

IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL

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by

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

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

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REPORT OF RESEARCH COMMITTEE

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ABBREVIATIONS

ADBL	:	Agricultural Development Bank Limited
ANOVA	:	Analysis of Variance
BVPS	:	Book Value Per Share
CAR	:	Capital Adequacy Ratio
CB	:	Commercial Banks
CDR	:	Credit to Deposit Ratio
CEO	:	Chief Executives Officer
CTA	:	Cash to Total Assets
C.V.	:	Coefficient of Variation
DF	:	Degree of Freedom
EBL	:	Everest Bank Limited
EPS	:	Earning Per Share
FOM	:	Faculty of Management
GDP	:	Gross Domestic Product
GBIME	:	Global IME Bank Limited
HBL	:	Himalayan Bank Limited
INF	:	Inflation Rate
LEV	:	Leveraged
LIQ	:	Liquidity
NABIL	:	Nabil Bank Limited
NEPSE	:	Nepal Stock Exchange Limited
NFRS	:	Nepal Financial Reporting Standard
NICA	:	NIC Asia Bank Limited
NIMB	:	Nepal Investment Mega Bank Limited
NPA	:	Non-Performing Assets
NPL	:	Non-Performing Loan
NRB	:	Nepal Rastra Bank
P. E.	:	Probable Error
PER	:	Price Earnings Ratio
ROA	:	Return on Assets
ROE	:	Return on Equity
SBI	:	Nepal SBI Bank Limited

SCB : Nepal Standard Chartered Bank Limited
S.D. : Standard Deviation
SIG. : Significance
VIF : Variance Inflation Factor

ABSTRACT

This study examines the impact of liquidity on the profitability of commercial banks in Nepal, aiming to investigate the liquidity position, profitability status, and the relationship between liquidity and profitability. It adopts a descriptive and analytical research design, primarily relying on secondary data extracted from annual reports of Nepalese commercial banks. Correlation and regression analyses are utilized to assess the impact and relationship between liquidity and profitability. Profitability is evaluated through return on assets (ROA) and return on equity (ROE), while liquidity position is gauged using indicators such as capital adequacy ratio (CAR), credit to deposit ratio (CDR), cash to total assets (CTA), non-performing loans (NPL), and bank size. The study encompasses ten commercial banks in Nepal over the past decade (from fiscal years 2012/13 to 2021/22), including Agricultural Development Bank Limited, Everest Bank Limited, Global IME Bank Limited, Himalayan Bank Limited, Nabil Bank Limited, Nepal Investment Mega Bank Limited, Nepal SBI Bank Limited, NIC Asia Bank Limited, Sanima Bank Limited, and Standard Chartered Bank Limited. The findings reveal a negative significant relationship between CDR and SIZE with ROA, whereas CAR, CTA, and NPL exhibit a positive significant relation. Similarly, CTA demonstrates a positive significant relationship with ROE, while CAR, CDR, NPL, and SIZE display a negative significant relationship.

Key words: Return on assets, return on equity, capital adequacy ratio, credit to deposit ratio, cash to total assets, non-performing loan, size of the bank, commercial banks

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Effectively managing a company's short-term assets and liabilities is vital for its success. Even firms with promising long-term prospects and strong financial foundations can't stay solvent without proper liquidity management (Jose, Lancaster & Stevens, 1996). While the primary aim for any company is to maximize shareholder wealth, it's equally important to ensure liquidity preservation. Finding a middle ground between these goals is crucial. Prioritizing profit at the expense of liquidity can bring about serious problems, just as overlooking profit in favor of liquidity might lead to insolvency. Hence, prudent liquidity management demands careful consideration and directly influences a company's overall profitability.

The debate surrounding the impact of liquidity on a firm's performance is extensive. While it entails evaluating profit levels and the firm's advancement, the relationship between profit and liquidity remains contentious, lacking a definitive consensus (Asian A Umobong, 2015). Liquidity denotes the possession of substantial assets or cash readily convertible into cash. Having high liquidity offers flexibility to a company, particularly in risk mitigation efforts. Researchers employ various ratios, such as the current ratio, cash ratio, and quick ratio, to assess liquidity. The current ratio is derived by dividing current assets by current liabilities, whereas the cash ratio considers the total of cash and marketable securities divided by current liabilities. Both ratios aid in gauging a company's liquidity (Ngwili, 2013). Investigating the profitability of Nepalese banks is vital for gaining insights into economic enhancement, given the pivotal role banks play in economic development and stability. A robust banking sector contributes significantly to overall economic stability (Baral, 2005).

Research inherently operates within specific timeframes, concentrating on particular periods. As a result, liquidity and profitability positions undergo fluctuations influenced by diverse external and internal factors. This study endeavors to scrutinize the correlation between liquidity and bank profitability within commercial banks. Among the multifaceted roles of a bank, maintaining equilibrium between liquidity

and profitability holds paramount importance. Without adequately assessing their influence on profitability, a bank cannot function optimally in the market. Hence, the principal aim of this investigation is to assess the impact of bank liquidity on financial performance within Nepalese commercial banks.

Research inherently operates within defined timeframes, focusing on specific intervals. Consequently, the positions of liquidity and profitability experience fluctuations influenced by a variety of internal and external factors. This study aims to examine the relationship between liquidity and bank profitability within the context of commercial banks. Among the diverse roles that banks undertake, achieving a balance between liquidity and profitability is of utmost significance. Failing to adequately evaluate their impact on profitability can hinder a bank's optimal functioning in the market. Therefore, the primary objective of this research is to evaluate how bank liquidity affects the financial performance of Nepalese commercial banks.

The core operations of banking involve gathering funds from sectors with surpluses in the economy and extending loans and advances to those with deficits, a process termed financial intermediation. Through this, banks encounter diverse risks, with liquidity risk being particularly prominent. Liquidity risk pertains to the potential for a bank to suffer losses because it cannot meet its cash obligations. The liquidity of a commercial bank denotes its ability to promptly fulfill all contractual commitments, including lending, investment agreements, withdrawal of deposits, and settling liabilities, throughout its standard business activities (Amengor, 2010).

A bank is an officially recognized institution responsible for managing money and credit. When a bank assumes numerous functions, its efficiency and efficacy can decline. Therefore, specialized banks are established for specific purposes. Among the different kinds of banks, the commercial bank is the oldest. As time has passed, commercial banks have evolved significantly from their original form. In everyday language, the term "bank" frequently refers specifically to commercial banks. Consequently, the definitions applicable to banks are also relevant to commercial banks. The primary aim of these banks remains profit maximization.

Effective management of liquidity is essential for maintaining financial stability within organizations. It guarantees the capability to fulfill short-term commitments,

covering operational costs and financial obligations. Moreover, it encompasses addressing long-term debts over the financial year or operating cycle, whichever extends longer. Organizations utilize diverse liquidity ratios (like the current ratio, quick ratio, cash ratio, and defensive interval ratio) to efficiently handle liquidity, thereby significantly influencing their financial outcomes (Robinson & Et al., 2015).

Profitability concerns the net earnings of a company, achieved when revenues exceed expenses. Revenue is derived from the company's operations, while expenses encompass the costs incurred in generating profit. Profitability represents the foremost goal for businesses, as without it, they cannot endure in the market for an extended period. Thus, evaluating historical, present, and anticipated profitability is vital for companies. The income statement presents revenue and expenses, providing insights into the company's profitability. Conversely, the cash flow statement depicts cash inflows and outflows, directly impacting the company's liquidity (Das & Et al., 2015).

The association between liquidity and profitability typically exhibits a negative or inverse pattern. Holding a significant liquidity position often results in diminished profitability for a bank. Conversely, when profitability rises, liquidity tends to decrease. However, there are exceptions to this trend. Liquidity issues can trigger depositor panic, potentially causing difficulties in repaying deposited funds. In times of liquidity shortages, banks are unable to substantially increase their lending (advance) activities to enhance profitability. Consequently, banks aim to manage liquidity efficiently. Occasionally, banks may engage in risky investments to bolster profitability, as a positive correlation exists between heightened risk and increased returns. Nonetheless, this heightened risk also poses a threat to the bank's liquidity. In periods of low interest rates, a bank's liquidity position typically improves, indicating a robust capital base. Conversely, a surplus of liquidity may arise when there is a considerable amount of idle funds with insufficient investments in real sectors. Economic downturns often prompt investments in unfavorable ventures, which struggle to repay bank funds due to poor business performance. Consequently, banks encounter liquidity challenges when seeking additional investments or repaying depositors' funds (Panigrahi & Shah, 2014).

Liquidity and profitability play vital roles in the corporate realm. Liquidity encompasses the management of a company's current assets and liabilities, crucial for

determining its capability to manage short-term obligations effectively. Given its importance, firms must reserve a reasonable portion of assets in cash to meet these commitments. Balanced liquidity is indispensable for a firm's efficiency and profitability. Thus, firms must pinpoint the ideal liquidity level to ensure high profitability, avoiding extremes of excess or insufficiency. Conversely, profitability denotes the revenues generated by firms from their operations, net of expenses incurred. Profitability ratios are utilized to evaluate a firm's profitability, offering insights into its standing in this regard. Every firm aspires to boost profitability and strives for optimal levels. Recognizing the substantial interplay between liquidity and profitability, firms must maintain an optimal liquidity level (Khan & Ali, 2016).

Banking undergoes continuous evolution rather than remaining static, evolving over centuries through a process of trial and error. This evolution stems from experiences involving the acceptance of money and valuables as deposits, lending to private individuals, states, or other entities, and overseeing multifaceted activities. Initially modest, these activities have expanded over time, becoming international and multi-dimensional. In this research, we analyze and assess the trade-off between liquidity and profitability within commercial banks in Nepal. A bank carries out diverse functions, with the pivotal task of balancing liquidity and profitability among them. Without striking this equilibrium, a bank cannot operate effectively. Hence, banks consistently endeavor to uphold an appropriate balance between these factors.

1.2 Problem Statement

Liquidity management is central to the operations of commercial banks. Therefore, developing and implementing sound lending policies are among the key duties for bank directors and management. Effective liquidity management policies and cautious lending practices are vital for a bank's credit performance. The importance of liquidity management for a bank's profitability highlights its critical role in decision-making. Commercial banks play a crucial role in fostering economic growth by serving as intermediaries between savers and borrowers. They manage and distribute liquid capital, which fuels commercial and industrial activities. According to Kent, banks primarily gather idle funds from the public and lend them for expenditure. The trend of establishing private and joint venture banks persists due to government economic policies. However, the concentration of these banks in urban areas raises concerns

about their contribution to the socio-economic development of the country, particularly where agriculture supports a large portion of the population. Despite the necessity, commercial banks are reluctant to expand into rural areas, preferring to pay fines rather than invest in less profitable sectors. This challenge remains unresolved.

Weakness and inefficiency in analyzing financial statements have a direct negative effect on a bank's financial performance. The cash, bank balance, and cash reserves held by the commercial bank, as well as its deposits, show a pattern of fluctuation and decline. This indicates ineffective management of liquidity within the bank. The study addresses these issues in the context of Nepalese commercial banks:

- i. What is the liquidity and profitability position of commercial banks in Nepal?
- ii. What is the relationship between liquidity and profitability in Nepalese commercial banks?
- iii. How liquidity affect the profitability of commercial banks in Nepal?

1.3 Objectives of the Study

The primary objective of this study is to analyze how liquidity affects the profitability of sample banks. To achieve this main objective, the specific objectives are as follows:

- i. To identify the liquidity and profitability position of sample banks.
- ii. To assess the relationship between liquidity and profitability position in sample banks.
 - o To analyze the impact of liquidity on profitability of sample banks.

1.4 Rationale of the Study

The research holds significant value for various stakeholders. It offers valuable insights for companies, helping them identify both strengths and weaknesses. Students and researchers can use it as a basis for further investigation. Interested parties, including investors, gain understanding into banking operations. Regulatory bodies can use the findings to develop effective policies concerning liquidity and investment in securities for commercial banks. Efficient fund mobilization within banks is essential for accessing organizational investment opportunities. Financial institutions, stock exchanges, and traders are interested in comprehending a bank's performance. Liquidity and profitability positions serve as vital metrics for customers. Moreover,

the research facilitates self-assessment for banks, enabling management to analyze their performance reports. At a broader level, policymakers, including government and regulatory bodies like NRB, can utilize the research findings to formulate policies and make decisions regarding maintaining liquidity levels in banks.

1.5 Limitations of the Study

In the context of Nepal, the reliability of data poses a significant challenge for research studies. Questioning its accuracy and reliability is common. Limitations of this study are as follows:

- i. **Time and Resource Constraints:** The study was conducted within limited time and resources.
- ii. **Focus on Profitability and Liquidity:** It primarily examines the profitability and liquidity situations of ten commercial banks in Nepal.
- iii. **Reliance on Secondary Data:** The study relies mainly on secondary data, such as balance sheets, profit and loss accounts, and other relevant documents.
- iv. **Ten-Year Period:** It covers a ten-year period from 2012/13 to 2021/22 for Nepalese commercial banks.
- v. **Heavy Reliance on Secondary Data:** The study heavily relies on secondary data sources.

