Therefore, the emphasis under this theory lies in actively managing the asset side of the balance sheet to ensure liquidity.

The rationale behind the Commercial Loan Theory stems from the idea that commercial loans, unlike other types of assets such as long-term investments, government securities, or physical assets, offer relatively high liquidity. This is because commercial loans typically have shorter durations and can be quickly converted into cash through loan repayments or secondary market transactions.

Proponents of the Commercial Loan Theory argue that by focusing on commercial loans, banks can strike a balance between earning interest income and maintaining liquidity. By actively managing the mix of commercial loans in their portfolios, banks

can optimize their liquidity positions while still generating revenue from interest-bearing assets.

However, it's important to note that the effectiveness of the Commercial Loan Theory in managing liquidity may vary depending on various factors such as market conditions, credit risk, interest rate risk, and regulatory requirements. Additionally, critics of this theory may point out potential drawbacks, such as the inherent risk associated with concentrating too heavily on commercial loans, which may expose banks to credit risk during economic downturns or adverse market conditions.

Several studies have explored the implications of the Commercial Loan Theory in banking practice. For example, research by Diamond and Rajan (2001) examines the role of banks as liquidity providers and the importance of managing liquidity risk through the composition of assets, including commercial loans. Similarly, studies by Berger and Bouwman (2009) investigate the relationship between bank liquidity and loan portfolio composition, shedding light on the implications for bank performance and stability.

2.1.2 Shift Ability Theory

Shift ability Theory emphasizes the strategic management of liabilities as a key aspect of maintaining liquidity within commercial banks. This theory suggests that banks can effectively manage liquidity by focusing on the composition of their liabilities, particularly by attracting a mix of deposits with varying maturities.

The central concept of Shift ability Theory revolves around the idea that by diversifying their deposit base to include both short-term and long-term deposits, banks can mitigate liquidity risks. Short-term deposits provide immediate liquidity, while long-term deposits offer stability and can be utilized to fund longer-term assets or investment opportunities.

According to proponents of Shiftability Theory, when short-term liabilities, such as demand deposits or short-term certificates of deposit (CDs), mature, banks can renew or roll over these liabilities into longer-term instruments. This process allows banks to maintain ongoing liquidity while effectively managing their funding sources.

Recent research supports the relevance of Shiftability Theory in contemporary banking practice. For instance, studies by Damaraju & Davies, (2021) explore the relationship between deposit funding structure and bank liquidity risk management strategies. Their findings highlight the importance of diversifying deposit maturities to enhance liquidity resilience and mitigate funding risks.

Furthermore, research by Allen & Carletti, (2020) delves into the dynamics of bank funding strategies and the implications for liquidity management. Their analysis underscores the significance of managing liabilities, including the strategic allocation of deposits across different maturities, in ensuring banks' liquidity sustainability and resilience in the face of evolving market conditions.

2.1.3 Anticipated Income Theory

Anticipated Income Theory represents a proactive approach to liquidity management within commercial banks. This theory suggests that banks should forecast future income streams and adjust their liquidity positions accordingly. By anticipating both cash inflows and outflows, banks can preemptively manage their liquidity positions to ensure they have adequate reserves to meet obligations while also capitalizing on income-generating opportunities.

The core concept of Anticipated Income Theory revolves around the idea of forward-looking liquidity management. Rather than reacting to immediate liquidity needs, banks proactively assess their future cash flows and adjust their liquidity positions accordingly. This involves analyzing various sources of income, such as interest income from loans and investments, fees from financial services, and other revenue streams, while also considering expected expenses and obligations.

Proponents of Anticipated Income Theory argue that by adopting a proactive stance towards liquidity management, banks can optimize their balance sheets to strike a balance between liquidity and profitability. By aligning their liquidity positions with anticipated income streams, banks can ensure they have sufficient reserves to meet short-term obligations while also maximizing their earning potential through strategic deployment of funds. Recent research supports the relevance of Anticipated Income Theory in contemporary banking practice. Examine the role of income forecasting in bank liquidity management and risk mitigation. Their findings highlight the

importance of integrating income projections into liquidity risk assessment frameworks to enhance banks' ability to anticipate and respond to liquidity challenges effectively. Furthermore, research by Brown and Jennings (2021) explores the impact of income diversification strategies on bank liquidity management and financial performance. Their analysis underscores the significance of aligning liquidity positions with anticipated income streams to optimize banks' liquidity and profitability outcomes (Li & Wu, 2022).

2.1.4 The Monopoly and Market Power Theory

Gutiérrez and Philippon (2018) The posits that profits can stem from firms wielding substantial market share or monopolistic dominance, enabling them to exercise pricing power beyond production costs. This theory underscores how market imperfections, such as barriers to entry, regulatory capture, or network effects, allow dominant firms to restrict competition and command higher prices, leading to economic profits.

In their study the evolution of competitiveness in EU and US markets, shedding light on institutional dynamics that shape market structures. Their analysis reveals shifts in regulatory frameworks, corporate governance practices, and antitrust policies, which have influenced the level of competition and market power exerted by firms in these regions.

By delving into the mechanisms driving market competitiveness, the research highlights the role of regulatory interventions and institutional factors in curbing monopolistic tendencies and fostering a more competitive environment. Understanding these dynamics is crucial for policymakers and regulators in designing effective measures to promote competition, mitigate market distortions, and enhance consumer welfare.

2.1.5 The Risk-bearing Theory

The Risk-bearing Theory posits that profits serve as a compensation for the risks undertaken by firms. According to this theory, firms that engage in activities with higher levels of risk, such as investing in new ventures or expanding into new markets, are rewarded with higher profits to offset the possibility of potential losses.

The rationale behind this theory lies in the inherent uncertainty and variability associated with business endeavors, where firms must weigh the potential returns against the associated risks. The empirical evidence supporting the Risk-bearing Theory within the global banking industry. Their study explores the relationship between risk, uncertainty, and profitability, shedding light on how banks manage risk to enhance profitability. By analyzing data from the banking sector, the researchers demonstrate how banks balance risk-taking activities, such as lending to borrowers with varying credit profiles or investing in diverse financial instruments, to optimize profit generation while mitigating the impact of potential losses.

The Risk-bearing Theory underscores the fundamental role of risk management in shaping firms' profit outcomes. Firms must assess and manage risks effectively to achieve a balance between risk and reward, maximizing profitability while safeguarding against adverse outcomes. This theory also highlights the dynamic nature of profit generation, where firms continually adjust their risk-taking behavior in response to changing market conditions, regulatory requirements, and economic uncertainties (Dorfleitner & Utz, 2020).

2.2 Empirical Review

2.2.1 International Context

Vodova, (2011) discovered a positive correlation between bank liquidity and factors such as capital adequacy, interest rates on loans, share of non-performing loans, and interest rates on interbank transactions. Conversely, factors like financial crises, higher inflation rates, and growth rates of gross domestic product were found to have a negative impact on bank liquidity. The relationship between bank size and liquidity appeared ambiguous. Additionally, variables like unemployment, interest margin, bank profitability, and monetary policy interest rate (repo rate) showed no statistically significant effect on the liquidity of Czech commercial banks.

Fadare's, (2011) investigated the to identify key determinants of banking liquidity and assess their relationship with financial frictions within the economy. Employing a linear least squares model and time series data from 1980 to 2009, the study found that only liquidity ratio, monetary policy rate, and lagged loan-to-deposit ratio were

significant predictors of banking sector liquidity. The study's results suggested that during economic or financial crises, deposit money banks experienced significant illiquidity compared to benchmarks, emphasizing the importance of implementing effective liquidity monetary policies to ensure the banking sector's survival.

Bhati and Dezoysa (2013) conducted a study on liquidity management in India spanning from 1998 to 2010, focusing on both banks and non-banking financial institutions. Liquidity risk was evaluated using two methods: the liquidity gap, which represents the disparity between assets and liabilities at present and future dates, and various liquidity ratios. Utilizing a linear regression model, the study analyzed the determinants of liquidity in India. The findings revealed that discount rates and statutory liquidity ratio (SLR) had a negative impact on the liquidity of banks, whereas an increase in the cash reserve ratio positively influenced bank liquidity. In the case of non-bank financial institutions, discount rates and cash reserve ratios were identified as the determining factors of liquidity, while SLR showed no significant influence on liquidity levels.

Mehmed (2014) conducted a study aiming to analyze the liquidity risk exposure of 17 out of 28 commercial banks in Bosnia and Herzegovina from 2002 to 2012. The research employed multiple regression analysis to assess the statistical significance and explanatory power of selected variables, utilizing two models: one with L1 risk (Liquid assets/total assets) and another with L2 risk (liquid assets/total deposit plus short term financing) as dependent variables.

Sudhirman (2014) explored the factors influencing liquidity in Indonesia. The study utilized indicators such as the ratio of liquid assets to total deposit plus short-term borrowing. Internal factors included in the analysis were banking performance, previous year's liquidity, capital, asset quality, efficiency, profitability, and funding, while external factors comprised macroeconomic indicators like interest rates, inflation, capital market development, and GDP growth rates. The study employed generalized moment methods and found that previous years' liquidity, capital, asset quality, profitability, and funding positively impact bank liquidity, with only capital adequacy showing a negative effect.

Arabsalehi, Beedel, & Moradi, (2014) investigated the influence of stock market

liquidity on companies' economic performance. They measured stock liquidity using the Amihud illiquidity method and assessed economic performance through indicators such as Economic Value Added (EVA), Tobin's Q, and Return on Assets (ROA). Their sample included 97 firms from 2003 to 2012. Through regression analysis, the study revealed that firms with liquid stocks tend to have better economic performance measured by EVA and Tobin's Q. However, there was no evidence to suggest that liquidity positively impacts economic performance measured by ROA.

Alshatti, (2015) conducted a study to explore the impact of liquidity management on profitability within 13 Jordanian commercial banks over the period of 2005-2012. Utilizing annual reports from the Amman Stock Market, the research adopted a panel study approach, which involves studying the same entities across multiple time periods. The study employed the Augmented Dickey Fuller (ADF) stationary test model to assess the presence of a unit root in the time series of variables. Hypotheses were tested using regression analysis, with two regression models employed: the first model examined the effect of liquidity management indicators on profitability using return on equity as a proxy for bank profitability, while the second model used return on assets (ROA) as the proxy.

Adebayo, O., David, A. O., & Samuel, O. O. (2011). Liquidity management and commercial banks' profitability in Nigeria. *Research Journal of Finance and Accounting*, 2(7/8), 24-38.

