EFFECT OF BANK SPECIFIC FACTORS ON PROFITABILITY OF NEPALESE COMMERCIAL BANKS

A Dissertation submitted to the office of the dean, faculty of management in partial fulfillment of the requirements for the Master's Degree

by

Bandana Poudel
Shanker Dev Campus
Campus Roll. No.: 554/074
Regd. No.: 77-2-194-6-2013
Exam Symbol No.: 5364/018

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "Effect of Bank Specific Factors on Profitability of Nepalese Commercial Banks". 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 requirement for any academic purposes.

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

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Bandana Poudel

Date : ……

REPORT OF RESEARCH COMMITTEE

Ms. Bandana Poudel has defended research proposal entitled "Effect of Bank Specific Factors on Profitability of Nepalese Commercial Banks" successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisors Mr. Madhusudan Gautam of Shanker Dev Campus, T.U. and submit the thesis for evaluation and viva voce examination.

Madhusudan Gautam

Dissertation Supervisor

Signature: …….

Dissertation Proposal Defended Date:

……

Dissertation Submitted Date:

……

Asso. Prof. Dr. Sajeeb Kumar Shrestha

Head of Research Committee

Signature: …….

Dissertation Viva Voce Date:

……

APPROVAL SHEET

We have examined the dissertation entitled "Effect of Bank Specific Factors on Profitability of Nepalese Commercial Banks" presented by Ms. Bandana Poudel for the degree of Master of Business Studies. We hereby certify that the dissertation is acceptable for the award of degree.

……..
Madhusudan Gautam
Dissertation Supervisor

……..
Internal Examiner

……..
Internal Expert

……..
External Expert

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

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

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Bandana Poudel
Researcher

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ABBREVIATIONS

CAR	Capital Adequacy Ratio
CRR	Cash Reserve Ratio
DAR	Deposit to Assets Ratio
EBL	Everest Bank Limited
GDP	Gross Domestic Product
HBL	Himalayan Bank Limited
LIR	Liquidity Ratio
NABIL	Nabil Bank Limited
NMB	NMB Bank Limited
NP	Net Profit
NPL	Non-performing Loan
NPLR	Non-performing Loan Ratio
ROA	Return on Total Assets
ROE	Return on Equity
RWA	Risk Weighted Assets
SBI	Nepal SBI Bank Limited
SCBNL	Standard Chartered Bank Nepal Limited
SD	Standard Deviation
SIZE	Bank Size i.e. Total Assets
TU	Tribhuvan University

ABSTRACT

The basic objective of the study is to analyze the bank specific factors of profitability of commercial banks of Nepal. Specially this study analyzes the effect of bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio on profitability of Nepalese commercial banks. This study covers the period of ten years from 2013/14 to 2022/23. This study analyzes the data of six joint venture commercial banks i.e. SCNBL, NABIL, NMB, EBL, SBI and HBL. To achieve the specific objective of the study, descriptive and causal research has been carried to analyze the determinants of profitability. This study has adopted a expected generalized least squares model (EGLS) to investigate the effect of bank specific factors on profitability Nepalese commercial banks. The analysis reveals that capital adequacy ratio and liquidity ratio have significant positive effect on return on assets of the banks. The bank size has significant negative on return on assets of the banks. On the other hand, operating expenses ratio and NPL ratio have no significant effect on return on assets of the banks. Likewise, it is also concluded that there is significant positive effect of liquidity ratio on return on equity of the banks. However, there is significant negative effect of bank size and capital adequacy ratio of banks on return on equity of the banks. The operating expenses ratio and NPL ratio have no significant effect of return on equity of the banks. The results of this study help the bankers and policy makers to take effective action in order to improve banks' profitability by managing these banks specific factors of the profitability.

Keywords: *Bank Size, Capital Adequacy Ratio, Operating Expenses Ratio, Liquidity Ratio, NPL Ratio, Return on Assets and Return on Equity*

CHAPTER-I
INTRODUCTION

1.1 Background of the Study

Today's banks face enormous pressure to fulfill the needs of their depositors, staff, investors, and borrowing clients while also managing to satisfy government authorities regarding the soundness of the bank's lending, policies, and investments. Commercial banks, like other corporate entities, are motivated by profit. Profit maximization is one of the commercial banks' primary goals. The primary financial metric of a company enterprise is its profit. Commercial banks' primary goal is to maximize profits, and in order to do so, they must abide by NRB rules and regulations (Budathoki & Rai, 2020).