CHAPTER II

LITERATURE REVIEW

This chapter will explore relevant literature sources, including books, journals, bulletins, and annual reports issued by banks and relevant authorities. Furthermore, we will examine related articles, studies, and previous theses. The primary objective of this research is to survey and integrate new perspectives. The literature review assists the researcher in achieving their objectives, with particular emphasis on existing literature.

2.1 Theoretical Review

Profit serves as a vital component for the sustainability of any business, indicating efficient operations, potential growth, and advancement. Essentially, profit signifies the excess income generated after deducting production expenses. The concept of 'profit' is multifaceted and can be interpreted in various contexts. Economists perceive it as a reward for entrepreneurial endeavors and risk-taking. Labor representatives assess it as a measure of labor efficiency and a basis for wage negotiations. Investors regard it as a return on their investments, while tax authorities use it to determine income taxes. Simply put, profit denotes the surplus of a company's revenue over its expected expenses during a specific financial period.

2.1.1 Anticipated Income Theory

In 1944, H.V. Prochanow introduced a concept inspired by the practices observed in US commercial banks, which entailed providing term loans. According to this concept, the bank determines the loan repayment period based on the borrower's anticipated revenue, without considering the specific characteristics or type of the borrower's business. Usually, a term loan spans over one year but does not exceed five years in duration.

Rather than mandating stocks, equipment, or real estate as collateral, banks offer loans that impose restrictions on the borrower's financial activities. When issuing such loans, banks evaluate both the collateral and the borrower's expected income. Instead of requiring a single repayment at maturity, these bank loans are repaid through installments using the borrower's future earnings.

2.1.2 Shiftability Theory

In 1915, H.G. Moulton suggested the idea that commercial banks could rely on assets easily convertible into cash at other banks without substantial loss, thereby reducing the need to solely depend on maturity dates in cases of demand.

According to this concept, an asset should be easily transferable without incurring any loss of capital when liquidity is needed. This principle is often applied to short-term market investments like treasury bills and bills of exchange, which banks can directly sell to generate funds.

In typical circumstances when all banks require liquidity, the shiftable theory dictates that banks acquire assets easily transferable to the central bank, which serves as the lender of last resort.

2.3 Conceptual review

A thorough examination of relevant literature provides the foundation for further inquiry, offering insightful viewpoints on the topic at hand. Reviewing related literature involves systematically identifying, locating, and analyzing documents containing pertinent information related to the research issue.

2.3.1 Concept of Liquidity

In financial terms, liquidity refers to the available funds for investment. Currently, a significant portion of capital exists in the form of credit rather than physical currency, as major financial entities prefer borrowing. The prevalence of low interest rates makes credit more accessible, leading to increased liquidity, indicating ample capital availability. Interest rates play a crucial role in liquidity management by affecting borrowing costs. Lower interest rates make credit more affordable, prompting companies and investors to borrow. The appeal of heightened investments lies in the fact that the return on investment only needs to exceed the interest rate. These dynamics contribute to economic growth by encouraging increased liquidity.

Liquidity encompasses both readily available funds and assets documented on a balance sheet. The extent of liquidity is influenced by the interplay between cash assets, assets easily convertible into cash, and existing liabilities. The understanding

of liquidity varies across different nations, evolving in tandem with monetary frameworks. Essentially, liquidity represents the total amount of money circulating within an economy (Bhandari, 2013).

2.3.2 Concept of Profitability

Profit represents the net difference between revenues and expenses, typically computed on an annual basis. A thriving enterprise requires the continuous generation of substantial profit, leading to regular evaluation by financial managers. Profitability is frequently evaluated using profitability ratios to assess operational efficiency. Both creditors and owners have stakes in profitability: creditors aim for steady repayments of principal and interest, while owners seek a satisfactory return on their investment. Achieving this objective involves the company generating adequate profits (Pandey & Budhthoki, 2020).

In banking, profitability refers to the surplus income a bank earns when its revenues exceed its costs. The bank's activities generate income, with the costs incurred in generating this income considered expenses. Profitability is the primary goal for any company; without it, businesses cannot thrive in the market. Therefore, organizations must evaluate their historical, current, and projected profitability. The income statement outlines income and expenses, while the cash flow statement specifies cash inflows and outflows, affecting the bank's liquidity (Das & Et al, 2015).

2.3.3 Relationship between Liquidity and Profitability

Two critical indicators of a company's health are its profitability and liquidity. It's crucial for these factors to be in sync for sustained growth and resilience. Profitability stands as a core objective for any business, as its absence can hinder ongoing operations and hinder commercial expansion. To achieve profitability, a company requires immediate funds to cover ongoing operational costs and other commitments. When these short-term funds are generated internally through business activities rather than external borrowing, the company becomes more financially secure. Liquidity reflects the company's ability to meet short-term financial obligations, while profitability measures the earnings generated from its operations (Afzal & Et al., 2016).

Addressing challenges concerning profitability and liquidity is paramount for organizational management. Liquidity denotes a company's ability to meet immediate obligations, directly impacting its operational continuity. Given its close ties to daily business functions, experts both internally and externally should meticulously assess liquidity (Bhunias, 2012).

In the banking sector, both "liquidity" and "profitability" are crucial factors. Profitability hinges on liquidity, while liquidity, in turn, depends on profitability. Nonetheless, there exists a trade-off between them. Excessive liquidity might hinder profitability as funds are kept in reserve rather than being deployed for investments. Lack of investment makes achieving profitability impractical (Budha, 2021).

2.3 Empirical Review

In this section, study of various researchers and scholars, and their findings have been examined.

2.3.1 Review of International Articles

Irawati and Cantika (2022) conducted research analyzing how liquidity, leverage, and activity influence profitability. The study was carried out at the Karya Bersama Village Unit Cooperative in Kerubung Jaya Village over approximately six months. Employing a quantitative approach, the researchers collected financial data from the cooperative and assessed their model's validity, then tested hypotheses using SPSS version 21. The findings suggest that (i) liquidity, leverage, and activity do not significantly correlate with profitability simultaneously at KUD Joint Work in Kerubung Jaya; (ii) liquidity's impact on KUD Karya Bersama's profitability in Kerubung Jaya is partially insignificant; (iii) leverage's influence on KUD Karya Bersama's profitability in Kerubung Jaya is partially insignificant; and (iv) activities have a partially insignificant effect on KUD Joint Work's profitability in Kerubung Jaya.

Ikram (2021) conducted a study investigating the profitability of British banks and the influence of liquidity management. The ongoing debate regarding the prioritization of liquidity versus profitability in financial institutions, particularly commercial banks, serves as the backdrop for this research, which focuses specifically on British banks. The research aims to quantitatively assess how liquidity impacts the profitability of

UK banks. Utilizing time series data, the study examined variables such as ROE, total assets, bank credit, liquidity, and loans in relation to the dependent variable: return on assets (ROA). Over a 21-year period, the UK financial system consistently maintained high levels of liquidity, albeit at the expense of overall bank profitability. External shocks, notably the 2008 global financial crisis, affected both liquidity and profitability. Interestingly, while liquidity had a relatively weaker influence on determining ROA for UK banks, instances of reduced liquidity coincided with increased ROA, indicating a strategic trade-off. Furthermore, the study revealed a strong positive correlation between Bank Credit and both ROA and ROE, with bank credit constituting a significant portion (99%) of ROA within the UK financial sector, highlighting its pivotal role. The study recommends that the Bank of England adopt policies that strike a balance between maintaining high liquidity levels and promoting bank profitability. Additionally, it suggests the implementation of additional policies by the Bank of England to sustain high liquidity levels, thereby balancing profit objectives with meeting customer financial obligations.

Moussa and Boubaker (2020) investigated how liquidity affects bank profitability, focusing on the case of Tunisia. Utilizing a sample comprising 18 banks from 2000 to 2017, the study employed two panel static models. The results suggest that the proportion of liquid assets to total assets and total credits relative to total deposits have a positive and significant impact on return on assets (ROA). However, the ratio of current assets to current liabilities does not significantly influence ROA. Moreover, the study found that the ratio of liquid assets to total assets and total credits to total deposits have a negative and significant effect on return on equity (ROE), while the ratio of current assets to current liabilities does not significantly affect ROE.

Abbas and colleagues (2019) concluded a study investigating the influence of bank capital, liquidity, and credit risk on profitability during the post-crisis period, comparing the US and Asian contexts. The study aimed to analyze how these factors affect the profitability of commercial banks in Asian developed economies from 2011 to 2017, contrasting them with the US banking industry. The findings indicate that bank capital and credit risk have a similar impact on profitability in both Asian developed economies and US commercial banks. However, the effect of liquidity differs between the two regions. In the post-crisis era, liquidity negatively affects the

profitability of large US commercial banks, whereas it positively impacts the profitability of commercial banks in Asian developed economies. Specifically, a 6% increase in capital corresponds to a 1% increase in profit, while a 3.5% increase in liquidity leads to a 1% profit increase. The impact of liquidity on profitability varies across bank sizes, with larger banks achieving a 1% profit increase with a 1% rise in liquid assets, medium-sized banks with a 3% increase, and small-sized banks with a 7% increase. Liquidity demonstrates a more significant influence on profitability compared to capital, with consistent coefficients observed across large, small, and medium-sized banks. Additionally, the simultaneous equations model suggests that bank capital positively affects profitability in large and medium banks, while profitability positively influences capital for large banks and negatively for medium banks.

Mishra and Pradhan (2019) concluded a study on the impact of liquidity management on the profitability of private sector banks in India. The research aimed to investigate how liquidity management strategies affect the profitability of these banks. Ten private sector banks were examined over the period from 2013 to 2017. In this study, Cash-Deposit Ratio (CDR), Credit-Deposit Ratio (CRDR), and Investment-Deposit Ratio (IDR) were analyzed as independent variables representing liquidity management, while Return on Assets (ROA) and Return on Equity (ROE) served as dependent variables to assess bank profitability. The findings revealed a significant negative impact of CDR and IDR on ROA. However, in terms of ROE, there was no significant relationship observed between bank profitability and liquidity management when considering all variables across the selected commercial banks in India. This suggests that commercial banks can concentrate on enhancing profitability without compromising liquidity, and vice versa.

Chaudhury (2018) conducted an analysis of how liquidity affects the productivity of selected commercial banks in Bangladesh. Financial institutions are pivotal in channeling liquidity towards productive ends, with a bank's liquid assets serving not only as a safeguard against specific risks but also as a means to enhance productivity. This study scrutinized the relationship between liquidity and banks' productivity over the period 2007-2016, focusing on five commercial banks listed on the Stock Exchanges in Bangladesh. Utilizing secondary data, the research confirmed a positive

and significant correlation between liquidity and productivity. Effective management of liquidity is crucial for maintaining profitability, solvency, and overall productivity. It is imperative for commercial banks to efficiently manage fund flows in order to achieve these objectives, adhering to established guidelines, global standards, and best practices.

Elsharif (2016) investigated how liquidity management influences profitability. The study delved into the impact of liquidity management on bank profitability by reviewing diverse global research and studies. The findings were mixed, with some showing positive effects and others negative. The study suggests that banks should appoint capable personnel to make well-informed decisions, especially concerning optimal liquidity levels and maximizing profits.

Malik, Awais, & Khursheed (2016) conducted an analysis of the impact of liquidity on profitability, focusing on Pakistan's private banking sector. The correlation between liquidity and profitability is well-documented in existing literature. This study delved into the trade-off between liquidity and profitability specifically within the private sector banks of Pakistan. The research examined twenty-two private sector banks regulated by the State Bank of Pakistan during the period from 2009 to 2013. Three models were formulated and estimated using the Ordinary Least Squares (OLS) technique. Empirical findings revealed a statistically significant connection between bank liquidity measures and return on assets (ROA). However, when return on equity (ROE) and return on investment were utilized as proxies for profitability, the relationship turned statistically insignificant. The study recommends that banks reassess and restructure their strategies for liquidity management. Such an approach would not only enhance returns on shareholders' equity but also optimize the utilization of the bank's assets.

Khan and Ali (2016) set out to examine the correlation between liquidity and profitability in commercial banks operating in Pakistan. Their study sought to elucidate the relationship and its magnitude between these variables. Utilizing secondary data extracted from the annual accounts of Habib Bank Limited over the past five years (2008-2014), the researchers conducted correlation and regression analyses. The findings unveiled a notable positive association between liquidity and bank profitability. However, it's worth noting that since the study primarily focused

on the banking sector, these findings may not be directly applicable to other industries.

Macharia (2015) conducted a study investigating the correlation between profitability and liquidity within commercial banks in Kenya. The research aimed to delve into this relationship and its dynamics. It's a known fact that liquid assets tend to be less profitable compared to long-term assets, presenting finance managers with a dilemma: whether to invest in more lucrative long-term assets, at the risk of reduced liquidity, or to opt for short-term assets that offer lower profits but maintain liquidity. Focusing on twenty-two private sector banks registered under the State Bank of Pakistan during the period from 2009 to 2013, the study utilized correlation and regression analyses. The findings indicated a statistically significant positive correlation between liquidity measures and return on assets (ROA). However, when return on equity (ROE) and return on investment were employed as proxies for profitability, the relationship turned statistically insignificant. The study suggests that banks need to strike a balance between liquid assets and long-term assets to attain both sufficient liquidity and sustainable profitability. Additionally, it emphasizes the importance of upholding and enhancing the liquidity requirements established by the Central Bank of Kenya (CBK). Liquidity has been demonstrated to have a positive impact on the profitability, stability, and overall growth of commercial banks as well as the entire financial sector.