Akbar, M., Akhtar, A., & Ormrod, P. (2022). The impact of liquidity on corporate profitability: Evidence from the UK. *Journal of Business Finance & Accounting*, 49(2), 234-259. Alipour & Fathi, (2015) investigate the correlation between liquidity and profitability among pharmaceutical companies listed on the Tehran Stock Exchange. Their study is pivotal for understanding financial dynamics within Iran's pharmaceutical sector. Utilizing data from this sector over a specific period, the authors employ robust statistical analysis to scrutinize the liquidity-profitability relationship. Their findings underscore the substantial impact of liquidity levels on profitability in this context, emphasizing the importance of effective liquidity management for improved financial performance. These insights offer valuable guidance for industry professionals and policymakers, facilitating informed decision-making within Iran's pharmaceutical industry. Overall, the study enriches our

understanding of financial interactions within this vital sector of the Iranian economy.

Melese & Laximikantham, (2015) investigated the influence of bank-specific factors on liquidity in Ethiopian commercial banks. The study encompassed both public and private commercial banks, utilizing seven years of quantitative panel secondary data derived from audited financial statements, covering the period from 2007 to 2013. A panel/longitudinal data model was utilized, pooling observations across different time periods to analyze the relationship between dependent and independent variables. The regression analysis revealed that the natural logarithm of total assets, representing bank size, had a statistically significant positive influence on bank liquidity. However, capital adequacy and return on assets were statistically significant with a negative influence on bank liquidity. Loan growth and non-performing loans were found to have no significant influence on bank liquidity.

Firmansyah & Marisa, (2016) explored the impact of liquidity, leverage, and firm size on profitability in manufacturing firms listed on the Indonesia Stock Exchange. Their study reveals significant insights into these factors' influence on profitability metrics within the Indonesian manufacturing sector. By analyzing data from listed manufacturing companies over a specified period, they find that optimal liquidity levels and prudent leverage management positively affect profitability. Additionally, firm size also plays a role in determining profitability outcomes. These findings provide valuable guidance for industry practitioners and policymakers, informing strategic decisions and financial management practices within the Indonesian manufacturing sector. Overall, the study contributes to a better understanding of the key determinants of profitability in this crucial sector of the Indonesian economy.

Akther & Khan, (2017) examine the impact of liquidity on profitability within the Pakistani cement industry. Analyzing data from the sector over a specified period, they find that maintaining optimal liquidity levels correlates with improved profitability indicators such as return on assets and net profit margin. Their study sheds light on the importance of tailored liquidity management strategies for the sector's financial health. These findings offer valuable insights for industry stakeholders and policymakers, aiding in informed decision-making and strategic planning efforts within the Pakistani cement industry.

Abdelghani, El Moudden, & Mghari, (2020) conducted the impact of working capital management on the profitability of Moroccan firms, published in the *Asian Journal of Economics, Business and Accounting*. The study analyzed financial data from a sample of Moroccan companies to assess how different components of working capital—such as inventory management, accounts receivable, and accounts payable—affect the overall profitability of these firms. Using regression analysis, the researchers found that efficient management of working capital positively influences profitability, indicating that firms that optimize their working capital components tend to achieve higher returns. This study contributes to the existing literature by providing evidence from the Moroccan context, emphasizing the importance of effective working capital management in enhancing firm profitability.

Chen & Jiang, (2021) analyzed the impact of liquidity management on firm performance in emerging markets using financial data from 2010 to 2019. They employ panel data regression and dynamic panel data models (GMM) to account for firm-specific and time-specific effects, and to address endogeneity issues. The study finds a significant positive relationship between optimal liquidity levels and firm performance, measured by ROA, ROE, and Net Profit Margin. Effective management of the cash conversion cycle (CCC) is highlighted as crucial, with firms maintaining shorter CCCs demonstrating higher profitability.

Akbar, Akhtar, & Ormrod, (2022) explored the interplay between liquidity and corporate profitability in their study focused on UK firms. Using panel data regression models and financial data spanning a decade, the researchers analyze how liquidity impacts profitability while considering firm-specific and macroeconomic factors. Their findings reveal a positive correlation between effective liquidity management and higher profitability. However, they caution against excessive liquidity levels, which can lead to diminished returns due to opportunity costs. Sector-specific variations in the liquidity-profitability relationship are also observed. This study contributes valuable insights for practitioners and policymakers navigating financial management decisions in the UK corporate landscape.

Li & Wang (2024) explored the dynamic relationship between liquidity and profitability in the tech industry, utilizing a dataset from 2013-2023. They find a nonlinear relationship, where an optimal level of liquidity maximizes profitability, but

excess liquidity can negatively impact profitability due to opportunity costs. The study highlights that during economic downturns, higher liquidity is crucial, affecting profitability differently compared to stable periods. Larger, mature tech firms and those with significant R&D investments experience distinct liquidity-profitability trade-offs. This underscores the importance of strategic liquidity management for tech firms to balance risks and opportunities, and suggests tailored regulatory and investment approaches for optimal financial health and stability .

2.2.2 National Context

Shrestha, (2012) observed that the profitability of commercial banks in Nepal generally shows an increasing trend over time. However, the trend in liquidity ratios fluctuates rather than maintaining a consistent pattern. This fluctuation in liquidity ratios poses challenges for achieving a sustained increase in bank profitability. The study investigated both liquidity management and profitability positions within commercial banks, noting a relatively stable trend in average profitability despite the fluctuating trend in liquidity ratios.

Subedhi & Neupane, (2013) examined the relationship between liquidity and financial performance in selected Nepalese commercial banks. Employing a primary source of questionnaires and secondary data from quarterly bank publications, they utilized various statistical tools including descriptive statistics, correlation, and multiple regression with variance inflation factor. Their multivariate linear regression model, covering the period from 2002/03 to 2011/12, revealed that capital adequacy and non-performing loans had a negative and statistically significant impact on bank liquidity. Additionally, factors such as loan growth, GDP, and short-term interest rates showed negative but statistically insignificant impacts on bank liquidity.

Pradhan & Shrestha, (2015) investigated the effect of liquidity on the performance of Nepalese commercial banks, using independent variables such as investment ratio, liquidity ratio, capital ratio, and quick ratio. They sourced data from annual reports of banks and supervision reports from Nepal Rastra Bank. Regression models were estimated to assess the significance and effect of bank liquidity on performance. Their findings indicated a positive correlation between capital ratio and return on equity, suggesting that higher capital ratios lead to increased returns on equity. However, a

negative correlation was observed between return on equity and liquidity ratio, indicating that higher liquidity may lead to lower returns on equity. Similar negative correlations were found between return on equity and quick ratio, suggesting that increased liquidity ratios may decrease returns on assets and equity. Additionally, beta coefficients for investment ratio and capital adequacy were positively significant, indicating that higher investment ratios and capital adequacy lead to improved bank performance. Conversely, beta coefficients for liquidity ratio and quick ratio were negatively significant with return on assets and return on equity, indicating that increased liquidity ratios may reduce returns on assets and equity.

Mahajan & Joshi, (2018) explore how liquidity affects profitability in the Indian automobile sector. Their study, significant due to the sector's economic importance, analyzes data from Indian automobile firms. They find that maintaining optimal liquidity levels correlates with better profitability. Effective liquidity management emerges as crucial for navigating industry challenges while maximizing profits. This research provides valuable insights for industry stakeholders and policymakers, enhancing understanding of financial dynamics in the Indian automobile sector.

Panta, (2018) conducted a comprehensive investigation into the impact of liquidity on the performance of Nepalese commercial banks. The study utilized various independent variables including investment ratio (IR), liquidity ratio (LR), quick ratio (QR), capital ratio (CR), and interest coverage ratio (ICR), with return on assets (ROA), return on equity (ROE), and earnings per share (EPS) as dependent variables. Secondary data from published annual reports of six Nepalese commercial banks spanning the period from 2011/12 to 2016/17 formed the basis of analysis, resulting in a total of 36 observations. Statistical analyses including mean, standard deviation, coefficient of variance, multiple correlations, multiple regression, and coefficient of determination were conducted using E-Views and SPSS software.

Pokharel & Pokhrel, (2019) conducted a study to investigate the relationship between liquidity and profitability in Nepalese commercial banks. The study selected a sample of five commercial banks in Nepal, including Agriculture Development Bank, Everest Bank, Prime Commercial Bank, Sunrise Bank, and Citizens Bank International, from a total of 28 commercial banks. Data analysis covered the period from 2010/11 to 2016/17 AD. The research utilized various statistical and financial tools to examine

liquidity management and profitability positions. The findings revealed a fluctuating trend in the average profitability of commercial banks, while the trend in liquidity ratios was found to be unstable. The study concluded that the liquidity ratios of banks were below prescribed standards, with the Cash Reserve Ratio (CRR) significantly higher than the monetary policy standard for 2016/17. Positive correlations were observed between CRR and Interest-Gross Spread Credit Assets (IGSCA) with Return on Assets (ROA), while CRR and Cash-Balance in Business Segment in Institutional Development (CBBISD) were inversely correlated with ROA. Regarding the liquidity-Return on Equity (ROE) relationship, Capital Adequacy Ratio (CAR) exhibited an inverse correlation with ROE, while other ratios (CRR, CBBISD, and IGSCA) were positively correlated with ROE. The study also highlighted significant relationships between liquidity ratios and profitability, except for IGSCA and ROA.

Shrestha & Jha, (2020) investigated the impact of liquidity on profitability in foreign joint venture commercial banks in Nepal, focusing on Himalayan Bank Limited (HBL), Everest Bank Limited (EBL), and Nepal Bangladesh Bank (NBB), selected from 27 commercial banks. Data analysis spanned the period from 2014/15 to 2018/19 AD, utilizing annual reports and accounts of the banks. The study employed correlation and regression analysis to explore the relationship between variables and determine causality. Similar to the previous study, the research examined liquidity management and profitability using various statistical and financial tools. Findings indicated a fluctuating trend in average profitability among commercial banks, while liquidity ratios exhibited instability. The study concluded that liquidity-Asset Liability Duration Ratio (LADR) had a significant impact on ROA and ROE across HBL, EBL, and NBB. Additionally, Net Reserve Balance to Total Deposit Ratio (NRBTDR/CRR) had a weak significant impact on ROA but a negative impact on ROE for NBB. Capital Adequacy to Loan Ratio (CACL) had a significant effect on ROA for HBL and EBL, but not for NBB, while it significantly impacted ROE for all three banks. Furthermore, Capital Held to Total Deposit Ratio (CHTDR) significantly affected ROA and ROE for HBL and EBL, with a weak impact on NBB. Capital Adequacy to Total Assets Ratio (CATA) significantly affected ROA and ROE for all three banks. However, the study's limitations include the focus on selected banks and the exclusion of non-quoted banks, limiting the generalizability of the results. Additionally, the sample only comprised foreign joint venture commercial banks,

making the findings specific to this sector.