Banks are essential in promoting frugal living and discouraging hoarding because they mobilize resources and break the hoarding habit (Bhatta & Joshi, 2010). By assembling little, dispersed resources into one large quantity, putting them to use for more productive uses, and providing other important services to the nation, they quickly seek economic expansion and encourage the banking habit among the populace. This therefore provides the person with the chance to borrow money against future income, which could enhance the borrower's financial security. The bank processes the deposit offers and offers loans for business purposes (Atabaeva et al., 2022).

Profit is a widely acknowledged and accepted indicator of how efficiently a business is operating. Therefore, the bank is considered to be more efficient and lucrative the higher the earnings. The main benefit of this criterion is that it offers a uniform benchmark for evaluating the effectiveness of various banks (Khan et al., 2016). The desire for profit continues to be an enterprise's primary motivator and encourages efficiency. It is obvious that the drive for more profitable practices drives efforts to find more effective ways to cut expenses per unit, improve organizational structure, and increase turnover (Kunjeda, 2024).

The terms "profit" and "ability" combine to form the word profitability. The definition of profit was previously discussed, and ability refers to a company's capacity to turn a profit. An organization's ability also indicates its profitability or operational

effectiveness. The profitability of an investment can be characterized as its capacity to generate income from its utilization. While profit is an absolute notion, profitability is a relative idea. Profit and profitability are two distinct ideas, notwithstanding their close relationship and mutual dependence. Put differently, each of them plays a unique role in business despite being generic (Khanal, 2016).

Profitability is a phrase that deviates from "profit" and refers to the capacity to turn a profit as the primary indicator of a business enterprise's performance. It is merely describing the fundamental test performance of any firm. Profit is the excess of sales revenue over expenses, yet the term "profit" is highly contested and has multiple meanings (Chand, 2019).

Enterprise resource planning includes a component called profitability analysis, which enables managers to predict a proposal's profitability or maximize the profitability of an ongoing project. Sales and profit possibilities that are unique to a market, such as client age groups, geographical areas, or product categories, can be predicted by profitability analysis. Profitability analysis, as used in cost accounting, examines the output profitability of an organization. An organization's output might be categorized by channels, goods, customers, locations, or transactions (Kamande et al., 2016).

The profitability of a bank is determined by ratios, such as net interest margin, return on equity, and firm's returns on asset, which provide a qualitative assessment of the firm's profitability by summarizing vast amounts of financial data (Neupane, 2019). Marketable securities, size, capital, risk management, expense management, and non-performing loans are considered to be micro- or bank-specific variables that impact profitability, while inflation, interest rates, GDP growth, and tax rates are considered macro-variables. The bank-specific profitability characteristics (i.e., ROA and ROE) of the banks are examined in this study and include bank-specific variables such bank size, capital adequacy ratio, liquidity ratio, credit deposit ratio, and non-performing loan ratio (Mahmud et al., 2016).

In general, the provision for loan loss ratio and ROA have an inverse relationship. The bank's success or failure has been attributed to the quality of its assets. The ratio of loan loss provisions to loan is the most effective way to evaluate the quality of assets. The

ratio of loan loss provisions to loans serves as a gauge for the caliber of loans that banks provide (Damtsa et al., 2019). Higher capital banks are thought to be less insolvent since they can absorb negative shocks. Increased capital may also encourage shareholders to keep an eye on management actions, which would reduce the likelihood that managers would take unwarranted risks (Ahamed, 2017).

The biggest source of money available in the market, banks also take deposits and maintain the payment system. Since the domestic capital market is still developing, the banking industry essentially controls the whole financial industry. In addition to granting licenses to banks and other financial institutions to engage in banking operations, Nepal Rastra Bank also oversees and records these entities' performance and implements policies based on the findings from inspections and supervision. The mid-1980s saw the adoption of an economic liberalization agenda that led to a boom in the banking sector. A significant quantity of banks was founded, and the quantity is still increasing to this day. Twenty commercial banks are in operation throughout Nepal (NRB, 2022).

The majority of research on the variables affecting banks' profitability is conducted in industrialized and emerging nations, but relatively little of it is done in the context of low-income nations like Nepal. Thus, the purpose of this research is to investigate how Nepalese commercial banks' profitability is affected by their size, capital adequacy ratio, operational expense ratio, liquidity ratio, and non-performing loan (NPL) ratio.

1.2 Problem Statement

The key instrument that shows how effectively an organization is generating profit is profitability analysis. Every business organization's fundamental short- and long-term goals are to maximize profit. A steadily rising profit ratio is a positive indication of an organization.