Table 1

Review of International Articles

Date	Article	Writers	Findings
2022	Effect of liquidity, leverage, and activity on profitability	Irawati & Cantika	The objective of this study is to derive explanatory insights, which have been tested on various factors: (i) Liquidity, leverage, and activity collectively do not exhibit significant associations with profitability in KUD Joint Work in Kerubung Jaya. (ii) Liquidity demonstrates partial insignificance regarding the profitability of KUD Karya Bersama in Kerubung Jaya. (iii) Leverage exhibits partial insignificance concerning the profitability of KUD Karya Bersama in

			Kerubung Jaya. (iv) Activities show partial insignificance regarding the profitability of KUD.
2021	Bank Profitability and Impact of Liquidity Management: A Case of British Banks	Ikram	The research findings unveiled a robust positive correlation between Bank Credit and both Return on Assets (ROA) and Return on Equity (ROE). Notably, bank credit constitutes a substantial portion, accounting for 99% of what comprises ROA within the UK financial sector. This underscores the pivotal role of credit in generating profits within the financial sector, highlighting its dependence on the extent and magnitude of credit extended to financial agents and residents in the UK economy. Consequently, it is recommended that the Bank of England implement additional policies aimed at maintaining high levels of liquidity. Such measures would strike a balance between profit motives and meeting the financial obligations of customers.
2020	The Impact of Liquidity on Bank Profitability: Case of Tunisia	Moussa & Boubaker	The findings indicate that the ratios of liquid assets to total assets and total credits to total deposits positively and significantly influence return on assets (ROA). Conversely, the ratio of current assets to current liabilities does not have a significant impact on ROA. Furthermore, the ratios of liquid assets to total assets and total credits to total deposits negatively and significantly impact return on equity (ROE), while the ratio of current assets to current liabilities does not have a significant impact on ROE.
2019	The impact of bank capital, bank liquidity and credit risk on profitability in postcrisis period: A comparative study of US and Asia	Abbas, Iqbal & Aziz	The results indicate that in Asian developed economies, as well as in USA commercial banks, bank capital and credit risk play significant roles in influencing profitability. However, the impact of liquidity on the profitability of large commercial banks in the USA is negative, whereas it is positive for commercial banks in Asian developed economies during the post-crisis period.
2019	Impact of Liquidity	Mishra &	The study utilized Cash-Deposit Ratio

	Management on Profitability: An Empirical Analysis in Private Sector Banks of India	Pradhan	(CDR), Credit-Deposit Ratio (CRDR), and Investment-Deposit Ratio (IDR) as independent variables to represent the liquidity management of banks, while Return on Assets (ROA) and Return on Equity (ROE) served as dependent variables to measure bank profitability. The findings revealed a significant negative impact of CDR and IDR on ROA. However, concerning ROE, there was no significant relationship observed between banks' profitability and liquidity when considering all variables across the selected commercial banks in India. This suggests that commercial banks have the flexibility to focus on increasing their profitability without compromising their liquidity, and vice versa.
2018	Impact of liquidity on banks' productivity: A study on selected commercial banks in Bangladesh	Chaudhury	The study's results confirm the hypothesis that there exists a positive and significant correlation between Liquidity and Productivity. Liquidity management in banking involves the strategic handling of funds entering and exiting the bank to ensure profitability, solvency, liquidity, and productivity. It's imperative for the management of a commercial bank to operate efficiently to achieve these objectives. To fulfill these aims, a viable framework has been established to guide banks' liquidity management in alignment with prescribed guidelines, global standards, and best practices.
2016	The Impact of Liquidity Management on Profitability	Elsharif	This study explored the influence of liquidity management on banks' profitability by analyzing various global research and studies. The findings exhibited a range of outcomes, with some yielding positive results while others showed negative ones. Consequently, the study suggests that banks should involve competent and skilled personnel to ensure the adoption of appropriate decisions, particularly regarding optimal liquidity levels, while simultaneously maximizing profits.
2016	Impact of Liquidity on	Malik,	The empirical findings indicated a

	Profitability: A Comprehensive Case of Pakistan's Private Banking Sector	Awais & Khursheed	statistically significant correlation between bank liquidity measures and return on assets. However, when return on equity and return on investment were utilized as proxies for profitability, the relationship became statistically insignificant. It is advised that banks assess and revamp their strategies for liquidity management. This action will not only bolster returns on shareholders' equity but also optimize the utilization of the bank's assets.
2016	Impact of Liquidity on Profitability of Commercial Banks in Pakistan: An Analysis on Banking Sector in Pakistan	Khan & Ali	The primary aim of the study is to ascertain the nature and strength of the relationship between the variables. Correlation and regression analyses were employed to determine the nature and extent of the relationship between dependent and independent variables, respectively. Secondary data extracted from the annual accounts of Habib Bank Limited over the last five years (2008-2014) was utilized for analysis. Upon conducting correlation and regression analysis, a significant positive relationship was discovered between liquidity and the profitability of the banks. However, it should be noted that since the data pertains specifically to the banking sector, the results cannot be generalized to other sectors.
2015	The Relationship Between Profitability And Liquidity Of Commercial Banks In Kenya	Macharia	The findings revealed a positive relationship between the profitability and liquidity of commercial banks in Kenya; however, the coefficients obtained from the study were not deemed significant. Despite this, liquidity was identified as one of the determinants of profitability among commercial banks in Kenya throughout the study period. The study advocates for finance managers of commercial banks to strike a balance between the levels of liquid assets and long-term assets to reinforce each of the conflicting objectives, namely maintaining adequate liquidity and ensuring sustainable profitability. Furthermore, it suggests that the liquidity requirements established by the Central

Bank of Kenya (CBK) should be upheld and strengthened, given that liquidity was found to positively impact the profitability, stability, and overall growth of the entire financial and economic sectors.

2.3.2 Review of Nepalese Articles

Shrestha (2022) aimed to evaluate how liquidity influences the profitability of commercial banks in Nepal. The study specifically examined eight commercial banks established before 1995, analyzing their liquidity management and profitability from 2003/04 to 2010/11. While the average profitability trend remained relatively stable, liquidity ratios exhibited fluctuations over time. The research concluded that the 'NRB to deposit ratio' and 'Cash-vault to deposit ratio' have a positive and significant impact on profitability in Nepal. However, other liquidity ratios, including the 'Liquid fund to deposit ratio,' 'Cash and bank balance to deposit ratio,' and 'Liquid fund to current liability ratio,' did not show any significant effect on profitability.

Magar (2022) investigated how liquidity affects the profitability of commercial banks in Nepal. The study focused on five commercial banks spanning the period from 2013 to 2021. Secondary data sourced from Nepal Rastra Bank's bank supervision reports and annual reports of the selected banks were analyzed. Liquidity was evaluated through metrics such as the credit-to-deposit ratio, asset quality, and liquidity ratio, while profitability was gauged by return on assets and net interest margin. To examine the impact of liquidity on profitability, a regression model was utilized, and the data were analyzed using EViews 12 software. The findings revealed that asset quality (AQ) had a negative effect on return on assets (ROA). Conversely, the credit-to-deposit ratio (CD) positively influenced commercial banks' net interest margin (NIM), although asset quality (AQ) negatively impacted NIM.

Shrestha (2021) conducted an analysis to examine how bank-specific factors influence the financial performance of commercial banks in Nepal. The study evaluated the financial performance using return on assets (ROA) as a metric, with bank-specific factors such as managerial efficiency (ME), liquidity (LIQ), credit risk (CR), asset

quality (AQ), and operational efficiency (OE) serving as proxies. Panel data from 17 commercial banks spanning the period from 2010/11 to 2017/18 were scrutinized. The findings of the study suggest that these bank-specific factors significantly affect the financial performance of Nepalese commercial banks. Specifically, managerial efficiency (ME), asset quality (AQ), and operational efficiency (OE) were found to have a positive impact on performance, while credit risk (CR) exhibited a negative influence.

Budhathoki, Et al. (2020) conducted a study to explore the influence of liquidity, leverage, and the total size of a bank's assets on its profitability. This research analyzed data from all 28 commercial banks operating in Nepal between 2010/11 and 2016/17, utilizing a total of 168 observations. Three ordinary least squares models were employed to investigate the impact of liquidity, leverage, and total bank size on profitability. The first model indicated that a higher loan-to-deposit ratio (reflecting lower liquidity) had a negative impact on the bank's return on assets (ROA), return on equity (ROE), and net interest margin (NIM), although the statistical significance of ROE and NIM was not observed. The second model demonstrated that a higher equity-to-assets ratio (indicating lower leverage) had a positive effect on ROA and NIM, but was negatively associated with ROE, although this relationship was statistically insignificant. The third model revealed that a larger bank size was advantageous for Nepalese commercial banks, positively influencing all three profitability measures: ROA, ROE, and NIM. These findings provide valuable insights for bankers and policymakers, offering guidance on enhancing the profitability of banks.

Pokharel (2019) conducted a study focusing on the impact of liquidity management on the profitability of Nepalese commercial banks. The research aimed to explore the relationship between liquidity management strategies and the profitability of these banks. Secondary data collected from 18 commercial banks spanning the period from 2009/10 to 2014/15 were analyzed to investigate the influence of various factors on bank profitability. The study's findings revealed the following relationships: - Capital Ratio: A higher capital ratio exhibited a positive correlation with return on assets (ROA), indicating that an increase in capital leads to higher ROA. - Investment Ratio and Current Assets Ratio: These ratios showed a positive association with both ROA

and return on equity (ROE). An increase in investment and current assets ratios corresponded to higher ROA and ROE. - Liquid Asset Ratio: A higher liquid asset ratio displayed a negative correlation with both ROA and ROE, suggesting that greater liquidity is linked to lower returns. Additionally, beta coefficients were found to be positive for the current assets ratio and liquid asset ratio concerning ROE, while the quick ratio demonstrated a negative relationship with ROA.

Shrestha (2018) provided insights into the relationship between liquidity management and profitability of commercial banks in Nepal. Liquidity management stands out as a crucial determinant of firms' market value as it directly influences profitability. This study delves into exploring this relationship within Nepalese commercial banks, aiming to discern its impact on profitability. The research objective is to identify and analyze the association between liquidity management and profitability. Pearson correlation analyses were employed to examine the relationship between liquidity management and profitability, while regression analyses were utilized to assess the effects of liquidity on profitability. The dataset covers the period from 2012 to 2016 for commercial banks in Nepal. Liquidity management variables, such as the current reserve ratio (CRR) and credit deposit ratio (CDR), were scrutinized alongside profitability measured by return on equity (ROA). However, the study findings suggest that liquidity does not significantly influence profitability in Nepalese commercial banks.

Shrestha (2017) provided insights into the impact of liquidity on bank profitability within Nepalese commercial banks. Effective liquidity management plays a pivotal role in shaping firms' market value by directly influencing profitability. This study aimed to investigate the relationship between liquidity management and profitability specifically in Nepalese commercial banks. The data analysis encompassed various statistical techniques including descriptive statistics, Pearson correlation, regression analysis, assessment of multicollinearity, and the F-test. Using SPSS 21.0, the study analyzed data from a sample consisting of nine commercial banks out of a total of 28, covering the period from 2012 to 2016 in Nepal. Liquidity management variables examined in the study included the Current Reserve ratio (CRR), Credit Deposit Ratio (CDR), while profitability was measured by Return on Assets (ROA). The findings

revealed that CDR significantly impacts profitability, whereas CRR was found to have no significant effect on the profitability of commercial banks in Nepal.

Bhatt and Verghese (2017) conducted a study to explore the impact of liquidity on the performance of Nepalese commercial banks. The research delved into examining the influence of various independent variables, such as investment ratio, liquidity ratio, capital ratio, and quick ratio, on the performance of these banks. The dependent variables under consideration were return on equity (ROE) and return on assets (ROA). Lagged variables from the previous year were also included to assess their specific effects on the current year's ROE and ROA. Data for the study were sourced from annual reports of banks and supervision reports from Nepal Rastra Bank. Regression models were employed to evaluate the significance and effect of bank liquidity on performance. Notably, the analysis revealed a positive correlation between the capital ratio and return on equity, suggesting that higher capital ratios lead to greater returns on equity. In contrast, a negative correlation was observed between return on equity and liquidity ratio, indicating that higher liquidity in the bank results in lower returns on equity. Additionally, the quick ratio was found to be negatively correlated with return on equity. Furthermore, beta coefficients indicated that the investment ratio and capital adequacy positively impacted bank performance, whereas the liquidity ratio and quick ratio had negative effects on both return on assets and return on equity.