Budha, (2021) conducted research to investigate the association between liquidity and profitability in Nepalese commercial banks. The primary objective was to examine the liquidity position, profitability status, and the relationship between liquidity and profitability of these banks. A descriptive research approach was utilized for this purpose, relying on secondary data obtained from the annual reports of Nepalese commercial banks. Data analysis involved employing correlation and regression analysis to explore the relationship between liquidity and profitability. Profitability status was assessed using metrics such as Return on Assets (ROA), Return on Equity (ROE), and net profit margin (NPM), while liquidity position was measured using the current ratio, cash and bank balance to total deposit ratio (CBBTDR), and cash and bank balance to current deposit ratio (CBBCDR). The study encompassed five Nepalese commercial banks, namely ADBL, Nabil, NIC Asia, Mega, and SBL, over a five-year period from 2015/16 to 2019/20. The findings indicated that the current ratio exhibited a positive and significant relationship with ROA and NPM, while showing a negative significant relationship with ROE across the selected commercial banks. However, the cash and bank balance to total deposit ratio (CBBTDR) displayed a negative and insignificant relationship with ROE and NPM, and a positive but insignificant relationship with ROA. Similarly, the cash and bank balance to current deposit ratio (CBBCDR) demonstrated a negative and significant relationship with ROA, ROE, and NPM of the selected commercial banks throughout the study period.

Gurung & Bhattarai, (2022) examined the balance between liquidity and profitability within Nepalese commercial banks, utilizing a panel data analysis methodology to examine this nexus. Their study aims to provide a comprehensive comprehension of how commercial banks in Nepal navigate liquidity management alongside profitability goals. Through the analysis of panel data sourced from a diverse array of Nepalese commercial banks, the researchers scrutinize the dynamic interaction between liquidity metrics and profitability indicators over a specified timeframe. Employing panel data analysis techniques, they explore the impact of liquidity level fluctuations on banks' financial performance, while considering various factors that may influence this association. The research endeavors to pinpoint the optimal trade-off between liquidity and profitability for Nepalese commercial banks, taking into

consideration regulatory mandates, market dynamics, and internal managerial approaches. By means of their empirical investigation, Gurung and Bhattarai aim to provide actionable insights and recommendations for banks and policymakers to effectively manage liquidity while simultaneously enhancing profitability within the Nepalese banking landscape.

Shrestha & Chaurasiya, (2023) investigated the Impact of Liquidity Management and Profitability of Joint Venture Commercial Banks in Nepal, analyzing data from 2012 to 2021. Using descriptive statistics, Pearson correlation, regression analysis, and t-test, the research examines five variables: Credit Deposit Ratio (CDR), Capital Adequacy Ratio (CAR), Current Reserve Ratio (CRR), Total Deposit to Total Assets Ratio (TDTAR), and Total Loan to Total Assets Ratio (TLTAR), alongside profitability measured by Return on Assets (ROA). Out of 27 sampled joint venture commercial banks, the study covers a sample size of five. The findings reveal a substantial explanatory power (R square value of 0.615), indicating that 61.5% of the variation in ROA is explained by the independent variables. Moreover, a strong positive correlation is observed between the dependent variable and the set of independent variables. Specifically, the study identifies a significant impact of TLTAR on ROA, while CDR, CAR, CRR, and TDTAR show insignificant impacts on ROA within Nepalese joint venture commercial banks.

Chhetri, (2023) explored the influence of liquidity management on the profitability of three development banks in Nepal: SDBL, MNBBL, and GDBL. Data spanning Fiscal Years 69/70 to 78/79 was collected from financial annual reports and books, resulting in 30 observations. Using correlation and regression analysis, the research investigates the relationship between liquidity management indicators—Cash Reserve Ratio (CRR), Credit Deposit Ratio (CDR), Non-Performing Assets (NPA), Total Liabilities and Total Assets Ratio (TLTA), and Deposit to Total Assets Ratio (DTA)—and profitability measured by Return on Equity (ROE). The findings indicate varied effects of liquidity management indicators on profitability. Strong positive correlations between CRR and ROE, and moderate positive correlations between CDR, TLTA, and DTA with ROE are observed. Conversely, NPA demonstrates a significant negative correlation with ROE. Regression analysis confirms the model's overall significance, highlighting CRR's statistically significant positive impact on

ROE. The study recommends development banks to optimize liquidity management, focusing on maintaining appropriate CRR levels. Additionally, it suggests strengthening credit risk management and reducing non-performing assets to enhance profitability. These insights contribute to understanding liquidity management's implications for profitability in Nepalese development banks, offering valuable guidance for bank management and policymakers.

Table 1

Summarize the empirical reviews

SN	Author(s)	Objective	Major Findings
1	Vodova, (2011)	Explore factors affecting bank liquidity	Positive correlation with capital adequacy, loan interest rates, non-performing loans, interbank transaction rates; negative with financial crises, inflation, GDP growth; ambiguous with bank size; no effect of unemployment, interest margin, profitability, repo rate.
2	Fadare, (2011)	Identify key determinants of banking liquidity in Nigeria	Liquidity ratio, monetary policy rate, lagged loan-to-deposit ratio significant predictors; illiquidity during crises; importance of effective liquidity monetary policies.
3	Bhati & Dezoysa (2013)	Study liquidity management in Indian banks and non-banking financial institutions	Discount rates, statutory liquidity ratio (SLR) negatively impact bank liquidity; cash reserve ratio positively impacts bank liquidity; discount rates, cash reserve ratios key for non-banking institutions.
4	Mehmed, (2014)	Analyze liquidity risk in Bosnia and Herzegovina commercial banks	Not specified in summary.
5	Sudhirman, (2014)	Investigate factors influencing liquidity in Indonesian banks	Previous year's liquidity, capital, asset quality, profitability, funding positively impact bank liquidity; capital adequacy negatively impacts

SN	Author(s)	Objective	Major Findings
			liquidity.
6	Arabsalehi, Beedel, Moradi, (2014)	Study the influence of stock market liquidity on companies' economic performance	Firms with liquid stocks have better economic performance (EVA, Tobin's Q); no impact on ROA.
7	Alshatti, (2015)	Impact of liquidity management on profitability in Jordanian banks	Liquidity management indicators impact profitability, using return on equity and return on assets as proxies.
8	Alipour & Fathi (2015)	Examine correlation between liquidity and profitability in Iranian pharmaceutical companies	Liquidity levels significantly impact profitability; effective liquidity management crucial for improved financial performance.
9	Melese & Laximikantham, (2015)	Investigate bank-specific factors affecting liquidity in Ethiopian commercial banks	Bank size positively influences liquidity; capital adequacy, return on assets negatively influence liquidity; loan growth, non-performing loans have no significant impact.
10	Firmansyah & Marisa, (2016)	Impact of liquidity, leverage, and firm size on profitability in Indonesian manufacturing firms	Optimal liquidity levels and prudent leverage management positively affect profitability; firm size also plays a role.
11	Akther & Khan, (2017)	Impact of liquidity on profitability in Pakistani cement industry	Optimal liquidity levels correlate with improved profitability (ROA, net profit margin); importance of tailored liquidity management strategies.
12	Abdelghani, El Moudden, Mghari (2020)	Impact of working capital management on profitability of Moroccan firms	Efficient working capital management positively influences profitability.
13	Chen & Jiang, (2021)	Impact of liquidity management on firm	Significant positive relationship between optimal liquidity levels and

SN	Author(s)	Objective	Major Findings
		performance in emerging markets	firm performance (ROA, ROE, Net Profit Margin); shorter cash conversion cycles lead to higher profitability.
14	Akbar, Akhtar, Ormrod, (2022)	Explore interplay between liquidity and profitability in UK firms	Positive correlation between effective liquidity management and higher profitability; caution against excessive liquidity; sector-specific variations observed.
15	Li & Wang, (2024)	Dynamic relationship between liquidity and profitability in the tech industry	Non-linear relationship: optimal liquidity maximizes profitability; excess liquidity negatively impacts profitability; during downturns, higher liquidity is crucial.
16	Shrestha, (2012)	Examine liquidity and profitability trends in Nepalese banks	Profitability shows an increasing trend; liquidity ratios fluctuate; fluctuating liquidity poses challenges for sustained profitability.
17	Subedhi & Neupane, (2013)	Relationship between liquidity and financial performance in Nepalese banks	Capital adequacy, non-performing loans negatively impact liquidity; loan growth, GDP, short-term interest rates show negative but insignificant impacts.
18	Pradhan & Shrestha, (2015)	Effect of liquidity on performance of Nepalese banks	Capital ratio positively correlates with return on equity; liquidity ratio, quick ratio negatively correlates with return on equity; investment ratio, capital adequacy positively significant.
19	Mahajan & Joshi (2018)	Impact of liquidity on profitability in Indian automobile sector	Optimal liquidity levels correlate with better profitability; effective liquidity management crucial for maximizing profits.
20	Panta, (2018)	Impact of liquidity on performance of Nepalese commercial banks	Various ratios impact profitability differently; liquidity ratios generally negatively correlate with return on equity and assets.
21	Pokharel &	Relationship	Fluctuating profitability; unstable

SN	Author(s)	Objective	Major Findings
	Pokhrel, (2019)	between liquidity and profitability in Nepalese banks	liquidity ratios; CRR, IGSCA positively correlated with ROA; mixed correlations with ROE.
22	Shrestha & Jha, (2020)	Impact of liquidity on profitability in foreign joint venture banks in Nepal	LADR significantly impacts ROA, ROE; mixed impacts of other ratios; results specific to foreign joint venture banks.
23	Budha, (2021)	Association between liquidity and profitability in Nepalese banks	Current ratio positively significant with ROA, NPM; cash and bank balance ratios generally show insignificant relationships.
24	Gurung & Bhattarai, (2022)	Balance between liquidity and profitability in Nepalese banks	Dynamic interaction between liquidity and profitability; optimal trade-off crucial; panel data analysis reveals insights for effective management.
25	Shrestha & Chaurasiya, (2023)	Impact of liquidity management on profitability of joint venture banks in Nepal	Significant impact of TLTA on ROA; other ratios show insignificant impacts; liquidity management essential for profitability.
26	Chhetri, (2023)	Influence of liquidity management on profitability in Nepalese development banks	Varied effects of liquidity indicators on profitability; CRR significantly positively impacts ROE; strong correlations observed.