The profitability of a company is positively correlated with its size and age, as shown by return on assets (ROA), which is increasingly important in a variety of industries these days (Chaudhary et al., 2021). Javaid et al. (2011) found negative relation of bank size with ROA but Budathoki and Rai (2020) found the positive association between

return on assets and bank size of the banks. There is no similar effect of bank size was investigated by different scholars in the previous studies.

Likewise, credit to deposit ratio measures the asset structure defining how the flow of deposit enhances the credit/loan operation of banks and how it assists banks in generating profit (Mahmud et al., 2016). Credit is also major earning source in the bank and credit deposit ratio have significant effect in the profitability of the banks (Neupane, 2019). One of the key elements influencing a bank's profitability is said to be its capital. The rate of return on equity is directly influenced by the bank's equity capital. Ahamed (2017) found that profits and risk-adjusted assets are positively and significantly correlated with larger banks, more equity capital, and a greater proportion of loan assets.

Budathoki and Rai (2020) revealed that capital adequacy ratio has positive relation with return on assets of the banks. According to Neupane (2020), banks with high capital ratios are also seen to be more flexible in exploring business opportunities, have cheaper funding available to them, be protected against bankruptcy, and be able to absorb any unforeseen losses. Higher loan loss provisions lead to lower levels of profitability, and size and capital ratio are significant factors in determining a bank's profitability (Kosumi & Kosumi, 2021).

Without a doubt, the increased operating costs will have a detrimental effect on bank profitability. However, it's possible that these operational costs are the result of increased wages and salaries. Based on efficiency theory, a higher salary will greatly increase employee productivity, which will increase the bank's profitability (Tan, 2017). But Poudel (2012) found negative relationship between return on assets and operating cost ratio of the banks.

The ratio of the bank's total deposit to its bank balance is used to determine the bank's liquidity, which helps to reduce the short-term risk of the bank failing (Kamande et al., 2016). The bank may be unable to pay its depositors and make its regular payments if it does not have enough liquidity. Since the bank's ability to operate on a regular basis is influenced by its liquidity, the bank's performance is also closely related to its liquidity (Kosumi & Kosumi, 2021). Shehzad et al. (2013) and Atabaeva et al. (2022) had found found the negative relation of retrn on assets and liquidity in their study.

In general, it is reasonable to assume that asset quality and bank performance are positively correlated. This ratio can be used to examine the security and soundness of a bank (Atabaeva et al., 2022). The probability of bankruptcy is decrease with increasing non-performing loan ratio values, boosting investor confidence and profitability (Budathoki & Rai, 2020). Mahmud et al. (2016) found negative relation of return on assets with NPL ratio. Banking profit determinants that are specific to individual banks include the non-performing loan ratio, which shows a larger provision for loan security. A larger provision reduces the amount of money available for investments, lowers the bank's earning potential, and adversely impacts the profitability of the banks (Islam & Nishiyama, 2016).

Research on the factors that influence banking profitability focuses on the ownership structure, concentration indices, inflation, economic growth, regulatory policy rate, market interest rates, size, capital holdings or the equity to total assets ratio, credit risk, liquidity position, and other operational efficiency indicators as the industry and macroeconomic determinants (Kosumi & Kosumi, 2021). Javaid and Alalawi (2017) analyzed the performance and efficiency of the banking sector and profitability has been analyzed employing different measures to study various bank specific variables, industry specific variables such as; ROA, ROE, bank size, capital adequacy, assets quality, liquidity, management quality, operating efficiency and leverage in previous study.

Likewise, this study tries to examine size, capital adequacy ratio, operational expense ratio, liquidity ratio, and non-performing loan (NPL) ratio as determinants of banks profitability. In this regard, this study attempts to address the following questions:

- What is the position of bank specific factors and profitability of Nepalese commercial banks?
- Is there any relationship between bank specific factors and profitability of commercial banks?
- What is the impact of bank specific factors in profitability of commercial banks?

1.3 Objectives of the Study

The basic objective of the study is to analyze the bank specific factors of profitability of commercial banks of Nepal. The specific objectives of the study are:

- To assess the position of bank specific factors and profitability of Nepalese commercial banks.
- To examine the relationship of bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio with profitability of Nepalese commercial banks.
- To analyze the effect of bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio on profitability of Nepalese commercial banks.

1.4 Rationale of the Study

The rate of interest of deposit is highly increased which reduced profit of the bank. The banks are also required to manage cost of fund and control their operating cost in this scenario.

There have been many studies of financial performance of the Nepalese commercial banks; however, most of them have been concentrated on the investment function and financial analysis.