Table 2

Review of Nepalese Articles

Date	Article	Writers	Findings
2022	Impact of Liquidity on Profitability of Commercial Banks in Nepal	Shrestha	The study concluded that the banks' 'NRB to deposit ratio' and 'Cash-vault to deposit ratio' have a positive, significant impact on profitability in Nepal. It also has reported no significant impact of 'Liquid fund to deposit ratio,' 'Cash and bank balance to deposit ratio,' and 'Liquid fund to current liability ratio' on profitability.
2022	Impact of Liquidity on Profitability of Commercial Banks	Magar	The findings revealed that asset quality (AQ) has a significant negative impact on the return on assets (ROA). Credit to deposit ratio (CD)

	in Nepal		has a positive and significant impact on commercial banks' net interest margin (NIM), whereas asset quality (AQ) has a negative and significant impact on commercial banks' net interest margin (NIM).
2021	Determinants of Financial Performance of Nepalese Commercial Banks: Evidence from Panel Data Approach	Shrestha	Using the Fixed Effect model; this study concludes that bank specific factors have significant impact on financial performance of Nepalese commercial banks. Finally, this study reveals that ME, AQ and OE have significant positive impact, and CR has negative impact on the financial performance of Nepalese commercial banks.
2020	The Impact of Liquidity, Leverage, and Total Size on Banks' Profitability: Evidence from Nepalese Commercial Banks	Budhathoki, Rai, Lamichhane, Bhattarai, & Rai	The result of the final regression model reveals that the higher bank size appeared favorable to the Nepalese commercial banks and was found to have positive effects on all three profitability measures: ROA, ROE, and NIM. The results of the study could help bankers and policymakers to take an effective action in order to improve banks' profitability.
2020	Impact of Liquidity on Profitability of Joint Venture Commercial Banks in Nepal (With Reference to EBL, HBL and NBB)	Shrestha & Jha	The research concluded that bank's liquidity ratios have below the prescribed standard. The study concluded that the LADR has significant impact in ROA as well as ROE of HBL, EBL and NBB. NRBTDRCRR has weak significant impact on ROA of all sample banks whereas, it has negative impact ROE of NBB and have the positive impact on other two . CACL has significant effect on ROA of HBL and EBL whereas there is no significant impact on ROA due to CACL in NBB.
2019	Impact of liquidity on profitability in Nepalese Commercial Bank	Pokharel	The research concluded that bank's liquidity ratios have below the prescribed standard. Similarly CRR is extremely heavy than prescribed by monetary policy 2016/17. The CRR and IGSCA are positively correlated with ROA while CRR and CBBISD are inversely correlated with ROA. In case of liquidity-ROE Relation, CR is inversely correlated to ROE but all other ratios (CRR, CBBISD and IGSCA) are positively correlated with ROE. It also has reported there is significant relationship between liquidity ratios with profitability, except between IGSCA and ROA.

2018	Liquidity Management and Profitability of Commercial Banks in Nepal	Shrestha	The relation between the Liquidity management and profitability is examined using Pearson correlation analyses. The effects liquidity on profitability is analyzed using the regression analyses. The data has found to be covering period 2012-2016 commercial Banks in Nepal. The Liquidity management represents the variables of the current Reserve ratio (CRR), Credit Deposit Ratio (CDR) and the profitability including return on equity (ROA). The result reveals that liquidity does not have its significant impact on profitability in Nepalese commercial banks.
2018	Influence of Liquidity on Profitability: Evidence from Nepalese Banks	Bhatt & Verghese	This empirical analysis reveals that there is insignificant positive relationship between liquidity ratio and return on assets. Similarly, there is insignificant negative relationship between investment ratio and capital ratio with return on assets. It is also found that there is insignificant positive relationship of net profit margin with liquidity ratio and investment ratio. However the net profit margin is significantly negatively related with capital ratio. Based on the results it is concluded that the liquidity measure are not statistically significant in determining the profitability of commercial banks in Nepal except the capital ratio.
2017	Liquidity Management and Profitability of Commercial Banks in Nepal	Shrestha	The Liquidity management represents the variables of the Current Reserve ratio (CRR), Credit Deposit Ratio (CDR) and the profitability including Return on Assets (ROA). The result reveals that CDR is significant impact on profitability and CRR is no significant effect on Profitability of commercial banks in Nepal.
2017	Impact of liquidity on bank profitability in Nepalese commercial banks	Pradhan & Shrestha	Investment ratio, liquidity ratio, capital ratio and quick ratio are the independent variables used in this study. The dependent variables are return on equity (ROE) and return on assets (ROA), while one year lagged variables for independent variables are also used to determine the more specific result of the previous year's effect on the current years ROE and ROA. Correlation between capital ratio and return on equity found to be positive indicating higher the capital ratio higher would be the return on equity.

2.3 Research Gap

Previous research on the correlation between liquidity and profitability of commercial banks in Nepal has primarily focused on financial and statistical analyses. While these studies have identified trends, they have not extensively examined the influence of profitability on sustained liquidity and operational efficiency. Specifically, past research has not fully explored the specific challenges faced by banks due to the conflicting effects of profitability and liquidity. To bridge this gap, our comprehensive research aims to investigate the impact of profitability and liquidity by analyzing their trends using statistical and financial methodologies, thereby deriving more insightful conclusions.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology refers to the structured method researchers employ when investigating a problem with defined goals. This section delineates the essential structure for conducting research. A properly crafted research methodology is vital as it improves the precision and significance of the research findings. It covers several elements including research design, methods of data collection, sampling strategies, research tools, data handling, and analysis techniques. Sampling design considerations encompass factors such as the sampling framework, technique, and size of the sample.

3.1 Research Design

The research employs descriptive and causal-comparative research methodologies to investigate how liquidity affects the profitability of commercial banks in Nepal. The descriptive design is utilized for collecting factual information about the influence of the financial sector in Nepal, aiming to portray existing conditions and facts accurately. Furthermore, causal-comparative research is used to analyze the relationships between dependent and independent variables, aiming to determine cause-and-effect connections following specific actions or events.

3.2 Population and Sample

The study focuses on a population consisting of twenty commercial banks in Nepal, covering a period of ten years from 2012/13 to 2021/22. To meet the objectives of the research, a sample of ten commercial banks has been selected using the random sampling technique.

- i. Agricultural Development Bank Limited (ADBL)
- ii. Everest Bank Limited (EBL)
- iii. Global IME Bank Limited (GBIME)
- iv. Himalayan Bank Limited (HBL)
- v. Nabil Bank Limited (NBL)
- vi. Nepal Investment Mega Bank Limited (NIMB)
- vii. Nepal SBI Bank Limited (SBI)
- viii. NIC Asia Bank Limited (NICA)
- ix. Sanima Bank Limited (SANIMA)

- x. Standard Chartered Bank Limited (SCB)

3.3 Nature and Sources of Data

The research exclusively utilizes secondary data to fulfill its objectives and address its research inquiries. These secondary sources encompass published financial statements obtained from the official websites of selected commercial banks in Nepal for the most recent fiscal year. Furthermore, data from the Nepal Rastra Bank (NRB) database have been extracted to meet the research needs. For consistency in data presentation, banks that underwent mergers or acquisitions during the specified period have been omitted from the study.

3.4 Data Analysis Tools

In this study, various financial and statistical tools were employed for analysis. By applying these tools, examined the relationship between market price per share and relevant financial variables. The calculated results were tabulated, compared, and interpreted. Specifically, simple regression analysis was used to study the influence of independent variables on dependent variables. Additionally, computer software such as Excel and SPSS facilitated the calculation of statistical values, including mean, standard deviation, coefficient of variance, and correlation.

3.5 Methods of Data Analysis

The data systematically gathered from diverse sources is arranged according to the research requirements. Pertinent information is categorized, and key findings are depicted through suitable charts and tables. To analyze the data in this study, certain financial and statistical techniques are employed, elaborated upon later.

3.5.1 Financial Analysis

Ratio analysis, a quantitative approach, provides a window into the financial well-being of a company. Through examination of financial documents like the balance sheet and income statement, analysts evaluate factors like liquidity, operational effectiveness, and profitability. Ratios juxtapose specific data points to unveil significant insights into a company's performance trajectory and its position within its sector. Among the ratios frequently scrutinized concerning banks are the current ratio, gross profit margin ratio, and inventory turnover ratio.

3.5.1.1 Return on Assets (ROA)

Return on Assets (ROA) is calculated by dividing a corporation's net income by its total assets, according to the following formula::

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

3.5.1.2 Return on Equity (ROE)

Return on Equity (ROE) is a metric expressed as a percentage applicable to any business with positive net income and equity. Net income is calculated prior to distributing dividends to common shareholders, after adjusting for dividends to preferred shareholders and interest payments to creditors.

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Shareholders' Equity}}$$

3.5.1.3 Capital Adequacy Ratio (CAR)

The capital adequacy ratio (CAR) is calculated by dividing a bank's capital by its risk-weighted assets. The capital considered for this computation is segmented into two tiers.

$$\text{CAR} = \frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Risk Weighted Assets}}$$

3.5.1.4 Credit to Deposit Ratio (CDR)

The Credit to Deposit (CD) ratio serves as a measure to assess a bank's liquidity and overall financial health. A heightened ratio implies that the bank's loan disbursements surpass its deposits, whereas a diminished ratio signifies the contrary. The formula for computing the CD ratio is:

$$\text{CDR} = \frac{\text{Total Advances}}{\text{Total Deposits}} \times 100$$

3.5.1.5 Cash to Total Assets (CTA)

The Cash to Assets Ratio evaluates the percentage of a corporation's assets comprised of cash and short-term investments. It is derived by dividing the cash amount by the total assets. This metric is established using the latest balance sheet data accessible..

$$CTA = \frac{Cash}{Total\ Assets}$$

3.5.1.6 Non-Performing Loan (NPL)

A nonperforming loan (NPL) indicates a situation where the borrower has defaulted and hasn't met the scheduled payments of principal or interest for a designated period. In banking, commercial loans are classified as nonperforming when the borrower is 90 days overdue on payments.

$$NPL = \frac{Nonperforming\ Loans}{Total\ Loans}$$

3.5.1.7 Size of the Bank (SIZE)

In empirical studies within corporate finance, the size of a firm holds significant importance. Researchers frequently employ various indicators, such as total assets, total sales, and market value of equity, to gauge firm size. A prevalent method involves computing the natural logarithm (Ln) of total assets. This technique aids in addressing scale economies and market dominance linked with a firm's size. Through the use of natural logarithms, researchers endeavor to encompass diverse facets of "firm size" and bolster the reliability of their analyses.

3.5.2 Statistical Analysis

Statistical analysis methods encompass mathematical tools utilized to analyze and interpret performance data. These methods enable the description of relationships between variables and the interpretation of results. Moreover, statistics are instrumental in hypothesis testing and providing insights into population characteristics.

In this research, a blend of descriptive, correlation, and regression analysis methods was utilized. Descriptive statistics, encompassing measures such as mean, standard deviations, and minimum/maximum values, were employed to depict the attributes of chosen financial sector variables. Correlation analysis aided in discerning the direction and strength of relationships between variable sets. Furthermore, regression analysis was employed to comprehend the influence of independent variables on the

dependent variable, both individually and in conjunction with other factors. These statistical techniques are pivotal in revealing insights within the research framework.

3.5.2.1 Mean

The arithmetic mean, often referred to as simply the mean, stands as the most commonly employed measure of central tendency. It is derived by summing all values within a dataset and then dividing by the total number of values. The mean can be determined for any numerical dataset, ensuring its universal applicability. Mathematically, the mean can be expressed as,

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

Where,

\bar{x} = arithmetic mean

$\sum x$ = sum of values of all items

n = number of observations

3.5.2.2 Standard deviation (SD)

The standard deviation measures the dispersion of data points. It is computed as the non-negative square root of the average of the squared variances from the mean. A larger standard deviation signifies greater deviations from the mean, whereas a smaller one suggests increased precision. This can be represented symbolically as:

$$\sigma = \sqrt{\frac{1}{n-1} \sum (x - \bar{x})^2}$$

Where,

σ = standard deviation

n = number of observations

\bar{x} = arithmetic mean

3.5.2.3 Coefficient of variation (CV)

The coefficient of variation (CV) serves as a metric of variability, computed by expressing the standard deviation as a percentage of the mean. It proves valuable in contrasting the variability among two or more datasets. The CV stands as a relative measure, unaffected by units. A higher CV denotes increased variability, whereas a lower CV signifies decreased variability. This is expressed as:

$$CV = \frac{\sigma}{\bar{x}} \times 100$$

Where,

σ = standard deviation

\bar{x} = arithmetic mean

3.5.2.4 Descriptive Statistics

Descriptive statistics offer succinct summary indicators for a provided dataset, whether it reflects the entire population or a sample. These statistics encompass measures of central tendency (like mean, median, and mode) as well as measures of dispersion (such as standard deviation, variance, minimum and maximum values, as well as kurtosis and skewness).

3.5.2.5 Correlation Analysis

Correlation analysis is a statistical technique utilized to assess the intensity of the association between two or more variables. When changes in one variable coincide with changes in another, they are deemed correlated. Within this analysis, we differentiate between dependent and independent variables. The objective is to ascertain whether alterations in the independent variable prompt corresponding adjustments in the dependent variable. The correlation coefficient is frequently applied in practical scenarios. Mathematically, it is expressed as:

$$r_{xy} = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$$

Correlation can take on either a positive or a negative value, denoted by r . Its range spans from -1 to +1. A correlation of -1 indicates a perfect negative relationship between variables, while a correlation of +1 denotes a perfect positive relationship between variables. When r equals 0, it signifies that the variables are uncorrelated.