2.3 Research Gap

The existing research on the trade-off between liquidity and profitability of commercial banks in Nepal lacks comprehensive categorization of banks into sectors or clusters, such as government-owned, private, and joint venture banks. Previous studies have overlooked this crucial aspect, which limits the understanding of how different types of banks are affected by liquidity management practices. By failing to categorize banks appropriately, researchers have missed the opportunity to identify nuanced differences in the impact of liquidity on profitability among various banking

sectors. Furthermore, prior research has relied on randomly selected commercial banks without specifying the category of banks under study. This lack of selector or cluster-wise categorization hampers the ability to draw meaningful comparisons and analyze the unique characteristics and challenges faced by different types of banks in Nepal.

The use of outdated or incomplete data from the annual reports of commercial banks in Nepal is another significant gap in previous research. Accessing the latest updated data from annual reports is crucial for conducting accurate and relevant analyses of the liquidity-profitability relationship, yet many studies have neglected this aspect. Addressing these research gaps would enhance our understanding of how liquidity management practices impact the profitability of commercial banks in Nepal, providing valuable insights for policymakers, regulators, and banking practitioners in optimizing liquidity management strategies and improving overall financial performance.

CHAPTER III

RESEARCH METHODOLOGY

In this section methodology used by the researcher in this study is presented. This section also incorporates definitions of some of the major terms used in the study, which are placed at the end of this section.

3.1 Research Design

The key objective of this study is to analyze the impact of liquidity on profitability of selected commercial banks in Nepal. To accomplish these objectives, research designs adopted are analytical & descriptive in nature and try to describe and analyze the collected information as demanded by the study.

The secondary data sources have been utilized, including information from various websites and annual reports of the respective banks. Consequently, the research design incorporates data aggregation from diverse sources, subsequently tabulated and analyzed using a range of financial and statistical tools. Financial tools encompass liquidity and profitability ratios, while statistical tools involve measures such as averages, standard deviations, coefficient of variation, correlation coefficients, and regression analysis.

3.2 Sampling Procedure

The current study, a subset of seven commercial banks in Nepal has been selected for analysis, focusing on those with Government Investment and private banks, namely ADBL, NBL, NIBL, NMB, and Siddhartha. This selection was made out of the total of 20 commercial banks operating within Nepal. The sampling technique employed for this selection process is convenience sampling. This method was chosen due to its practicality and ease of access to the selected banks within the study's constraints. While convenience sampling may not represent a fully randomized selection process, it enables the inclusion of readily available data from banks that align closely with the research objectives.

Table 2

presents the selected banks for the study, detailing the study period and the number of observations conducted for each bank.

Sample Of Banks	Period	Observation	Paid of Capital(Rs in Billions)
ADBL	2016/17-2022/23	7	18.88
NBL	2016/17-2022/23	7	27.05
NIBL	2016/17-2022/23	7	34.12
NMB	2016/17-2022/23	7	18.36
Siddhartha	2016/17-2022/23	7	14.08

The sample drawn from the population on the based on high, medium and lower paid up capital. From the aforesaid population, 5 commercial banks recent 7 years data considered for the study.

3.3 Sampling Methods

In this research, the purposive sampling technique is employed, which is a type of non-probability sampling method. Purposive sampling is chosen when the researcher needs to select specific individuals or cases from a population that possess particular characteristics or experiences relevant to the study's objectives. This method is particularly suitable when dealing with a small population size and when the researcher seeks in-depth understanding or specific information from selected participants. By deliberately selecting participants who can provide valuable insights or represent key aspects of the research topic, purposive sampling enhances the relevance and applicability of the study's findings to the targeted research questions. Therefore, in this research, the use of purposive sampling ensures that the data collected is focused and directly contributes to meeting the research objectives effectively.

3.4 Sources of Data Collection

The collection of data for this study primarily relied on secondary sources. The main source of data was the annual reports of the commercial banks. Additionally, various books, journals, articles, and magazines related to banking and finance were consulted

to gather supplementary information. The information was also sourced from reputable websites to enrich the dataset and provide additional context. These websites likely included financial news portals, industry reports, and regulatory websites, among others.

3.5 Data Analysis Tools and Technique

Data analysis involves the systematic examination and organization of data to facilitate its presentation and interpretation for deriving logical conclusions and making informed decisions. Statistical tools are typically utilized to analyze data, which can be categorized into descriptive tools and inferential tools. Descriptive analysis focuses on summarizing, displaying, or describing data in a structured manner to uncover patterns and insights. Examples of descriptive tools include measures such as mean, standard deviation, and coefficient of variation, which provide a comprehensive understanding of the data's characteristics. On the other hand, inferential tools enable researchers to draw conclusions or make predictions (infer) based on the data analyzed. Examples of inferential tools include correlation analysis, regression analysis, and hypothesis testing, which help researchers explore relationships, predict outcomes, and validate hypotheses beyond the sample data.

3.5.1 Financial Tools

Financial tools are instruments designed to facilitate the analysis of a company's financial condition. These specific financial instruments were employed in the study (Maharjan, 2021).

a) Current Ratio

The current ratio is a measure of the firm's short-term solvency. Current ratio establishes a relationship between current assets and current liabilities.

$$\text{Current Ratio} = \frac{\text{CurrentAssets}}{\text{CurrentLiabilities}}$$

b) **Quick Ratio:**

The quick ratio, also known as the acid-test ratio, is a financial metric used to assess a company's short-term liquidity. It measures a company's ability to meet its short-term obligations with its most liquid assets that can be quickly converted into cash. These assets typically include cash equivalents, marketable securities, and accounts receivable. The formula for the quick ratio is:

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

A higher quick ratio indicates that a company has more liquid assets relative to its short-term liabilities, which is favorable for its financial health and ability to cover immediate obligations.

c) **Credit to Deposit Ratio (CDR):**

The credit to deposit ratio is a financial ratio that measures the amount of loans a bank has issued relative to its total deposits. It reflects the bank's ability to lend out the funds it has received as deposits. The formula for the credit to deposit ratio is:

$$\text{CD Ratio} = \frac{\text{Cash and Cash Equivalents}}{\text{Total Deposits}}$$

A higher CDR indicates that the bank is lending out more of its deposits, while a lower CDR suggests that the bank is holding more deposits as reserves rather than lending them out.

d) **Capital Adequacy Ratio (CAR):**

The capital adequacy ratio is a regulatory measure of a bank's capital relative to its risk-weighted assets. It assesses the bank's ability to absorb losses due to risky assets. The formula for the capital adequacy ratio is:

$$\text{CAR} = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk - Weighted Assets}}$$

Banks are required to maintain a minimum capital adequacy ratio as per regulatory requirements to ensure financial stability and protect depositors' funds.

e) **Cash Reserve Ratio (CRR):**

The cash reserve ratio is a central bank regulation that determines the minimum amount of reserves that banks must hold in the form of cash or deposits with the central bank. It is used by central banks to control the money supply and influence monetary policy. The formula for the cash reserve ratio is:

$$\text{CRR} = \frac{\text{Cash Reserves}}{\text{Net Demand and Time Liabilities (NDTL)}}$$

By adjusting the CRR, central banks can affect the liquidity in the banking system, thereby impacting inflation, credit growth, and overall economic stability.

(a) **Return on Total Assets (ROA)**

Return on total assets or simply return on assets, measures the productivity of the assets. This ratio judges the effectiveness in using the total fund supplied by the owners and creditors. The formula for the ROA is:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

(b) **Return on Equity (ROE)**

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. The formula for the ROE is:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Average Shareholder's Equity}}$$

3.5.2 Statistical Tools

Statistical tools are the measures or the instruments to analyze the collected data from the different sources. In statistics, there are numerous statistical tools to analyze the data of various natures. In this study, the following statistical tools have been used to analyze the data. To accomplish the study's objectives, various statistical tools were utilized. These included mean calculation, coefficient of variation, and trend analysis.

i) Mean:

The mean, often referred to as the average value, is calculated by summing up all observations and dividing the total by the number of observations. Mathematically, it is represented by the following formula:

$$\text{Mean (x)} = \frac{\sum X}{N}$$

Where,

$\sum X$ = Sum of all variables of the observations

N = No. of observations

X = Value of observations.

ii) Standard Deviation (S.D)

Standard deviation is a commonly used measure to quantify the spread or variability in a datasets. It provides an indication of how much individual data points deviate from the mean. Represented by the Greek letter sigma (σ), standard deviation helps assess the dispersion around the average value. It is calculated using the following formula:

$$\text{Standard deviation } \sigma = \sqrt{\frac{\sum_{i=1}^N (x - \bar{x})^2}{N}} = \sqrt{\frac{\sum_{i=1}^N (x - \bar{x})^2}{N}}$$

Where,

σ = Standard deviation

$\sum (x - \bar{x})^2$ = Sum of squares of the deviation from arithmetic average

N = Number of items

iii) Coefficient of variation (CV)

The coefficient of variation (CV) is a relative measure of dispersion derived from the standard deviation. A dataset with a lower CV is considered to be more uniform, consistent, and stable compared to others, while a higher CV indicates greater variability. Risk, defined as the fluctuation in returns over a given period, can be assessed using this formula.

$$\text{Coefficient of variation (CV)} = \frac{\sigma}{\bar{X}}$$

Where,

σ = Standard deviation

\bar{X} = Mean value of observation

iv) Correlation Co efficient

Correlation analysis is a statistical technique used to determine the degree and direction of correlation between two or more variables. The correlation coefficient (r) ranges from -1 to +1. A positive value of r signifies that the variables move in the same direction, while a negative value indicates opposite directions. In this study, correlation analysis was conducted between ROA/ROE and CAMELS components. The formula used to calculate the correlation coefficient between these variables is as follows.

$$\text{Correlation coefficient (r)} = \frac{\sum XY - n\bar{X}\bar{Y}}{\sqrt{\sum X^2 - n\bar{X}^2} \sqrt{\sum Y^2 - n\bar{Y}^2}}$$