The study can be mainly beneficial to the shareholders, depositors and other creditors to identify the productivity of their funds in commercial banks. Likewise, other financial agencies, e.g. financial experts are also interested in the performance of bank. Besides them, every individual as well as further researcher have a good source of literature for review about the findings done by this project.

1.5 Limitations of the Study

Along with the significance of this study also have some limitations which are as follows:

- Currently, there are of 20 commercial banks in Nepal till year July 2023, only six joint venture banks SCNBL, NABIL, NMB, EBL, SBI and HBL are taken for the proposed study and thus may not represent the whole population.

- This study covers ten year time period from 2013/14 to 2022/23.
- This study is based on secondary data taken from annual financial report of sample banks and other secondary sources.
- Only profitability, limited bank specific factors (i.e. bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio) has been taken into consideration for the analysis.
- Only selected financial and statistical tools are used in this study.

CHAPTER-II
LITERATURE REVIEW

The process of reviewing literature is essential and required for research projects. In this regard, an analysis of prior studies in the field aids in developing a workable project framework. Reviewing the literature is like taking stock of what is written about the subject of one's inquiry. It includes the idea of financial analysis, a conceptual assessment, and an examination of relevant literature, journals, publications, and earlier research in the field of study.

2.1 Theoretical Review

i) Structure Conduct Performance Hypothesis

There are two prototypes for this SCP hypothesis. The first one consists of the performance of the structure, and the second is called efficient structure. The way the structure performs reveals the relationship between the market's attentiveness and the competitiveness. According to this theory, the firm's performance (ROA) will rise in tandem with increased market awareness. The total deposits are ignored by this factor. If the market is attentive to one another, the total deposit will not change. The profit margin of the businesses increases if they pay closer attention. According to the second hypothesis, an institution's profit is positively correlated with the firm's efficiency, or the total amount spent on all of its assets (Edwards et al., 2006).

ii) Efficiency Structure Hypothesis

The efficiency structure hypothesis has cast doubt on the conventional theoretical viewpoint that is implied in the structure conduct performance (SCP). According to the efficiency hypothesis, a firm's higher operating efficiency leads to the formation of an industry's structure. This theory is predicated on the idea that businesses with low cost structures boost profitability by cutting costs and gaining market share. The efficiency structure view holds that structure results from performance. More specifically, when firms become more efficient, they take market share away from less efficient enterprises, leading to an increase in concentration. When considered in this context, a more effective banking system would naturally accompany the concentration process (Khan et al., 2016).

iii) The Real Bills Doctrine/ Theory

According to the real bills doctrine theory, a commercial bank should only provide business businesses with short-term, productive loans that self-liquidate. Self-liquidating loans are designed to fund the manufacturing process. According to the notion, the central bank should only lend money to commercial banks based on the security of short-term, self-liquidating loans that the banks make. This idea would guarantee that every bank has the right amount of liquidity and that the money supply is appropriate for the entire economy. It was anticipated that the central bank will adjust bank reserves by discounting authorized loans. By discounting bills with the central banks, banks were able to get extra reserves as business grew and trade requirements rose (Meghana, 2021).

iv) The Shift-Ability Theory

H.G. Moulton introduced the shift-ability theory of bank liquidity, which states that maturities are not necessary if commercial banks have a sizable quantity of assets that may be transferred to other banks for cash in an emergency without causing a meaningful loss. This point of view states that in order for an asset to be completely shiftable, it must be instantly transferable without causing a loss of capital when liquidity is needed. There are some truthful aspects to this hypothesis. Sound assets that can be transferred to other banks are now accepted by banks. Treasury bills, bills of exchange, and debentures of major corporations are recognized as liquid assets. This has prompted banks to provide term loans (Meghana, 2021).

v) The Anticipated Income Theory

The US commercial banks' practice of granting term loans served as the foundation for the development of the anticipated earnings theory in 1944. This idea states that the bank prepares the term-loan's liquidation from the borrower's anticipated income, irrespective of the type and nature of the borrower's business. A term loan is one that lasts more than a year but less than five years. Therefore, rather than receiving a single payment at the loan's maturity, a bank loan is repaid in installments from the borrower's future income. Because it satisfies the three goals of liquidity, safety, and profitability, this theory is better than the shift ability hypothesis and the real bills doctrine. Liquidity is assured to the bank when the borrower saves and repays the loan regularly in instalments (Meghana, 2021).

vi) The Liabilities Management Theory

In this hypothesis, banks can borrow reserve money in the money market in an emergency, negating the requirement for them to maintain liquid assets and make self-liquidating loans. By accumulating more obligations against itself from various sources, a bank might increase its reserves. These sources include of the issuance of time certificates of deposit, borrowing from central banks, borrowing from other commercial banks, issuing shares to raise capital, and keeping profits (Meghana, 2021).