3.5.2.6 The Model

A statistical model is a mathematical framework that embodies assumptions regarding the generation of sample data, as well as analogous data from a broader population. It streamlines the process of data generation by offering a structured representation. Usually, a statistical model elucidates the interconnection between random variables and other non-random variables. It acts as a formal portrayal of a theory, from which statistical hypothesis tests and estimators are derived. The method of pooled data estimation tackles the challenge of heterogeneity observed in the ten Nepalese commercial banks under scrutiny. The econometric model utilized in the investigation is presented as:

$$Y = \beta_0 + \beta X_{it} + \varepsilon_{it}$$

Where: Y is the dependent variable; β_0 is constant; β is the coefficient of explanatory variables; X_{it} is the vector of explanatory variables; and ε_{it} is the error term (assumed to have zero mean and independent across the time period).

3.5.2.7 Regression Analysis

Utilizing the designated econometric model, this research evaluates the influence of credit risk on commercial banks' performance, while adjusting for factors like cash reserve requirement and bank size, employing a multiple regression equation:

$$ROA_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_1 CDR_{it} + \beta_2 CTA_{it} + \beta_3 NPL_{it} + \beta_5 SIZE_{it} + e_{it} \dots \dots \dots (I)$$

$$ROE_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_1 CDR_{it} + \beta_2 CTA_{it} + \beta_3 NPL_{it} + \beta_5 SIZE_{it} + e_{it} \dots \dots \dots (II)$$

Where:

ROA_{it} = Return on assets of bank 'i' for period 't'

ROE_{it} = Return on equity of bank 'i' for period 't'

CAR_{it} = Capital adequacy ratio of bank 'i' for period 't'

CDR_{it} = Credit to deposit ratio of bank 'i' for period 't'

CTA_{it} = Cash to total assets ratio of bank 'i' for period 't'

NPL_{it} = Non-performing loan ratio of bank 'i' for period 't'

$SIZE_{it}$ = Bank size (natural logarithm of total assets) of bank 'i' for period 't'

β_0 = The intercept (constant)

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = The slope which represents the degree with which bank performance changes as the independent variable changes by one unit variable.

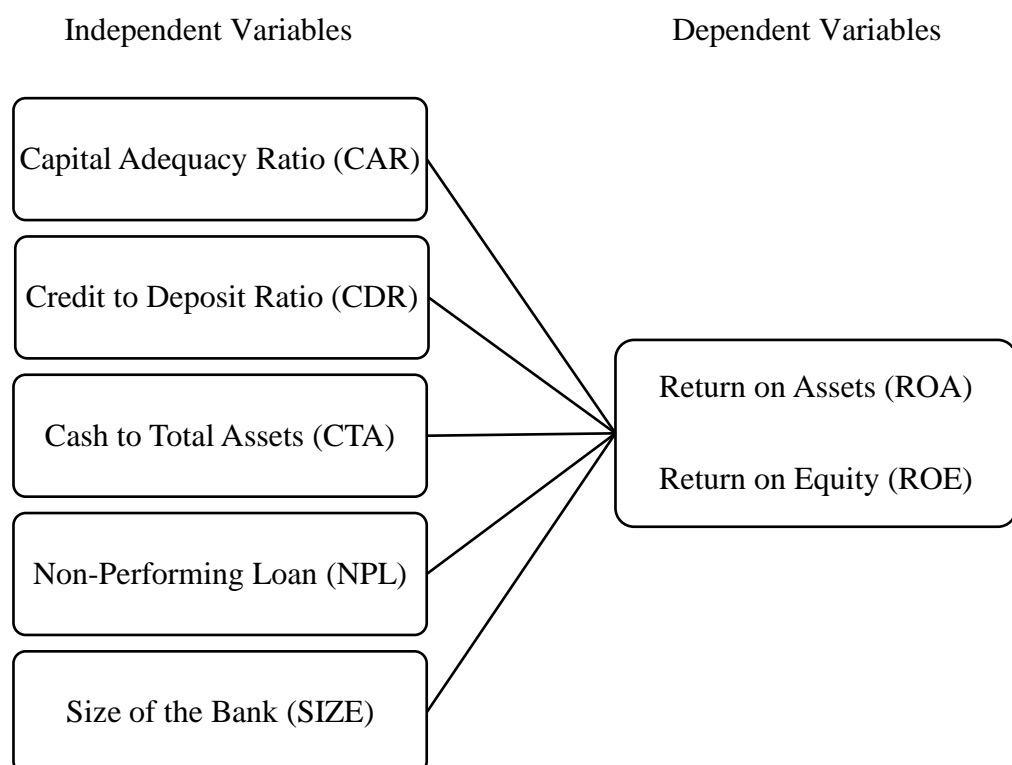
e_{it} = error component

3.6 Research Framework

Figure 1 illustrates the relationship between profitability and credit risk, drawing from both theoretical and empirical perspectives. Return on equity and return on assets are selected as the dependent variables for this study. The empirical findings are showcased in the subsequent diagram.

Figure 1

Research Framework



The chosen independent variables are expected to impact the dependent variables, specifically the Return on Assets (ROA) and Return on Equity (ROE) of commercial banks. These independent variables are selected based on existing theoretical and empirical evidence.

3.7 Definition of Variables

A study variable constitutes a theoretical assertion regarding the correlation between two or more variables. The dependent and independent variables for this study are elucidated as follows:

3.7.1 Return on Assets (ROA)

Return on Assets (ROA) is a financial metric that evaluates a company's profitability concerning its total assets. It aids corporate management, analysts, and investors in comprehending the efficacy with which a company leverages its assets to yield profits. ROA is commonly denoted as a percentage and computed using net income and average assets. A heightened ROA signifies superior efficiency in leveraging the balance sheet for profit generation, whereas a lower ROA implies potential for enhancement.

3.7.2 Return on Equity (ROE)

Return on Equity (ROE) is a financial indicator of performance derived from dividing net income by shareholders' equity. Given that shareholders' equity delineates a company's assets minus its liabilities, ROE mirrors the return on net assets. ROE functions as a gauge of a firm's profitability and the effectiveness of its income generation. A heightened ROE indicates adept management in driving income and expansion via equity financing.

3.7.3 Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR), expressed as a percentage, measures a bank's accessible capital compared to its credit exposures weighted by risk. Also known as the Capital-to-Risk Weighted Assets Ratio (CRAR), it functions to protect depositors and fortify the stability and efficacy of worldwide financial frameworks. The CAR evaluates two capital categories: tier-1 capital, capable of absorbing losses without

interrupting operations, and tier-2 capital, which offers depositors lesser protection but can absorb losses during winding-up procedures.

3.7.4 Credit to Deposit Ratio (CDR)

The credit-to-deposit ratio assesses a bank's liquidity by contrasting its aggregate loans with total deposits. It signifies the proportion of a bank's primary funds allocated for lending purposes. Presented as a percentage, a high ratio indicates possible liquidity constraints, whereas a low ratio could affect earnings.

3.7.5 Cash to Total Assets (CTA)

The Cash to Assets Ratio indicates the percentage of a company's assets consisting of cash and short-term investments. It is computed by dividing the cash amount by the total assets, utilizing the latest available balance sheet.

3.7.6 Non-Performing Loan (NPL)

A nonperforming loan (NPL) is a loan that enters default due to the borrower's failure to fulfill scheduled payments for a designated period. Generally, when classified as nonperforming, the loan exhibits no payments made towards either principal or interest. In the banking realm, commercial loans are categorized as nonperforming if the debtor has not made any interest or principal payments within 90 days or is 90 days overdue.

3.7.7 Size of the Bank (SIZE)

Size holds significant importance in financial evaluation, representing the scale of a bank. Multiple measures, including turnover, paid-up capital, total assets, net sales, and market capitalization, quantify the size of a firm. In this investigation, bank size is assessed using the natural logarithm-transformed total assets ($\ln x$ or $\log_e x$).

CHAPTER IV

RESULTS AND DISCUSSION

In this chapter, we methodically outline, interpret, and scrutinize data to explore the impact of financial sector evolution on economic growth. The central aim of this chapter is to analyze and decipher the data amassed during the study. Various statistical methodologies delineated in Chapter Three have been utilized for this endeavor.

4.1 Descriptive Statistics of Variables

Descriptive statistics is a branch of statistics dedicated to gathering, analyzing, interpreting, and presenting data. Its objective is to succinctly summarize and delineate the attributes of a dataset. Descriptive statistics aid in elucidating the distribution, central tendency, and variability of a variable. The primary categories of descriptive statistics encompass frequency distribution, measures of central tendency, and measures of variability. Frequency distribution provides insights into the occurrence of each value within a dataset. Measures of central tendency, such as the mean, median, and mode, estimate the central or typical value of the data. Measures of variability, including the range, variance, and standard deviation, explicate the extent of dispersion among the values in the dataset.

Table 3

Descriptive Statistics of Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	100	.6991	3.0363	1.6818	.4752
ROE	100	1.7828	33.1922	16.1311	5.1256
CAR	100	10.84	22.99	13.7906	2.4402
CDR	100	48.3208	97.0660	81.1801	10.4257
CTA	100	2.0194	33.7037	9.5541	5.9223
NPL	100	.010	5.850	1.2298	1.2751
SIZE	100	23.8132	26.7631	25.4590	.5724
Valid N (listwise)	100				

(Source: Annex C)

Table 3 showcases descriptive statistics for different financial parameters associated with the sample banks. These variables comprise Return on Assets (ROA), Return on Equity (ROE), Capital Adequacy Ratio (CAR), Credit to Deposit Ratio (CDR), Cash to Total Assets (CTA), Non-Performing Loan (NPL), and Bank Size (SIZE).

4.2 Correlation Analysis

Correlation analysis is a statistical method utilized to assess and gauge the strength and direction of the relationship between two or more variables. It aids in discerning whether changes in one variable correspond with changes in another, quantifying the extent of this relationship. Essentially, correlation analysis enables the identification of patterns within datasets. A positive correlation signifies that both variables increase simultaneously: when one variable rises, the other also tends to increase. Conversely, a negative correlation indicates that as one variable decreases, the other tends to increase. Three prevalent techniques for measuring statistical correlation include Spearman, Kendall, and Pearson methods. Each coefficient is denoted as 'r'. Among these, Spearman's Rank and Pearson's Coefficient are commonly utilized, contingent on the nature of the available data.

Table 4

Correlation Coefficients of Variables

	CAR	CDR	CTA	NPL	SIZE
CAR	1	.011	.309**	.156	.032
CDR	.011	1	-.595**	-.072	.556**
CTA	.309**	-.595**	1	.054	-.437**
NPL	.156	-.072	.054	1	-.073
SIZE	.032	.556**	-.437**	-.073	1

(Source: Annex D)

Correlation analysis offers an in-depth comprehension of the connections and mutual influences among financial variables.

Table 4 presents the key result of a correlation analysis, known as the correlation coefficient. It varies between -1 and +1. As the coefficient (represented as 'r') approaches either +1 or -1, it indicates a robust correlation between the two variables.

A positive 'r' signifies that when one variable increases, the other tends to increase as well. Conversely, a negative 'r' suggests that as one variable rises, the other decreases (referred to as inverse correlation)..

4.3 Regression Results

Regression analysis consists of a collection of statistical techniques used to estimate connections between a dependent variable and one or more independent variables. Its purpose is to evaluate the strength of these connections and forecast future associations. Regression analysis encompasses various forms, including linear, multiple linear, and nonlinear models. The most prevalent models are simple linear and multiple linear regression. Nonlinear regression is employed for datasets with more intricate relationships, where the dependent and independent variables display nonlinear patterns. In practical terms, regression aids in predicting unknown values based on known information. For instance, if we ascertain that production and sales are closely correlated, we can determine the production quantity required to achieve a specific sales target. Essentially, regression quantifies the average anticipated change in one variable given a particular change in another.

4.3.1 Regression Analysis of ROA

Table 5

Coefficients Analysis between Independent Variables with ROA

Model		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.187	2.298		2.692	.008
	CAR	.015	.020	.078	.749	.456
	CDR	-.012	.006	-.273	-2.089	.039
	CTA	.001	.010	.018	.137	.891
	NPL	.001	.036	.002	.024	.981
	SIZE	-.146	.096	-.176	-1.529	.130

a. Dependent Variable: ROA

(Source: Annex E)

The coefficients table displays the calculated regression coefficients for the independent variables (CAR, CDR, CTA, NPL, SIZE) within the multiple linear regression model. In this model, the dependent variable is ROA (Return on Assets).

In the figure above, we observe that CDR and SIZE exhibit a negative significant relationship, while the other ratios CAR, CTA, and NPL demonstrate a positive significant relation with ROA (Return on Assets).

4.3.2 Regression Analysis of ROE

Table 6

Coefficients Analysis between Independent Variables with ROE

Model		Coefficients ^a				Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	
1	(Constant)	66.552	21.715		3.065	.003
	CAR	-.708	.191	-.337	-3.700	<.001
	CDR	-.175	.056	-.356	-3.110	.002
	CTA	.111	.098	.128	1.130	.261
	NPL	-.039	.336	-.010	-.117	.907
	SIZE	-1.079	.903	-.120	-1.195	.235

a. Dependent Variable: ROE

(Source: Annex F)

The coefficients table displays the calculated regression coefficients for the independent variables (CAR, CDR, CTA, NPL, SIZE) within the multiple linear regression model. In this model, the dependent variable is ROA (Return on Assets).