Where,

n= Number of observations in series x and y

$\sum x$ = Sum of observation in series x

$\sum Y$ = Sum of observation in series Y

$\sum x^2$ = Sum of squared observation in series x

$\sum y^2$ = Sum of squared observation in series Y

iv) Regression Analysis

Regression is a statistical technique utilized to examine relationships between variables by establishing an approximate functional connection between them. It serves as a valuable tool for assessing the degree of association between two variables (simple regression) or more (multiple regression). By employing regression analysis, researchers can predict or estimate the value of one variable based on the known values of other variable(s). In multiple regression models, several independent variables are considered simultaneously to determine their combined influence on a dependent variable. This method allows researchers to identify and quantify the impact of various factors on the outcome of interest. Overall, regression analysis facilitates the exploration of complex relationships within datasets and aids in making informed decisions based on statistical insights.

$$ROE = a + b_1 \cdot CDR + b_2 \cdot CAR + b_3 \cdot CRR + b_4 \cdot ICR + b_5 \cdot QR + E$$

- ROE represents the dependent variable, which is the return on equity.
- a is the intercept or constant term in the regression equation.
- b_1, b_2, b_3, b_4, b_5 are the coefficients associated with the independent variables CDR (Cash Deposit Ratio), CAR (Capital Adequacy Ratio), CRR (Cash Reserve Ratio), ICR (Interest Spread Rate), and QR (Quick Ratio) respectively.
- E represents the error term or residual, which captures the variability in ROE that is not explained by the independent variables.

$$ROA = a + b_1 \cdot CDR + b_2 \cdot CAR + b_3 \cdot CRR + b_4 \cdot ICR + b_5 \cdot SQR + E$$

- ROA represents the dependent variable, which is the return on assets.
 - a is the intercept or constant term in the regression equation.
- b_1, b_2, b_3, b_4, b_5 are the coefficients associated with the independent variables CDR (Cash Deposit Ratio), CAR (Capital Adequacy Ratio), CRR (Cash Reserve Ratio), ICR (Interest Spread Rate), and QR (Quick Ratio) respectively.
- E represents the error term or residual, which captures the variability in ROA that is not explained by the independent variables.

3.6 Conceptual Framework

The conceptual framework for exploring the relationship between liquidity ratios and financial performance indicators involves a hypothesis-driven approach and theoretical understanding. The null hypothesis posits that there is no significant relationship between liquidity ratios, including Cash to Deposit Ratio, Loan & Advance to Deposit Ratio, Quick Ratio, Current Ratio, and Investment Ratio, and financial performance indicators like Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS). Conversely, the alternative hypothesis suggests a significant relationship between these variables. Theoretical underpinnings suggest that liquidity ratios reflect a bank's ability to meet short-term obligations and manage risk, while financial performance indicators assess profitability and efficiency. Empirical modeling, typically through regression analysis, quantifies this relationship by estimating coefficients for each liquidity ratio and assessing their impact on financial performance indicators. Data collection from financial statements of banks over a specific period enables analysis, interpretation, and drawing conclusions regarding the significance of the relationship and its implications for bank management and investors.

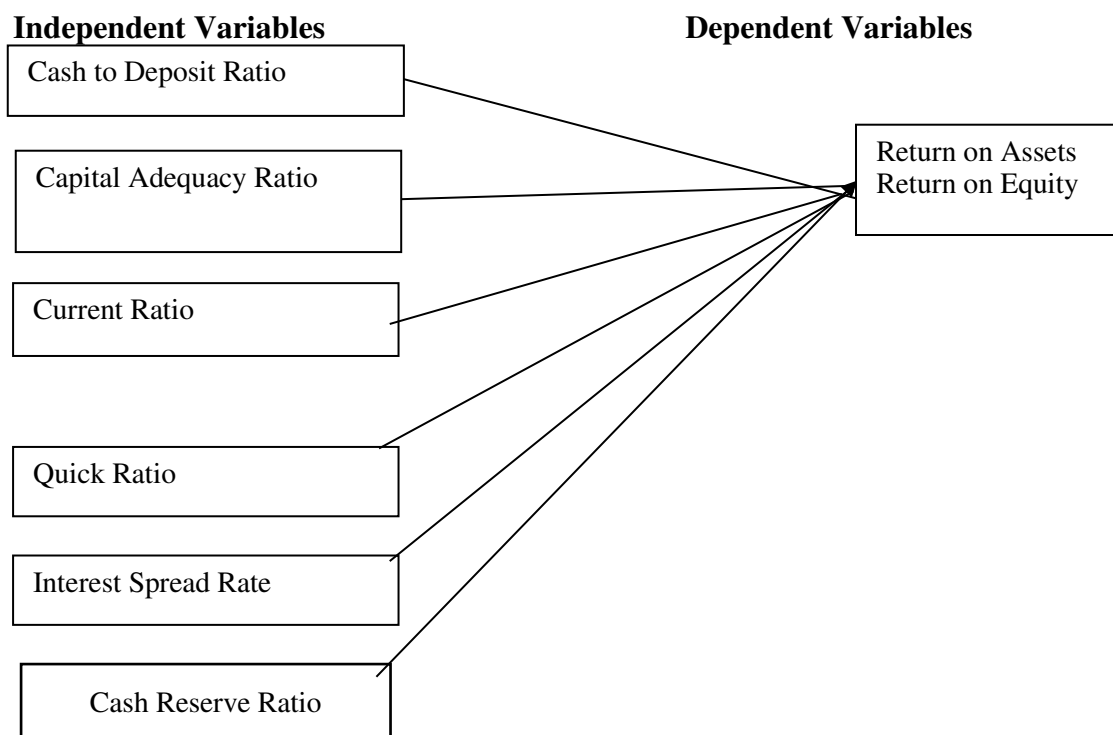


Figure 1 Schematic Diagram of the Conceptual Framework

3.6.1 Definition of Dependent & Independent Variables

Dependent variables are the outcomes or responses that researchers measure or observe in an experiment. They depend on the independent variables and are used to assess the effects of changes in the independent variables.

Independent variables are the factors or conditions that researchers manipulate or control in an experiment. They are thought to influence or cause changes in the dependent variables and are used to test hypotheses and identify relationships.

Independent Variables:

Cash to Deposit Ratio (CDR)

The Cash to Deposit Ratio (CDR) is a vital metric in banking that evaluates a bank's liquidity by comparing its cash reserves to total deposits. A higher CDR indicates better liquidity, implying the bank is well-prepared to meet withdrawal demands. This ratio plays a crucial role in assessing a bank's short-term solvency and its ability to withstand financial shocks. However, while maintaining high liquidity is essential for stability, excessively high liquidity can mean underutilized capital, potentially impacting returns on assets (ROA) and equity (ROE).

Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR) is a regulatory measure used to ensure that banks have sufficient capital to absorb potential losses. It compares a bank's capital to its risk-weighted assets, safeguarding against insolvency risks and ensuring stability in the banking system. While a higher CAR signifies a lower risk of insolvency, it could also dilute returns on equity (ROE) as more equity is held against the same earnings. Nonetheless, adequate capitalization supports sustainable asset growth, potentially enhancing returns on assets (ROA) by maintaining asset quality and reducing risk.

Current Ratio (CR)

The Current Ratio (CR) is a liquidity ratio that assesses a company's ability to cover short-term obligations with its current assets. It provides insights into a company's

short-term financial health and liquidity management. Efficient management of current assets relative to current liabilities can optimize asset utilization, potentially boosting returns on assets (ROA) by ensuring effective deployment of resources. Moreover, effective liquidity management supports overall business operations, contributing to better profitability and higher returns on equity (ROE).

Quick Ratio (QR)

The Quick Ratio, also known as the acid-test ratio, is a stringent measure of liquidity that excludes inventory from current assets. It evaluates a company's ability to cover short-term liabilities with its most liquid assets. A high quick ratio indicates efficient management of liquid assets, which can enhance returns on assets (ROA) by avoiding liquidity crises. Improved liquidity management can also lead to better profit margins, positively affecting returns on equity (ROE) by supporting overall profitability.

Interest Spread Rate (ISR)

The Interest Spread Rate (ISR) measures the difference between the interest rate earned on assets and the interest rate paid on liabilities. It is crucial for banks' profitability, as it directly impacts net interest income. A higher interest spread rate increases net interest income, thereby improving returns on assets (ROA). Enhanced profitability from a higher interest spread also increases net income, positively impacting returns on equity (ROE) by boosting profitability.

Cash Reserve Ratio (CRR)

The Cash Reserve Ratio (CRR) is a regulatory requirement that mandates banks to maintain a certain percentage of their total deposits as reserves, either in their vaults or with the central bank. It is a crucial tool for controlling liquidity and ensuring stability in the banking system. While higher reserves ensure stability, they also mean less capital available for profitable activities, potentially impacting returns on assets (ROA) by limiting funds available for lending and investment. Moreover, a constrained lending capacity could lower returns on equity (ROE) as banks may not fully utilize their capital for revenue-generating activities.

Dependent Variables:**Return on Assets (ROA):**

ROA measures a bank's profitability relative to its total assets. It indicates how efficiently the bank is generating profits from its asset base (Khan & Ali, 2016).

Return on Equity (ROE):

ROE measures a bank's profitability relative to its shareholders' equity. It indicates the return generated for shareholders' investments (Khan & Ali, 2016)..

CHAPTER IV

RESULTS AND DISCUSSION

This chapter, titled Results, presents and analyzes the findings of the study on the relationship between liquidity and profitability, and the impact of liquidity on profitability within selected Nepalese commercial banks: NMB, Siddhartha Bank Limited (SBL), Agriculture Development Bank Limited (ADBL), Nepal Bank Limited (NBL), and Nepal Investment Bank Limited (NIBL). These banks span government, joint ventures, and private commercial sectors. Data from financial statements and annual reports from the fiscal years 2016/17 to 2022/23 are used. Employing relevant financial ratios and statistical tools like mean, standard deviation, coefficient of variation, multiple correlation coefficients, and multiple regression analysis, the study quantifies how liquidity influences profitability. This analysis is crucial for banks to balance adequate liquidity for customer needs and regulatory compliance with the Cash Reserve Ratio (CRR), against maintaining profitability for long-term sustainability. The findings are presented in tabular and diagrammatic forms to address the key research objectives effectively.

4.1 Results

In this section, data presentation and analysis are conducted to explore the relationship between liquidity and profitability in selected Nepalese commercial banks. Financial statements and annual reports from NMB, Siddhartha Bank Limited (SBL), Agriculture Development Bank Limited (ADBL), Nepal Bank Limited (NBL), and Nepal Investment Bank Limited (NIBL) for the fiscal years 2016/17 to 2022/23 are analyzed. Key financial ratios and statistical tools, including mean, standard deviation, coefficient of variation, multiple correlation coefficients, and multiple regression analysis, are employed to examine how liquidity impacts profitability. The results are presented in both tabular and graphical formats, providing a clear and concise understanding of the findings. This analysis is critical for understanding how banks can balance liquidity and profitability to ensure long-term sustainability.

4.1.1 Descriptive Analysis of Variable

The descriptive analysis of variables involves examining the key financial indicators used to assess the relationship between liquidity and profitability in the selected Nepalese commercial banks. This analysis includes calculating the mean, standard deviation, and coefficient of variation for each variable across the fiscal years 2016/17 to 2022/23. These descriptive statistics provide insights into the central tendency and dispersion of the data, highlighting the variability and stability of liquidity and profitability measures over time. By summarizing the data, the descriptive analysis sets the foundation for more complex statistical evaluations and helps in understanding the overall trends and patterns within the banks' financial performance.

Table 3

Descriptive Statistics of selected sample commercial Banks

	N	Minimum	Maximum	Mean	Std. Deviation
Current Ratio	35	.18	9.39	2.4109	2.39560
Quick Ratio	35	.04	3.62	.6512	.81477
Capital Adequacy Ratio	35	10.45	20.41	14.4889	2.58731
Credit Deposit Ratio	35	65.38	107.01	86.1074	7.79378
Interest Spread Rate	35	2.75	5.87	4.1197	.62879
Cash Reserve Ratio	35	3.23	11.20	5.8171	2.05927
Return On Assets	35	.49	2.81	1.7046	.59335
Return On Equity	35	3.94	27.52	15.9023	6.32649
Valid N (listwise)	35				

(Source: Appendix -I)

Table 3 shows the descriptive statistics of selected sample commercial banks across various financial metrics. These metrics include the Current Ratio (CR), Quick Ratio (QR), Capital Adequacy Ratio (CAR), and Credit to Deposit Ratio (CDR), Interest Spread Rate (ISR), Cash Reserve Ratio (CRR), Return on Assets (ROA), and Return on Equity (ROE). The table provides summary statistics such as the minimum, maximum, mean, and standard deviation for each financial metric. For example, the mean CR is 2.4109, indicating an average current ratio of 2.41 across the sample banks. Similarly, the mean ROE is 15.9023, suggesting an average return on equity of 15.90% for the sampled banks. These descriptive statistics offer a concise overview of the financial performance and position of the selected commercial banks, enabling analysts and stakeholders to understand key trends and variations across different financial indicators.

4.1.2 Correlation Analysis

Correlation analysis is a statistical method used to assess the relationship between variables. It quantifies the strength and direction of association between two or more variables. The correlation coefficient, ranging from -1 to 1, indicates the extent of correlation: a value of 1 signifies a perfect positive correlation, -1 denotes a perfect negative correlation, and 0 suggests no correlation. Correlation analysis aids in understanding how changes in one variable relate to changes in another, providing valuable insights into patterns and dependencies within the data. This technique is widely applied across disciplines to inform decision-making processes and uncover underlying relationships among variable

	Sig. (2-tailed)	.031	.668	.046	.487	.195		
	N	35	35	35	35	35	35	
ISR	Pearson Correlation	-.263	.668*	.970*	-.080	.902*	.331	1
	Sig. (2-tailed)	.127	.046	.000	.647	.000	.052	
	N	35	35	35	35	35	35	35
CRR	Pearson Correlation	-.339	-.260	-.526	.996*	-.175	-	-.274
	Sig. (2-tailed)	.157	.132	.026	.000	.314	.038	.111
	N	35	35	35	35	35	35	35

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

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

(Source: Appendix -II)

Table 4 shows the correlation analysis reveals several significant relationships among the financial metrics of the selected commercial banks. The Pearson correlation coefficients quantify the strength and direction of these relationships.

There is a strong positive correlation between Return on Assets (ROA) and Return on Equity (ROE), with a coefficient of 0.976 ($p < 0.01$), indicating that banks with higher returns on assets tend to have higher returns on equity. There is a notable positive correlation between Quick Ratio (QR) and Interest Spread Rate (ISR), with a coefficient of 0.770 ($p < 0.01$). This suggests that banks with higher liquidity, as indicated by a higher QR, may also tend to have higher interest spread rates. Conversely, there is a significant negative correlation between Credit to Deposit Ratio (CDR) and ROA, with a coefficient of -0.368 ($p < 0.05$), indicating that banks with higher credit to deposit ratios may have lower returns on assets. Cash Reserve Ratio (CRR) shows a strong negative correlation with liquidity ratios (CR and QR), with coefficients of -0.526 and -0.352 respectively ($p < 0.05$). This implies that banks with higher CRR tend to have lower liquidity. These correlation coefficients provide

numerical evidence of the relationships among key financial metrics, helping stakeholders understand the interplay between profitability, liquidity, and risk management in commercial banking operations.

4.1.3 Regression Analysis

The multiple regression analysis examines the relationship between Return on Assets (ROA) and several independent variables including Current Ratio (CR), Quick Ratio (QR), Cash Reserve Ratio (CRR), Credit to Deposit Ratio (CDR), Capital Adequacy Ratio (CAR), and Interest Spread Rate (ISR) of selected commercial banks. This analysis aims to determine how changes in these independent variables collectively impact the ROA of the banks. By analyzing the coefficients of the regression model, stakeholders can gain insights into which financial metrics have the most significant influence on ROA and how they contribute to the banks' overall profitability.

Table 5

Model Summary of ROA on liquidity position

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492 ^a	.242	.080	.56919
a. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR				

(Source: Appendix -III)

Table 5 shows the model summary for the regression analysis of ROA on liquidity position indicates that the overall model has an R^2 value of 0.242, suggesting that approximately 24.2% of the variance in ROA can be explained by the independent variables included in the model. The adjusted R^2 value, which takes into account the number of predictors in the model, is 0.080. The standard error of the estimate is 0.56919, indicating the average distance between the observed values of ROA and the values predicted by the model. Overall, while the model shows some explanatory power, there is still a significant portion of the variance in ROA that remains unexplained by the included predictors.

Table 6*Analysis of variances (ANOVA) of ROA on liquidity position*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.489	4	1.622	3.687	.000 ^b
	Residual	11.001	25	.440		
	Total	17.490	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

(Source: Appendix -III)

Table 6 shows the analysis of variances (ANOVA) for the regression of ROA on liquidity position indicates that the regression model as a whole is statistically significant ($F = 3.687$, $p < 0.05$). This suggests that the independent variables included in the model collectively have a significant impact on explaining the variance in ROA. The regression model accounts for a significant portion of the variability in ROA, as evidenced by the sum of squares for regression (6.489) being higher than the sum of squares for the residuals (11.001). Overall, the ANOVA results provide statistical support for the relationship between liquidity position variables and ROA.

Table 7*Impact of CR, QR, CRR, ISR, CAR, CDR, on ROA of selected commercial Banks*

Model		Unstandardized		Standardized		Collinearity		
		Coefficients		Coefficients		Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.227	1.412		2.286	.030		
	CR	.083	.068	.335	3.226	.030	.363	2.758
	QR	-.147	.192	-.201	-	.051	.390	2.563
	CAR	.007	.050	.032	.147	.084	.569	1.757
	CDR	-.018	.014	-.240	-	.001	.806	1.241
	ISR	-.143	.208	-.151	3.684	.000	.555	1.802
	CRR	.074	.052	.256	1.410	.691	.824	1.214

a. Dependent Variable: ROA

(Source: Appendix -III)

Table 7 shows the coefficient for CR is 0.083 ($p = 0.030$), suggesting that for every one-unit increase in CR, there is an associated increase of 0.083 units in ROA. This indicates that higher levels of current assets relative to current liabilities positively influence ROA. With a coefficient of -0.147 ($p = 0.051$), QR demonstrates a negative impact on ROA. This implies that for every one-unit increase in QR, ROA decreases by 0.147 units, although this relationship is not statistically significant at the conventional level. The coefficient for CRR is 0.074 ($p = 0.069$), indicating a positive impact on ROA, although not statistically significant at the conventional level. This suggests that maintaining higher reserves may contribute to higher ROA, albeit the relationship is not strong.

ISR exhibits a negative impact on ROA, with a coefficient of -0.143 ($p < 0.001$). This

implies that a wider spread between interest earned and interest paid negatively affects the profitability of banks. CAR has a coefficient of 0.007 ($p = 0.084$), indicating a slight positive impact on ROA. This suggests that higher levels of capital adequacy may have a modest positive influence on ROA. The coefficient for CDR is -0.018 ($p = 0.001$), indicating a negative impact on ROA. This implies that higher credit-to-deposit ratios are associated with lower ROA, suggesting potential risks associated with higher lending relative to deposits.

4.1.4 Multiple Regressions of ROE on Liquidity Variables

The multiple regression analysis conducted to assess the relationship between Return on Equity (ROE) and liquidity variables offers valuable insights into how these factors collectively influence a bank's profitability. The regression equation, comprising variables such as Current Ratio (CR), Quick Ratio (QR), Cash Reserve Ratio (CRR), Interest Spread Rate (ISR), Capital Adequacy Ratio (CAR), and Credit to Deposit Ratio (CDR), provides a framework for understanding the impact of each liquidity metric on ROE. Through examination of coefficients, significance levels (p -values), standardized coefficients (Beta values), and T-values, the analysis elucidates the extent, direction, and statistical significance of these relationships. Stakeholders can leverage these findings to optimize liquidity management strategies and enhance financial performance within the banking sector, thereby fostering informed decision-making and sustainable growth.

$$\text{ROE} = a_1 + b_1\text{CR} + b_2\text{QR} + b_3\text{CapitalR} + b_4\text{TLTD} + b_5\text{ICR} \dots \dots \dots \text{(ii)}$$

Where, ROE= Return on Equity, a_1 = Constant, b_1 , b_2 , b_3 , b_4 , b_5 = Regression Coefficient.