In the depicted figure, CTA showcases a noteworthy positive correlation, whereas the ratios CAR, CDR, NPL, and SIZE illustrate a substantial negative correlation with ROE (Return on Equity).

4.5 Discussion

By examining insights gleaned from pertinent commercial banks, this study investigates the influence of liquidity on the profitability of Nepalese commercial banks. The analysis centers on the financial standings of several Nepalese banks, encompassing Agricultural Development Bank Limited (ADBL), Everest Bank Limited (EBL), Global IME Bank Limited (GBIME), Himalayan Bank Limited (HBL), Nabil Bank Limited (NBL), Nepal Investment Mega Bank Limited (NIMB), Nepal SBI Bank Limited (SBI), NIC Asia Bank Limited (NICA), Sanima Bank Limited (SANIMA), and Standard Chartered Bank Limited (SCB). Spanning fiscal years 2012/13 to 2021/22, the study examines various financial metrics. Additionally, insights from pertinent literature, including journal articles and previous theses, are drawn upon. Prior researchers have explored financial performance analysis across different financial institutions, spanning various locations and timeframes, employing diverse financial and statistical methodologies. Consequently, the findings of this study may either corroborate or diverge from those of prior research.

Multiple research endeavors have delved into examining how liquidity impacts the profitability of Nepalese commercial banks. In this study, we aim to elucidate the influence of liquidity on the profitability of these banks and to what degree specific factors influence their financial performance throughout the study duration. Our research query revolves around comprehending the correlation between several pivotal variables: Capital Adequacy Ratio (CAR), Credit to Deposit Ratio (CDR), Cash to Total Assets (CTA), Non-Performing Loan (NPL), and Bank Size (SIZE). Leveraging insights from previous Nepalese and international studies, we identify a crucial explanatory variable. Our investigation entails scrutinizing pertinent theoretical and empirical literature. Our findings reveal that CDR and SIZE display a negative significant correlation with ROA (Return on Assets), whereas CTA demonstrates a positive significant correlation. Moreover, concerning ROE (Return on Equity), CTA exhibits a positive correlation, while the other ratios—CAR, CDR, NPL, and SIZE—illustrate a negative significant relationship.

CHAPTER V

SUMMARY AND CONCLUSION

This chapter offers a brief overview of the entire study, highlighting the principal discoveries. It further explores the main conclusions, followed by discussions on the implications and recommendations concerning the factors affecting stock prices of Nepalese commercial banks. Lastly, the chapter delineates potential avenues for future research in the corresponding field.

5.1 Summary

Liquidity management involves the structured and methodical management of cash reserves. Liquidity pertains to the segment of total assets readily available to fulfill immediate liabilities. Banks ensure liquidity through cash reserves, bank balances, funds available on short notice, investments in government securities, and other assets swiftly convertible into cash. Conversely, in a separate context, liquidity refers to an individual not employed by the government. Insufficient liquidity tarnishes an organization's reputation, whereas excessive liquidity detrimentally affects profitability.

Profitability epitomizes the outcome of diverse strategies and endeavors. Management meticulously examines the asset-to-liability ratio. Profitability ratios serve as common tools in financial analysis, systematically applying ratios to decipher financial data, thereby uncovering strengths and conditions. Although the ratios do not directly furnish information during computation, they articulate relationships in a more insightful manner, enabling inference drawing. These ratios hold significant importance in financial research and corporate performance, facilitating decision-making through the establishment of connections and interpretation of varied ratios. Quantitative evaluations of a company's financial status and performance prove invaluable for analysts.

The main aim of this research is to assess the liquidity and profitability status of ten commercial banks in Nepal, namely Agricultural Development Bank Limited (ADBL), Everest Bank Limited (EBL), Global IME Bank Limited (GBIME), Himalayan Bank Limited (HBL), Nabil Bank Limited (NBL), Nepal Investment Mega

Bank Limited (NIMB), Nepal SBI Bank Limited (SBI), NIC Asia Bank Limited (NICA), Sanima Bank Limited (SANIMA), and Standard Chartered Bank Limited (SCB). Due to practical constraints, the study narrows its focus to a subset of these banks: ADBL, EBL, GBIME, NABIL, NIMB, SBI, NICA, HBL, SANIMA, and SCB. The analysis encompasses various financial metrics, including the Capital Adequacy Ratio (CAR), Credit to Deposit Ratio (CDR), Cash to Total Assets (CTA), Non-Performing Loan (NPL), and Bank Size (SIZE). Secondary data analysis is conducted, drawing from published financial reports of these banks. The study spans a decade from 2012/13 to 2021/22. Diverse financial and statistical methodologies are employed for assessment, encompassing liquidity and profitability ratios, alongside statistical tools such as means, standard deviations, coefficient of variation, correlation coefficients, and regression analysis. The research methodology is quantitative, and the study adopts a descriptive and causal comparative research design.

As per the research outcomes, there exists a negative correlation between profitability and liquidity among Nepalese commercial banks. This suggests that as liquidity levels of a bank increase, its profits typically decrease. By upholding an optimal liquidity level, banks can augment shareholder value, ensuring prompt fulfillment of short-term commitments. Such a proactive stance guards against unforeseen expenditures like stock shortages, bankruptcy fees, or opportunity costs stemming from excessive liquidity. Nonetheless, it is imperative to steer clear of dropping below the minimal mandated liquidity threshold, as this could impede the organization's capability to meet short-term obligations.

After scrutinizing the financial data, ADBL emerges as favorable concerning the current ratio, whereas EBL trails behind among the selected banks in our sample. Our findings reveal that CDR and SIZE are negatively correlated with ROA (Return on Assets). Moreover, CTA (Cash to Total Assets) displays a positive significant correlation, while other ratios—CAR (Capital Adequacy Ratio), NPL (Non-Performing Loan), and SIZE—exhibit a negative significant correlation with ROE (Return on Equity). These observations furnish valuable insights for comprehending the relationship between liquidity and profitability within Nepalese commercial banks.

5.2 Conclusion

The study aimed to assess the liquidity and profitability trends of Nepalese commercial banks spanning from 2012/13 to 2021/22. In our analysis, independent variables included current assets, cash reserve ratio, cash and bank balance to current assets, and cash and bank balance to total deposits, while dependent variables comprised ROA (Return on Assets) and ROE (Return on Equity). Our investigation unveiled a negative correlation between liquidity and profitability within Nepalese commercial banks. Specifically, liquidity significantly influences the profitability of the selected sample of commercial banks. However, the liquidity levels of these banks fluctuate across various periods, thereby inversely impacting their profitability.

As previously noted, the correlation between liquidity and profitability in Nepalese commercial banks is negative or inverse. In practical terms, this implies that heightened liquidity tends to coincide with diminished profitability, and conversely. This phenomenon arises because liquidity pertains to a bank's capacity to fulfill its short-term commitments, while profitability concerns the bank's ability to generate income from its assets. When a bank holds a greater proportion of liquid assets, it allocates fewer funds for lending or investment, thereby diminishing profitability. Conversely, if a bank maintains a lower liquidity level, it has a larger pool of funds available for lending or investment, thereby bolstering profitability. However, this equilibrium also exposes the bank to liquidity risk, which is the risk of being unable to meet short-term obligations. Consequently, a bank must prudently manage its liquidity and profitability positions to ensure financial stability and performance.

Liquidity denotes a bank's capability to fulfill its immediate obligations, encompassing deposits, withdrawals, and loans. Conversely, profitability concerns the bank's ability to generate revenue from its assets, such as interest, fees, and commissions. The study unveils a negative correlation between liquidity and profitability within Nepalese commercial banks. Essentially, heightened liquidity tends to correspond with diminished profitability, and vice versa. When a bank possesses a greater proportion of liquid assets, it allocates fewer funds for lending and investment, which constitute the primary income sources for banks. Numerous factors

influence the liquidity and profitability of commercial banks in Nepal, including the Capital Adequacy Ratio (CAR), Credit to Deposit Ratio (CDR), Cash to Total Assets (CTA), Non-Performing Loan (NPL), and SIZE of the sample banks.

The multiple regression analysis conducted in the study demonstrates that liquidity has contrasting impacts on profitability within the banking sector. Specifically, heightened liquidity, as indicated by CDR and SIZE, is linked to diminished return on assets (ROA), whereas other ratios—CAR, CTA, and NPL—exhibit a positive significant correlation with ROA. Similarly, concerning return on equity (ROE), CTA maintains a positive significant correlation, while other ratios—CAR, CDR, NPL, and SIZE—display a negative significant relationship. Essentially, an increase in liquidity corresponds to a decrease in profitability, underscoring the intricate balance between operational robustness (liquidity) and effective value optimization (profitability) for banks.

5.3 Implications

Taking into account the notable discoveries and hurdles faced during the research, the following recommendations are suggested:

5.3.1 Implication to manager level

The implications of the research underscore practical applications for employees, shareholders, and researchers based on the study's findings. Considering the results and pertinent factors, the following recommendations have been compiled to augment the study's utility for recipients and other stakeholders. It is anticipated that this study will be advantageous for employees, shareholders, researchers, and individuals with an interest in this subject matter.

- i. This research strives to provide managerial and investor guidance regarding the ideal blend of debt and equity to improve company performance.
- ii. Drawing from this study, bankers have the chance to formulate various strategic initiatives focused on improving profitability.
- iii. Investors and those interested in investment can utilize this study to assess companies and pinpoint the capital structure combinations that generate the greatest profits for the firm.

- iv. This research will aid other scholars in publishing additional studies pertaining to financial subjects and will contribute to the overall knowledge of the academic community. Students preparing to write dissertations for bachelor's and master's degree programs, both domestically in Nepal and internationally, can employ the study findings as a point of reference to bolster their research.
- v. This study will support finance managers and other financial executives in publicly traded firms by offering guidance to management regarding the most beneficial sources of funding that can boost the company's profitability.

5.3.2 Implications for further research

Individual surveys can be conducted across nationalized, private, foreign, and cooperative banks to examine the innovative strategies implemented by stakeholders within these banking institutions. Moreover, a separate study could concentrate on corrective actions within banking organizations. For future research endeavors, a region-specific examination of the determinants influencing share prices in Nepal could be undertaken. Additionally, broadening the scope of the study to encompass additional financial ratios beyond those initially considered would be advantageous.

- i. This study solely investigates the correlation between liquidity and profitability within four specific commercial banks. However, future research could broaden its scope by incorporating a more extensive sample encompassing other commercial and development banks.
- ii. Given that this study is confined to analyzing secondary data, future researchers could explore the utilization of primary data with larger sample sizes and questionnaires. Such an approach might yield divergent outcomes.
- iii. Although this study concentrates on commercial banks in Nepal, it overlooks other financial institutions and sectors, which could enhance the comprehensiveness of the analysis. Furthermore, it is recommended to explore the correlation between liquidity and profitability positions of various financial institutions in Nepal beyond solely commercial banks.

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ANNEX A

Commercial Banks in Nepal

S.N.	Commercial Bank Name	Symbol	Operation Date
1	Agricultural Development Bank Limited	ADBL	1968-01-21
2	Citizens Bank International Limited	CZBIL	2007-04-20
3	Everest Bank Limited	EBL	1994-10-18
4	Global IME Bank Limited	GBIME	2014-04-09
5	Himalayan Bank Limited	HBL	1993-01-18
6	Kumari Bank Limited	KBL	2001-04-03
7	Laxmi Sunrise Bank Limited	LSL	2002-04-03
8	Machhapuchchhre Bank Limited	MBL	2012-07-09
9	Nabil Bank Limited	NABIL	1984-07-12
10	Nepal Bank Limited	NBL	1937-11-15
11	Nepal Investment Mega Bank Limited	NIMB	1986-03-09
12	Nepal SBI Bank Limited	SBI	1993-07-07
13	NIC Asia Bank Limited	NICA	2013-06-30
14	NMB Bank Limited	NMB	2015-10-18
15	Prabhu Bank Limited	HBL	2014-09-15
16	Prime Commercial Bank Limited	PCBL	2007-09-24
17	Rastriya Banijya Bank Limited	RBBL	1966-01-23
18	Sanima Bank Limited	SANIMA	2012-02-15
19	Siddhartha Bank Limited	SBL	2002-12-24
20	Standard Chartered Bank Limited	SCB	1987-02-28

Source: Nepal Rastra Bank (NRB), Website (nrb.org.np)

ANNEX B

Data Source:

- i. Annual report of sample banks from 2012/13 to 2021/22, and
- ii. Results are drawn from Microsoft Excel 2021 & SPSS v28.