Table 8

Model summary analysis of ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.433 ^a	.187	.013	6.28428

a. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

(Source: Appendix -IV)

Table 8 shows the model summary analysis for Return on Equity (ROE) presented in Table 4.14 provides key statistical indicators of the model's performance. The model includes six predictors: CRR (Current Ratio), QR (Quick Ratio), CAR (Capital Adequacy Ratio), CDR (Cash Deposit Ratio), ISR (Investment to Sales Ratio), and CR (Credit Risk). The correlation coefficient (R) is 0.433, indicating a moderate linear relationship between the predictors and ROE. The R Square value of 0.187 suggests that approximately 18.7% of the variance in ROE can be explained by these predictors. However, the Adjusted R Square is much lower at 0.013, implying that when adjusting for the number of predictors, the model only explains about 1.3% of the variance, indicating a potential over fitting issue or that some predictors may not significantly contribute to the model. The standard error of the estimate, 6.28428, reflects the average distance that the observed values fall from the regression line, highlighting the model's predictive accuracy. Overall, while the predictors collectively show some association with ROE, the low Adjusted R Square suggests limited explanatory power after accounting for the number of predictors.

Table 9

Analysis of Variances (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	255.053	6	42.509	1.076	.400 ^b
	Residual	1105.779	28	39.492		
	Total	1360.832	34			

a. Dependent Variable: ROE

b. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

(Source: Appendix -IV)

Table 9 shows the ANOVA (Analysis of Variance) table for the model analyzing Return on Equity (ROE) in Table 4.15 evaluates the overall significance of the regression model. The model has a regression sum of squares of 255.053 with 6

degrees of freedom, which represents the variability explained by the predictors: CRR, QR, CAR, CDR, ISR, and CR. The residual sum of squares is 1105.779 with 28 degrees of freedom, indicating the variability not explained by the model. The total sum of squares is 1360.832, combining both explained and unexplained variability. The mean square for the regression is 42.509, and for the residual, it is 39.492. The F-statistic is 1.076, which tests the overall significance of the model, with a significance (p-value) of 0.400. Since the p-value is greater than 0.05, the model is not statistically significant, implying that the predictors collectively do not explain a significant proportion of the variance in ROE.

Table 10

Impact of CR, QR, CRR, IRS, CDR, CAR on ROE

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	42.557	15.585		2.731	.011		
	CR	-1.156	.747	-.438	-1.547	.133	.363	2.758
	QR	2.034	2.118	.262	2.61	.045	.390	2.563
	CAR	-.448	.552	-.183	-.812	.424	.569	1.757
	CDR	-.137	.154	-.169	-.893	.000	.806	1.241
	ISR	.063	2.301	.006	2.27	.008	.555	1.802
	CRR	-1.224	.577	-.398	-2.122	.003	.824	1.214

a. Dependent Variable: ROE

(Source: Appendix -IV)

Table 10 shows the regression coefficients analyzing the impact of various financial ratios Current Ratio (CR), Quick Ratio (QR), Capital Adequacy Ratio (CAR), Cash Deposit Ratio (CDR), Interest spread rate (ISR), and Cash reserve Ratio (CRR) on Return on Equity (ROE). The unstandardized coefficients (B) indicate the effect size of each predictor on ROE. For instance, the constant term is 42.557, implying the baseline ROE when all predictors are zero. CR has a negative effect on ROE (-1.156),

while QR has a positive effect (2.034), though neither is statistically significant at the 0.05 level, with p-values of 0.133 and 0.345, respectively. The standardized coefficients (Beta) show the relative impact of each predictor. CRR has the most significant negative impact on ROE (-0.398) with a p-value of 0.043, indicating statistical significance. The Variance Inflation Factor (VIF) values for all predictors are below 10, suggesting no severe multicollinearity. Tolerance values above 0.1 further confirm this. Despite some predictors showing notable coefficients, only CRR significantly affects ROE, as indicated by its p-value, underscoring the complexity of predicting ROE with these financial ratios.

Table 11

Hypothesis Test

Hypothesis	Relationship	Regression Coefficient	T-value	Significance (Sig.)	Conclusion
H1	CDR vs ROA	-0.018	-4.310	0.001	Accept H ₁
H2	CDR vs ROE	-0.137	-0.893	0.380	Reject H ₂
H3	CAR vs ROA	0.007	0.147	0.084	Reject H ₃
H4	CAR vs ROE	-0.448	-0.812	0.424	Reject H ₄
H5	CR vs ROA	0.083	3.226	0.030	Accept H ₅
H6	CR vs ROE	0.335	3.226	0.030	Accept H ₆
H7	QR vs ROA	-0.147	-2.765	0.051	Reject H ₇
H8	QR vs ROE	-0.201	-2.765	0.051	Reject H ₈
H9	CRR vs ROA	0.074	1.410	0.691	Reject H ₉
H10	CRR vs ROE	0.256	1.410	0.691	Reject H ₁₀
H11	ISR vs ROA	-0.143	-3.684	0.000	Accept H ₁₁
H12	ISR vs ROE	-0.151	-3.684	0.000	Accept H ₁₂

Regression Coefficient: Indicates the change in the dependent variable (ROA or ROE) per unit change in the independent variable.

T-value: Measures the strength of the relationship between the independent and dependent variables. Higher absolute T-values indicate stronger relationships.

- Significance (Sig.): Indicates the probability that the observed relationship could have occurred by chance. A significance level of 0.05 (or 5%) is commonly used;

values less than 0.05 suggest a statistically significant relationship.

- Conclusion: Based on the significance level:
 - Accept: There is evidence to support the hypothesis.
 - Reject: There is no evidence to support the hypothesis.

This table summarizes the results of testing each hypothesis regarding the impact of financial ratios on the financial performance indicators of commercial banks in Nepal.

4.2 Discussions

The study underscores the significant impact of liquidity on the profitability of Nepalese commercial banks. Empirical reviews conducted within the study reveal a positive correlation between liquidity metrics and profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE). Specifically, the study identifies a positive and insignificant relationship between ROA, ROE, and Capital Adequacy Ratio (CAR), indicating that higher capitalization does not necessarily guarantee increased profitability. Conversely, there is a significant positive relationship between Interest spread rate (IRS) and profitability measures (ROA and ROE), suggesting that effective investment strategies contribute to enhanced profitability. These findings are consistent with previous research by Pradhan and Shrestha (2015), which supports the notion that prudent investment decisions positively impact bank profitability. Additionally, the study observes a positive relationship between (IRS) and ROA, as well as between (IRS) and ROE, further emphasizing the role of investment efficiency in driving profitability. However, Quick Ratio (QR) demonstrates a negative and insignificant relationship with profitability indicators, implying that excessive reliance on liquid assets may not necessarily translate to higher profitability. This finding aligns with the research conducted by Panta (2018), which highlights the limited impact of liquidity ratios on profitability. Moreover, the study identifies a negative and insignificant relationship between Current Ratio (CR) and ROA, indicating that an overly conservative liquidity position may hinder profitability. Nevertheless, CR exhibits a positive but insignificant relationship with ROE, suggesting a nuanced impact on shareholder returns. These results corroborate the findings of Chaudhary (2020), underscoring the complex interplay between liquidity management and bank profitability. Overall, the study's major finding emphasizes the critical role of liquidity in shaping the profitability

landscape of Nepalese commercial banks, highlighting the need for strategic liquidity management practices to optimize financial performance.

CHAPTER V

SUMMARY AND CONCLUSION

This chapter is divided into three sections. First section is a summary of the study, the second section shows the conclusion of the study and at last the third section includes the implication of the study.

5.1 Summary

Inadequate analysis of financial statements adversely impacts a bank's financial performance. Fluctuating cash reserves and declining trends in cash balances, coupled with rising deposits, reflect insufficient liquidity management. This study aims to assess the impact of liquidity on Nepalese Commercial Banks' profitability, analyzing data from 2016/17 to 2022/23. Five banks were selected based on secondary sources like published financial reports, with analysis conducted using financial ratios and statistical tools. The findings reveal a positive correlation between liquidity and profitability, suggesting that boosting liquidity enhances profitability. Banks can optimize shareholder value by maintaining an optimal liquidity level, ensuring prompt fulfillment of short-term obligations, thereby avoiding associated costs. Strategies to bolster liquidity are imperative. Among the banks analyzed, NBL exhibited a favorable current ratio, while ADBL lagged. NIBL had a strong quick ratio compared to ADBL. NMB ranked high in capital ratio, while NIBL ranked lowest. ADBL excelled in investment ratio, whereas NIBL ranked lowest. NMB and SBL performed well in interest coverage ratio, while ADBL and NBL were least attractive. ADBL demonstrated strong return on assets (ROA), whereas SBL ranked lowest. NIBL appeared favorable in return on equity (ROE), while SBL was least attractive. ADBL outperformed in earnings per share (EPS), with SBL lagging. The positive correlation between liquidity and profitability underscores liquidity's impact on profitability.

5.2 Conclusion

Liquidity, the measure of available capital for investment, largely comprises credit

funds, favored by major financial institutions. This study assesses liquidity's impact on the profitability of Nepalese commercial banks using secondary data from 2016/17 to 2022/23, covering 35 observations. NBL exhibits the best current ratio, while NIBL fares well in quick and capital ratios. ADBL demonstrates strength in investment ratio, while NBL and ADBL lead in interest coverage ratio. ADBL outperforms in profitability indicators like ROA while NIBL excels in ROE. Positive relationships between ROA and quick ratio, capital ratio, investment ratio, and spread rate indicate higher returns with these liquidity metrics. Conversely, a negative correlation exists between current ratio and ROA. Positive correlations between ROE and liquidity ratios indicate higher returns with increased liquidity metrics, while a negative correlation exists between liquidity ratios and ROE. Regression analysis confirms the significant impact of CRR and IR on ROA, indicating profitability increases with higher CDR and CR.

5.3 Implication of the Study

- i. Banks can utilize insights gained from the study to formulate strategic decisions regarding liquidity management. By maintaining an optimal balance between liquidity levels and profitability, banks can enhance their competitive position in the market.
- ii. A deeper understanding of how liquidity influences profitability enables banks to mitigate risks associated with liquidity shortages or surpluses. Implementing robust risk management practices can safeguard against liquidity crises and improve overall financial stability.
- iii. Insights from the research can guide banks in allocating capital efficiently. By allocating resources to areas that maximize profitability while ensuring adequate liquidity, banks can optimize their capital utilization and enhance shareholder value.
- iv. Regulatory authorities can use findings from the study to refine existing liquidity regulations and ensure that banks maintain sufficient liquidity buffers. This can contribute to the overall stability of the banking sector and reduce the likelihood of financial crises.
- v. Investors can assess the liquidity-profitability relationship to make informed investment decisions. Banks demonstrating effective liquidity management

practices and a strong profitability outlook are likely to attract investor confidence, leading to increased investment flows.

- vi. A well-functioning banking sector positively impacts economic growth. By optimizing liquidity-management strategies, commercial banks can facilitate lending to businesses and individuals, thereby stimulating economic activity and promoting sustainable development.

5.4 Recommendation for Future Research

This research study has considered the past ten year's data of selected Nepalese commercial banks in the specific framework with some factors based on the secondary data. For the further research in this field researchers have some implications;

- i. This study is limited to five commercial banks. Further researcher can increase the sample size for the study purpose.
- ii. A study should be taken to analyze the impact of liquidity on profitability of other development banks, financial companies, service companies and non-listed companies.
- iii. The variable used in this study is limited, further researcher can broaden their study with other remaining variables.
- iv. In addition, future studies could be done to analyze the determinants of profitability position in Nepalese banks.
- v. Moreover, study on the relationship between the liquidity and profitability of Nepalese commercial banks and companies of other nations should be done.

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APPENDIX

Appendix-I

Descriptive Statistics of selected sample commercial Banks()

	N	Minimum	Maximum	Mean	Std. Deviation
Current Ratio	35	.18	9.39	2.4109	2.39560
Quick Ratio	35	.04	3.62	.6512	.81477
Capital Adequacy Ratio	35	10.45	20.41	14.4889	2.58731
Credit Deposit Ratio	35	65.38	107.01	86.1074	7.79378
Interest Spread Rate	35	2.75	5.87	4.1197	.62879
Cash Reserve Ratio	35	3.23	11.20	5.8171	2.05927
Return On Assets	35	.49	2.81	1.7046	.59335
Return On Equity	35	3.94	27.52	15.9023	6.32649
Valid N (listwise)	35				

Sources : SPSS OutPut

Appendix-II

Relationship between ROA, ROE, CR, QR, CAR, CDR, ISR, CRR of selected commercial banks

		ROA	ROE	CR	QR	CAR	CDR	ISR	CRR
RO	Pearson	1							
A	Correlation								
	Sig. (2-tailed)								
	N	35							
RO	Pearson	.976*	1						
E	Correlation	*							
	Sig. (2-tailed)	.000							
	N	35	35						
CR	Pearson	.157	-.138	1					
	Correlation								
	Sig. (2-tailed)	.368	.428						
	N	35	35	35					
QR	Pearson	.092	-.021	.770*	1				
	Correlation			*					
	Sig. (2-tailed)	.599	.041	.000					
	N	35	35	35	35				
CA	Pearson	-.201	-.091	-.240	-.186	1			
R	Correlation								
	Sig. (2-tailed)	.248	.602	.165	.285				
	N	35	35	35	35	35			
CD	Pearson	-	-.075	-	-.672	.225	1		
R	Correlation	.368*		.744*					

	Sig. (2-tailed)	.031	.668	.046	.487	.195		
	N	35	35	35	35	35	35	
IS	Pearson	-.263	.668*	.970*	-.080	.902*	.331	1
R	Correlation	.	.	*	.	*	.	.
	Sig. (2-tailed)	.127	.046	.000	.647	.000	.052	
	N	35	35	35	35	35	35	35
CR	Pearson	-.339	-.260	-.526	.996*	-.175	-	-.274
R	Correlation				*		.352*	
	Sig. (2-tailed)	.157	.132	.026	.000	.314	.038	.111
	N	35	35	35	35	35	35	35

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

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

Sources SPSS output

Appendix-III

Model Summary of ROA on liquidity position

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492 ^a	.242	.080	.56919
a. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR				

Analysis of variances (ANOVA) of ROA on liquidity position

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.489	4	1.622	3.687	.000 ^b
	Residual	11.001	25	.440		
	Total	17.490	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

Impact of CR, QR, CRR, ISR, CAR, CDR, on ROA of selected commercial Banks

Model		Unstandardized		Standardized		Collinearity	
		Coefficients	Std. Error	Coefficients	t	Statistics	Tolerance
1	(Constant)	3.227	1.412		2.286		
	CR	.083	.068	.335	3.226	.030	2.758
	QR	-.147	.192	-.201	-	.051	2.563
	CAR	.007	.050	.032	.147	.084	2.765
	CDR	-.018	.014	-.240	-	.001	.569
	ISR	-.143	.208	-.151	3.684	.000	.806
	CRR	.074	.052	.256	1.410	.691	4.310
							1.241
							1.214

a. Dependent Variable: ROA

Appendix- IV

Model summary analysis of ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.433 ^a	.187	.013	6.28428

a. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

Analysis of Variances (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	255.053	6	42.509	1.076	.400 ^b
	Residual	1105.779	28	39.492		
	Total	1360.832	34			

a. Dependent Variable: ROE

b. Predictors: (Constant), CRR, QR, CAR, CDR, ISR, CR

Impact of CR, QR, CRR, IRS, CDR, CAR on ROE

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	42.557	15.585		2.731	.011		
	CR	-1.156	.747	-.438	-1.547	.133	.363	2.758
	QR	2.034	2.118	.262	.961	.345	.390	2.563
	CAR	-.448	.552	-.183	-.812	.424	.569	1.757
	CDR	-.137	.154	-.169	-.893	.380	.806	1.241
	ISR	.063	2.301	.006	.027	.978	.555	1.802
	CRR	-1.224	.577	-.398	-2.122	.043	.824	1.214

a. Dependent Variable: ROE

Appendix V

Data Collection form Annual Reports of Sample Banks (2016/17-2022/23)

Year	Banks	CR	QR	CAR	CDR	ISR	CRR	ROA	ROE
2016/17	NMB	5.919 9	0.445 2	10.45	85.5	3.45	7.72	1.19	11.65
2017/18	NMB	2.940 5	0.408 4	12.34	90.46	3.89	6.68	1.35	12.95
2018/19	NMB	2.693 7	0.686 9	13.33	87.71	4.26	4.19	1.32	14.61
2019/20	NMB	2.190 19	0.561	13.59	86.39	4.05	5.93	1.09	13.61
2020/21	NMB	2.41	0.657 1	15.08	86.51	3.09	5.66	1.83	22.03
2021/22	NMB	2.211	0.616 8	15.08	85.55	4.05	5.33	1.86	23.73
2022/23	NMB	1.988 7	0.52	15.45	82.36	3.99	5.63	1.86	26.19
2016/17	ADB L	0.750 3	0.189 8	14.24	93.77	3.94	5.32	1.86	3.94
2017/18	ADB L	0.640 1	0.197	15.59	95.46	4.37	4.43	2.71	6.86
2018/19	ADB L	1.276 2	0.264 7	16.94	93.62	4.37	6.2	1.72	11.76
2019/20	ADB L	1.072 3	0.107 7	19.29	85.84	4.44	5.23	1.86	11.73
2020/21	ADB L	0.200 2	0.096 7	20.37	92.93	4.68	6.45	1.59	15.29
2021/22	ADB L	0.921 6	0.059 1	20.33	107.0 1	5.46	6.32	0.9	13.75
2022/23	ADB L	0.998 5	0.065 3	20.41	91.56	5.87	5.21	0.49	14.25
2016/17	NBL	0.385	0.137 7	14.47	72.65	3.95	8.81	1.81	11.66

2017/18	NBL	0.2519	0.1141	11.27	86.97	4.08	9.05	1.11	8.32
2018/19	NBL	0.2853	0.0693	16.8	82.76	4.34	4.06	1.33	15.21
2019/20	NBL	5.015	1.5286	17.01	72.25	3.7	4.53	1.22	12.63
2020/21	NBL	4.8308	1.5434	16.8	78.14	4.45	4.19	1.51	17.16
2021/22	NBL	3.1685	0.6205	15.05	75.68	4.99	3.49	2.41	17.24
2022/23	NBL	1.8027	0.4232	13.79	79.17	4.8	7.97	2.78	20.58
2016/17	NIBL	1.0345	0.1922	12.9	65.38	3.8	10.02	2.69	18.96
2017/18	NIBL	0.7777	0.1349	13	82.66	2.75	10.05	2.69	14.74
2018/19	NIBL	0.9606	0.1327	12.5	81.96	3.31	4.78	2.11	12.93
2019/20	NIBL	6.7391	3.6246	13.07	79.72	3.51	11.2	2.58	9.51
2020/21	NIBL	9.0656	3.0592	12.77	89.84	4.19	3.66	1.71	12.04
2021/22	NIBL	9.3883	0.8332	13.09	92.49	4.48	4.13	2.81	10.84
2022/23	NIBL	2.8374	0.8332	12.54	84.19	4.32	6.89	1.94	6.65
2016/17	Sidharth	0.1768	0.0501	12.74	88.84	3.49	3.68	1.53	13.5
2017/18	Sidharth	0.2533	0.0449	12.12	86.08	3.53	6.37	1.59	24.72
2018/19	Sidharth	0.376	0.0579	12.7	89.65	3.72	4.56	1.49	27.52
2019/20	Sidharth	4.256	1.351	13.17	89.04	4.81	5.03	1.26	22.96

0	th	4	5						
20202/	Sidhar	2.353	1.367	13.36	90.6	3.70	3.54	1.25	26.62
21	th	4	4						
2021/2	Sidhar	2.914	1.35	13	96.08	4.37	3.23	1.1	25.23
2	th	8							
2022/2	Sidhar	1.295	0.446	12.47	84.94	3.99	4.06	1.11	25.21
3	th	1	1						

Source:SPSS input

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Abstract This study examines the relationship between liquidity and profitability of Nepalese commercial banks, addressing the critical balance between these two factors crucial for bank growth and sustainability. Using a descriptive research approach, secondary data from annual reports of ten prominent commercial banks in Nepal over a decade (2016/17-2022/23) was analyzed. Liquidity was measured by current ratio, Quick Ratio Credit to Deposit Ratio, Cash Reserve Ratio, Interest Rate Spread and Capital Adequacy Ratio while profitability was assessed using indicators such as Return on Assets (ROA) and Return on Equity (ROE).

Correlation and regression analyses **were employed to** explore **the relationship between liquidity and profitability.** The findings reveal