Return on Assets

(In Percentage)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	2.97	2.24	1.15	3.04	2.62	1.19	1.38	1.54	1.39	2.67
2013/14	1.72	2.2	1.63	2.58	2.25	1.51	1.61	1.3	1.46	2.51
2014/15	3.46	1.59	1.39	1.81	1.88	1.8	1.12	1.34	1.55	1.99
2015/16	2.2	1.59	1.58	2.15	1.97	1.7	1.33	1.94	1.78	1.98
2016/17	2.32	1.81	1.75	2.57	2.57	1.57	1.49	2.11	1.98	1.98
2017/18	2.54	1.78	1.67	2.47	2.13	1.97	0.78	1.61	1.85	2.61
2018/19	2.77	1.8	1.82	2.11	1.79	1.94	1.39	2.08	2.07	2.61
2019/20	1.86	1.36	1.06	1.46	1.19	1.17	1.24	1.66	1.41	1.71
2020/21	1.59	0.92	1.2	1.55	1.56	0.7	0.94	1.68	1.44	1.22
2021/22	0.9	1.1	1.38	1.01	1.55	1.07	1.18	1.09	1.09	1.83
Mean	2.1	1.58	1.44	1.98	1.9	1.4	1.22	1.6	1.57	2.06
SD	0.75	0.43	0.26	0.62	0.46	0.42	0.25	0.34	0.31	0.48
CV	35.55	26.91	18.39	31.21	23.94	29.82	20.58	20.9	19.59	23.21

Return on Equity

(In Percentage)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	16.1	30.47	13.9	33.19	27.28	20.31	14.63	17.81	12.58	26.38
2013/14	10.09	28.4	16.06	30.39	24.47	20.35	17.07	15.77	15.09	26.27
2014/15	21.51	22.85	13.12	22.07	20	18.87	12.37	15.98	18.19	21.69
2015/16	13.6	18.38	15.88	19.5	15.66	19.25	14.45	21.94	18.61	17.18
2016/17	12.6	16.04	16.65	22.17	16.53	14.85	14.59	18.51	15.05	12.52
2017/18	13.01	1.78	15.48	19.34	14.71	15.81	11.43	13.27	15.74	15.73
2018/19	14.78	17.33	16.91	18.28	13	16.2	20.24	17.28	18.83	16.31
2019/20	11.7	13.5	10.09	13.39	8.92	10.44	17.97	14.71	13.86	13.16
2020/21	11.2	9.38	12.46	13.31	11.04	6.26	15.59	14.89	15.53	8.62
2021/22	6.67	10.88	13.14	8.03	11.17	9.57	16.97	10.76	12.38	12.44
Mean	12.6	13.79	14.21	18.57	15.35	14.3	15.33	15.82	15.43	16.1
SD	3.93	8.74	2.19	7.65	5.99	4.92	2.63	3.06	2.34	6
CV	31.2	63.41	15.45	41.18	39.05	34.44	17.16	19.34	15.18	37.25

*Capital Adequacy Ratio**(In Percentage)*

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	16.34	11.59	11.14	11.59	11.49	12.39	13.17	11.55	14.87	12.54
2013/14	14.93	11.31	12.38	11.18	11.27	13.28	14.05	11.23	12.54	12.27
2014/15	13.9	13.33	12.69	11.57	11.9	14.03	12.49	11.14	11.08	13.1
2015/16	17.16	12.66	12.35	11.73	14.92	13.49	12.44	10.84	12.36	16.38
2016/17	20.41	14.54	11.37	12.9	13.02	15.71	13.83	12.15	15.57	21.08
2017/18	20.33	14.2	11.47	13	12.66	15.15	12.24	12.46	12.41	22.99
2018/19	20.37	13.74	12.31	12.5	13.26	14.12	13.32	12.6	13.19	19.69
2019/20	19.33	13.68	12.48	13.07	13.54	15.55	13.5	14.89	13	18.51
2020/21	16.94	12.48	13.2	12.77	14.71	13.86	12.47	13.89	13.57	17.17
2021/22	15.59	11.89	12.67	13.09	15.96	13.25	13.38	11.75	13.66	15.95
Mean	17.38	12.9	12.19	12.32	13.19	14.05	13.07	12.19	13.17	16.61
SD	2.43	1.12	0.66	0.74	1.55	1.08	0.64	1.28	1.29	3.67
CV	13.97	8.71	5.44	6.01	11.74	7.71	4.88	10.53	9.82	22.08

*Credit to Deposit Ratio**(In Percentage)*

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	91.2	75.18	76.84	73.02	74.32	48.69	79.08	74.85	84.84	57.87
2013/14	86.78	76.6	79.89	72.56	70.46	64.74	80.75	70.07	81.9	56.11
2014/15	89.02	65.57	81.32	62.84	73.06	77.44	78.81	72.72	83.02	48.32
2015/16	90.96	72.5	79.29	71.56	78.67	72.03	84.12	77.57	87.14	56.17
2016/17	93.64	83.95	79.33	78.74	88.78	79.34	82.59	84.26	91.95	67.08
2017/18	96.46	81.53	88.08	84.28	88.46	89.32	86.3	87.04	88.95	69.63
2018/19	93.16	86.45	94.12	81.96	85.11	90.51	84.55	89.11	93.36	73.46
2019/20	85.63	82.95	93.26	80.65	84.16	85.67	85.75	85.2	87.36	59.92
2020/21	92.57	84.37	89.04	92.46	92.76	95.58	91.65	93.67	95.9	81.62
2021/22	106.51	89.76	97.07	95.2	89.19	92.37	91.94	92.02	89.95	95.4
Mean	92.43	79.57	85.55	78.77	82.16	78.18	84.44	82.27	88.33	65.31
SD	5.87	7.32	7.36	9.86	7.82	14.56	4.61	8.32	4.51	14.09
CV	6.35	9.2	8.6	12.52	9.51	18.62	5.45	10.11	5.1	21.57

*Cash to Total Assets**(In Percentage)*

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	12.27	17.06	14.21	8.04	18.12	11.9	12.21	5.97	7.67	14.04
2013/14	10.02	18.7	13.64	14.35	19.43	10.89	13.95	7.53	11.95	17.23
2014/15	11.34	25.33	11.07	13.8	13.72	14.23	11.03	10.13	4.39	17.82
2015/16	9.54	10.24	9.85	7.81	10.04	13.23	9.73	7.89	6.1	3.17
2016/17	9.55	7.41	7.94	4.98	7.43	8.81	13.85	4.38	4.24	28.58
2017/18	8.29	6.95	6.38	4.94	6.17	10.22	4.76	4.07	4.93	26.24
2018/19	7.59	4.56	7.6	5.3	7.28	6.97	9.29	5.23	4.25	13.54
2019/20	4.73	5.21	7.33	2.02	3.71	11.41	4.91	4.64	4.11	33.7
2020/21	4.78	4.32	4.51	2.5	3.08	6.11	6.91	4.99	2.97	23.41
2021/22	2.66	6.22	5.05	2.63	4.56	6.64	7.76	5.27	2.71	15.52
Mean	7.38	8.78	8.19	5.41	7.81	9.66	8.85	5.77	4.85	16.71
SD	3.12	7.24	3.36	4.42	5.87	2.83	3.36	1.92	2.73	8.82
CV	42.32	82.47	41.01	81.69	75.19	29.24	38.02	33.33	56.33	52.79

*Non-Performing Loan**(In Percentage)*

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	5.85	0.62	2.27	2.13	1.91	0.37	2.32	2.89	0.03	0.77
2013/14	5.46	0.97	2.55	2.23	1.77	0.26	2.33	1.96	0.02	0.48
2014/15	5.35	0.66	2.23	1.82	1.25	0.19	2.07	3.22	0.07	0.34
2015/16	4.36	0.38	1.89	1.14	0.68	0.14	0.76	1.23	0.02	0.32
2016/17	4.6	0.23	1.6	0.8	0.83	0.1	0.36	0.85	0.01	0.19
2017/18	3.5	0.2	0.77	0.55	1.36	0.2	0.06	1.4	0.03	0.18
2018/19	3.29	0.16	0.55	0.74	2.78	0.2	0.46	1.12	0.08	0.15
2019/20	2.84	0.22	1.76	0.98	2.91	0.23	0.75	1.01	0.45	0.44
2020/21	1.88	0.12	1.41	0.84	2.46	0.23	0.5	0.48	0.12	0.96
2021/22	2.09	0.12	1.28	1.57	1.49	0.15	0.53	1.59	0.33	0.59
Mean	3.67	0.28	1.49	1.15	1.58	0.2	0.66	1.37	0.06	0.37
SD	1.42	0.26	1.42	1.08	1.55	0.18	0.59	1.27	0.06	0.35
CV	38.61	0.23	1.34	1.01	1.53	0.18	0.51	1.22	0.07	0.34

*Size of the Bank**(In Ln)*

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	25.07	24.91	24.39	25.02	25.02	24.89	24.56	24.84	23.81	24.54
2013/14	25.21	24.98	24.83	25.23	25.18	24.84	24.66	25.02	24.1	24.7
2014/15	25.34	25.32	24.96	25.48	25.37	24.81	24.83	25.14	24.42	24.9
2015/16	25.44	25.46	25.2	25.6	25.59	25.09	25.11	25.33	24.75	24.9
2016/17	25.58	25.48	25.49	25.69	25.77	25.33	25.32	25.41	24.96	25.08
2017/18	25.63	25.7	25.56	25.8	25.87	25.35	25.86	25.48	25.24	25.15
2018/19	25.74	25.86	25.74	26.03	25.95	25.5	26.11	25.61	25.42	25.26
2019/20	25.91	25.94	26.34	26.19	26.04	25.61	26.25	25.77	25.56	25.48
2020/21	26.13	26.08	26.57	26.4	26.15	25.65	26.57	25.91	25.8	25.47
2021/22	26.23	26.14	26.61	26.76	26.22	25.75	26.61	26.1	25.98	25.54
Mean	25.62	25.58	25.56	25.82	25.71	25.28	25.58	25.46	25	25.1
SD	0.38	0.43	0.76	0.54	0.41	0.35	0.79	0.4	0.73	0.34
CV	1.49	1.7	2.97	2.08	1.61	1.4	3.07	1.57	2.91	1.36

ANNEX C

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	100	.69914	3.036306648 044687	1.681794280 903956	.4751979968 18048
ROE	100	1.782792107 012692	33.19219881 1040576	16.13108937 0679730	5.125634276 737397
CAR	100	10.84	22.99	13.7906	2.44024
CDR	100	48.32084685 8987230	97.06603417 1599180	81.18014827 1187000	10.42566539 1345360
CTA	100	2.019366084 598388	33.70373673 8180176	9.554090591 053095	5.922292106 732214
NPL	100	.010	5.850	1.22983	1.275141
SIZE	100	23.81324134 6413378	26.76308736 1435783	25.45899565 9938410	.5723993054 97622
Valid N (listwise)	100				

Data Source:

- i. Annual report of sample banks from 2012/13 to 2021/22, and
- ii. Results are drawn from Microsoft Excel 2021 & SPSS v28.

ANNEX D

		Correlations				
		CAR	CDR	CTA	NPL	SIZE
CAR	Pearson Correlation	1	.011	.309**	.156	.032
	Sig. (2-tailed)		.911	.002	.122	.750
	N	100	100	100	100	100
CDR	Pearson Correlation	.011	1	-.595**	-.072	.556**
	Sig. (2-tailed)	.911		<.001	.477	<.001
	N	100	100	100	100	100
CTA	Pearson Correlation	.309**	-.595**	1	.054	-.437**
	Sig. (2-tailed)	.002	<.001		.592	<.001
	N	100	100	100	100	100
NPL	Pearson Correlation	.156	-.072	.054	1	-.073
	Sig. (2-tailed)	.122	.477	.592		.471
	N	100	100	100	100	100
SIZE	Pearson Correlation	.032	.556**	-.437**	-.073	1
	Sig. (2-tailed)	.750	<.001	<.001	.471	
	N	100	100	100	100	100

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

Data Source:

- i. Annual report of sample banks from 2012/13 to 2021/22, and
- ii. Results are drawn from Microsoft Excel 2021 & SPSS v28.

ANNEX E

Regression Analysis of ROA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.416 ^a	.173	.129	.4433830512 91423

a. Predictors: (Constant), SIZE, CAR, NPL, CTA, CDR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.876	5	.775	3.943	.003 ^b
	Residual	18.479	94	.197		
	Total	22.356	99			

a. Dependent Variable: ROA

b. Predictors: (Constant), SIZE, CAR, NPL, CTA, CDR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.187	2.298		2.692	.008
	CAR	.015	.020	.078	.749	.456
	CDR	-.012	.006	-.273	-2.089	.039
	CTA	.001	.010	.018	.137	.891
	NPL	.001	.036	.002	.024	.981
	SIZE	-.146	.096	-.176	-1.529	.130

a. Dependent Variable: ROA

Data Source:

- i. Annual report of sample banks from 2012/13 to 2021/22, and
- ii. Results are drawn from Microsoft Excel 2021 & SPSS v28.

ANNEX F

Regression Analysis of ROE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605 ^a	.366	.332	4.189524944 179179

a. Predictors: (Constant), SIZE, CAR, NPL, CTA, CDR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	951.041	5	190.208	10.837	<.001 ^b
	Residual	1649.899	94	17.552		
	Total	2600.941	99			

a. Dependent Variable: ROE

b. Predictors: (Constant), SIZE, CAR, NPL, CTA, CDR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	66.552	21.715		3.065	.003
	CAR	-.708	.191	-.337	-3.700	<.001
	CDR	-.175	.056	-.356	-3.110	.002
	CTA	.111	.098	.128	1.130	.261
	NPL	-.039	.336	-.010	-.117	.907
	SIZE	-1.079	.903	-.120	-1.195	.235

a. Dependent Variable: ROE

Data Source:

- i. Annual report of sample banks from 2012/13 to 2021/22, and
- ii. Results are drawn from Microsoft Excel 2021 & SPSS v28.

ANNEX G

Net Income of Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	2,289,319,963	1,471,117,291	449,218,454	2,226,942,126	1,915,027,932	771,471,129	642,136,406	943,697,990	305,061,132	1,217,940,751
2013/14	1,520,806,289	1,549,698,560	986,132,083	2,331,446,120	1,939,612,344	922,984,007	831,588,872	959,107,241	427,595,604	1,336,589,187
2014/15	3,490,268,417	1,574,352,443	960,608,067	2,093,813,607	1,961,852,380	1,065,436,141	680,317,101	1,112,285,716	624,141,298	1,290,025,348
2015/16	2,464,683,088	1,809,263,536	1,382,223,998	2,819,333,752	2,550,883,563	1,331,881,801	1,066,906,232	1,935,907,634	996,054,127	1,292,494,632
2016/17	2,973,280,536	2,118,021,520	2,061,239,486	3,702,382,810	3,992,343,756	1,564,688,746	1,475,847,759	2,281,774,191	1,377,062,733	1,549,986,963
2017/18	3,442,323,796	2,581,681,778	2,101,363,149	3,981,892,950	3,659,322,725	2,023,511,124	1,334,861,927	1,875,610,467	1,697,503,224	2,189,898,090
2018/19	4,191,590,635	3,054,122,062	2,761,953,667	4,238,853,581	3,324,112,936	2,292,524,396	3,023,282,666	2,763,848,475	2,258,067,506	2,434,664,521
2019/20	3,331,737,575	2,516,243,710	2,908,664,367	3,463,240,822	2,423,186,059	1,543,348,770	3,098,536,965	2,586,722,710	1,776,264,524	1,987,390,942
2020/21	3,527,536,906	1,958,008,050	4,165,151,840	4,527,552,838	3,558,605,809	963,479,143	3,258,934,467	2,998,623,045	2,317,821,580	1,398,835,199
2021/22	2,225,765,948	2,479,400,875	4,959,224,743	4,256,024,188	3,797,603,953	1,638,309,919	4,214,926,951	2,367,538,235	2,093,115,828	2,255,934,327

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

ANNEX H

Total Assets of Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	77,097,348,840	65,741,150,457	39,018,489,785	73,343,781,908	73,152,154,761	64,796,152,822	46,535,225,046	61,113,501,223	21,976,539,752	45,631,100,342
2013/14	88,519,685,712	70,445,082,845	60,535,759,012	90,293,037,640	86,173,927,574	61,082,972,355	51,500,485,800	73,589,845,698	29,376,985,784	53,324,102,172
2014/15	100,812,328,142	99,167,293,661	69,186,488,883	115,986,529,080	104,345,436,413	59,277,290,453	60,519,399,215	82,801,550,614	40,301,197,377	64,926,805,120
2015/16	111,786,100,812	113,885,046,402	87,701,310,349	131,347,288,537	129,782,705,314	78,515,345,284	80,456,519,759	99,863,008,080	55,964,557,699	65,185,732,479
2016/17	128,290,186,757	116,946,280,388	117,893,944,868	144,017,861,128	155,361,353,118	99,950,851,412	99,265,724,246	108,063,252,383	69,481,703,681	78,356,012,689
2017/18	135,419,614,689	144,811,151,443	125,847,432,347	160,978,071,329	171,893,546,610	102,538,669,895	170,943,177,826	116,462,301,380	91,821,952,603	84,031,554,906
2018/19	151,574,996,872	170,077,533,454	151,653,562,387	201,138,821,464	185,841,988,230	118,314,225,860	217,697,049,129	133,151,142,073	109,064,487,965	93,264,183,123
2019/20	179,320,218,226	185,023,189,704	273,876,591,053	237,680,029,570	203,023,897,140	132,401,913,971	250,590,379,057	155,884,918,983	126,310,981,152	116,438,273,521
2020/21	222,440,349,244	212,336,128,516	346,141,698,952	291,238,946,422	227,930,126,922	137,808,774,721	346,147,521,722	178,490,925,886	160,750,584,166	114,738,762,936
2021/22	246,184,242,937	225,381,322,534	360,537,220,470	419,818,100,950	244,448,793,470	153,102,800,757	358,569,838,348	216,286,273,674	192,511,092,727	123,355,710,487

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

ANNEX I

Shareholders' Equity of the Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	14,222,913,580	4,827,844,672	3,230,788,362	6,709,233,512	7,020,644,097	3,798,957,417	4,388,175,925	5,299,708,123	2,424,031,128	4,617,574,225
2013/14	15,076,248,711	5,457,147,460	6,138,398,929	7,671,312,778	7,925,478,596	4,535,798,670	4,873,031,997	6,083,411,016	2,833,397,025	5,088,090,898
2014/15	16,224,114,617	6,890,377,025	7,323,493,296	9,485,591,487	9,806,952,579	5,645,914,521	5,498,784,305	6,958,899,626	3,430,693,691	5,948,554,654
2015/16	18,127,314,682	9,845,567,472	8,705,717,294	14,457,939,068	16,287,751,617	6,920,462,451	7,382,844,718	8,823,768,128	5,352,251,266	7,524,175,186
2016/17	23,605,360,044	13,207,514,111	12,376,433,178	16,699,183,904	24,156,972,023	10,539,742,841	10,118,493,388	12,328,145,766	9,147,913,063	12,379,792,867
2017/18	26,458,304,686	144,811,151,443	13,578,678,296	20,586,357,305	24,871,022,126	12,801,103,793	11,680,792,670	14,138,896,995	10,787,885,501	13,925,502,178
2018/19	28,352,915,882	17,625,063,404	16,332,170,337	23,188,612,393	25,579,196,035	14,154,449,362	14,935,735,514	15,994,798,380	11,989,548,059	14,927,074,559
2019/20	28,470,887,005	18,637,356,460	28,834,396,358	25,855,658,567	27,173,163,731	14,781,851,324	17,242,170,621	17,589,253,612	12,818,604,934	15,102,495,274
2020/21	31,505,117,739	20,870,674,018	33,438,855,704	34,010,295,410	32,234,911,628	15,400,071,110	20,903,619,458	20,132,713,390	14,923,413,378	16,222,118,151
2021/22	33,357,034,971	22,794,552,510	37,739,460,073	52,981,747,295	33,991,914,255	17,113,427,417	24,843,146,779	22,010,195,996	16,911,170,411	18,135,102,385

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

ANNEX J

Total Loans & Advances of Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	49,685,827,208	43,393,187,065	26,212,297,173	46,369,834,571	46,400,053,693	28,788,146,625	31,559,518,475	39,723,805,566	15,093,072,849	22,828,838,456
2013/14	57,186,253,206	47,572,024,207	41,777,651,029	54,684,093,633	52,019,765,103	35,279,583,339	36,325,070,073	45,320,359,244	20,371,443,968	25,976,584,629
2014/15	68,578,360,411	54,482,465,225	48,936,968,351	65,501,925,164	66,219,232,015	39,979,173,045	42,144,336,688	53,476,229,873	28,264,050,734	27,681,313,256
2015/16	79,489,556,232	67,955,107,021	59,219,296,988	78,211,146,468	85,461,050,976	46,975,534,686	58,451,375,967	67,745,978,944	40,455,086,817	31,302,949,596
2016/17	93,184,410,155	78,986,723,431	79,467,169,757	92,471,341,323	105,576,509,055	64,120,548,757	71,584,614,835	77,798,235,713	51,642,409,735	40,044,316,962
2017/18	100,525,112,260	94,182,247,596	92,352,355,125	113,625,154,951	120,825,495,936	75,235,861,969	120,462,766,142	86,160,212,665	69,243,357,166	46,696,179,867
2018/19	110,753,110,936	112,007,182,134	113,032,241,290	133,558,735,725	127,140,970,015	88,635,724,933	149,497,291,082	97,470,071,077	83,439,280,956	55,633,581,545
2019/20	122,986,953,720	119,069,238,189	198,008,889,110	153,890,438,529	140,002,160,763	94,435,193,014	172,892,384,736	106,726,542,430	93,694,563,068	56,935,754,731
2020/21	150,712,023,974	135,173,248,173	239,018,603,243	206,622,987,392	161,911,528,389	101,538,041,018	263,059,810,969	132,093,945,891	123,165,424,390	71,473,931,272
2021/22	177,438,652,777	155,053,839,709	268,838,853,818	310,572,591,189	164,816,438,185	110,577,083,000	266,547,927,685	154,972,823,457	141,685,903,638	89,414,750,034

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

ANNEX K

Total Deposits of the Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	54,477,651,530	57,720,464,632	34,111,465,761	63,506,102,707	62,428,845,372	59,125,729,453	39,908,774,213	53,072,319,487	17,789,328,915	39,446,453,239
2013/14	65,898,412,646	62,108,135,754	52,292,058,154	75,360,769,196	73,831,375,915	54,492,993,606	44,984,218,467	64,674,848,295	24,873,849,358	46,298,532,040
2014/15	77,035,056,186	83,093,789,957	60,175,983,690	104,237,910,083	90,631,486,765	51,628,221,954	53,477,184,239	73,538,200,185	34,045,316,291	57,286,482,037
2015/16	87,387,154,947	93,735,480,708	74,682,917,216	109,288,114,845	108,626,641,994	65,213,519,724	69,487,997,265	87,335,785,849	46,423,306,347	55,727,178,456
2016/17	99,515,339,449	94,091,892,005	100,171,539,270	117,436,362,752	118,921,049,470	80,818,815,835	86,679,102,631	92,334,454,668	56,161,055,860	59,694,608,671
2017/18	104,216,459,617	115,511,705,922	104,850,510,393	134,810,669,677	136,585,576,000	84,227,327,384	139,589,607,845	98,988,791,212	77,849,380,056	67,061,046,522
2018/19	118,884,923,356	129,568,152,895	120,088,440,064	162,953,999,572	149,392,281,905	97,924,444,003	176,820,688,914	109,387,060,433	89,373,729,162	75,731,527,432
2019/20	143,628,524,817	143,545,475,184	212,315,385,060	190,806,469,972	166,362,126,293	110,236,203,169	201,630,384,459	125,264,381,690	107,250,202,687	95,020,841,249
2020/21	162,814,930,677	160,220,256,940	268,433,791,603	223,474,470,361	174,557,704,483	106,238,466,851	287,024,798,908	141,021,074,860	128,425,867,181	87,564,219,683
2021/22	166,590,266,216	172,739,184,905	276,964,909,623	326,222,310,372	184,791,071,928	119,710,205,430	289,903,959,721	168,419,486,693	157,518,535,239	93,721,916,376

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

ANNEX I

Total Cash & Cash Equivalents of the Sample Banks

(In NPR)

Year	ADBL	EBL	GBIME	NABIL	NIMB	SBI	NICA	HBL	SANIMA	SCB
2012/13	9,461,113,147	11,215,793,963	5,543,980,024	5,897,398,811	13,252,087,809	7,713,403,335	5,682,875,989	3,648,198,652	1,685,500,681	6,404,998,782
2013/14	8,865,442,567	13,172,782,867	8,255,116,786	12,953,435,775	16,744,711,222	6,654,971,120	7,183,390,770	5,542,590,002	3,511,914,255	9,188,304,208
2014/15	11,428,639,887	25,116,482,060	7,656,840,762	16,003,740,034	14,315,048,266	8,435,747,532	6,672,513,998	8,387,411,809	1,771,030,896	11,572,441,927
2015/16	10,659,755,745	11,666,003,361	8,642,675,453	10,262,848,825	13,025,831,965	10,389,818,491	7,829,450,920	7,874,984,059	3,412,585,564	2,067,287,183
2016/17	12,252,208,074	8,667,840,097	9,364,024,369	7,167,160,590	11,539,080,170	8,803,465,489	13,751,345,867	4,734,344,144	2,948,780,102	22,397,734,122
2017/18	11,227,273,792	10,065,422,666	8,027,502,157	7,952,350,362	10,610,892,449	10,480,237,366	8,132,486,809	4,741,359,383	4,530,152,334	22,048,328,040
2018/19	11,500,752,523	7,759,121,374	11,531,556,889	10,670,329,148	13,520,574,452	8,243,366,584	20,214,540,268	6,968,064,034	4,636,422,437	12,626,985,439
2019/20	8,489,432,167	9,646,947,712	20,083,658,794	4,799,629,907	7,538,028,646	15,111,519,666	12,294,510,663	7,231,138,781	5,190,299,845	39,244,049,170
2020/21	10,636,731,922	9,163,408,289	15,593,942,410	7,285,636,456	7,012,723,269	8,426,345,170	23,902,662,784	8,910,941,260	4,771,140,480	26,856,975,057
2021/22	6,559,900,767	14,024,363,708	18,221,952,024	11,051,539,126	11,148,235,754	10,160,628,890	27,813,319,163	11,391,809,790	5,224,716,246	19,139,900,106

(Data Source: Annual report of sample banks from 2012/13 to 2021/22.)

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