vii) Risk and Uncertainty Bearing Theory of Profit

According to this theory, an entrepreneur must receive earnings in exchange for taking on risk and uncertainty in a dynamic market. Thus, the theory of profits is functional. Because the future is unknown, profits can be made (Almazari & Alamri, 2017).

viii) Frictional Theory of Profits

This theory states that there is a normal rate of profit, which is a return on capital that capital owners must receive in exchange for investing and preserving their money as opposed to hoarding or consuming it all. In a static economy with no unexpected shifts in cost or demand, the firms would only be making a regular rate of return on capital in the long run (Bhatta & Joshi, 2010).

Bank Specific Factors of Profitability

Bank Size: One major factor influencing profitability is the size of the bank. It may have a positive or negative impact on internal bank operations. The positive correlation between bank size and ROA suggests that the bank has successfully achieved economies of scale, which lowers operating expenses and contributes to higher profitability. Conversely, a negative relationship points to a scale-related inefficiency (Mahmud et al., 2016).

Non-performing Loan Ratio: Loan default rate is measured by non-performing loan ratio. It was discovered that the quantity of non-performing loans (NPLs) had a negative relationship with bank profitability. Bank profitability decreases with the quantity of classified loans as a percentage of total loans (Zeleke & Sindhu, 2021).

Liquidity: The trade-off between profitability and liquidity exists. Liquid assets serve as a buffer against deposits that might need to be paid for immediately. Therefore, increased liquidity lowers risk but also lowers the amount of money available for lending. Hence, more liquidity denotes decreased profitability. Thus, there is a bad relationship between the two of them (Meghana, 2021).

Operating Expense Ratio: Reduced operational expenses are the result of efficient management, and this raises the company's profitability. It is anticipated that ROA and operating expense ratio will have an inverse connection (Mahmud et al., 2016).

Capital Adequacy Ratio: A bank's net worth is determined by its capital adequacy ratio. It shows how much money is available to protect against unfavorable developments. The relationship between CAR and ROA is erratic. Although certain studies indicate a bad link, other studies point to a good one (Almazari & Alamri, 2017).

2.2 Empirical Review

Kamande et al. (2016) researched on the effect of bank specific factors on financial performance of commercial banks in Kenya. The main goal of every banking institution is to operate profitably in order to maintain stability and sustainable growth. External and internal economic environments are viewed as critical drivers for bank performance. The dependent variable under investigation was return on assets (ROA). The independent variables were capital adequacy, asset quality, management efficiency, earnings ability and liquidity. This study adopted an explanatory approach by using panel data research design to fulfill the objectives. This study found that there has been a significant decrease in capital adequacy during the five-year period. There was also a finding that asset quality affects profitability and the financial performance of banks. The study concludes that Asset quality of the bank have the highest influence on ROA of banks.

Khanal (2016) analyzed the determinants of profitability in Nepalese commercial bank. The objective of this study was to examine the bank specific and macroeconomic determinants of profitability of Nepalese commercial banks. Return on assets (ROA) and return on equity (ROE) were taken for profitability. This study used Pearson’s correlation coefficients and regression models are estimated to test the significance and

impact of bank specific factor and macroeconomic factors on profitability of Nepalese commercial banks. It was found that equity to total assets, loan loss provision to total loan, GDP growth rate and inflation are positively correlated with return on assets and return on equity while expense to revenue ratio, total loan to total deposit ratio and bank size are negatively correlated with return on assets and return on equity. It indicates that higher the equity to total assets, loan loss provision to total loan, GDP growth rate and inflation higher would be ROA and ROE. Likewise, larger the expense to revenue ratio, total loan to total deposit ratio and bank size lower would be the ROA and ROE.

Islam and Nishiyama (2016) investigated the determinants of bank profitability: dynamic panel evidence from South Asian countries. Examining the factors that influence South Asian countries' banks' profitability was the study's primary objective. This research use the GMM estimator to empirically investigate the factors that influence the profitability of 259 commercial banks in South Asian nations, namely Bangladesh, India, Nepal, and Pakistan, during a period of 1997-2012. The analysis focuses on the industry, macroeconomic, and bank-specific factors. The profitability factors in the empirical model were ROA and ROE. The explanatory factors for the profitability were examined, and the following ratios were used to analyze the profitability: equity to assets ratio, non-performing loan ratio, liquidity ratio, cost of fund ratio, productivity ratio, earning power, growth rate of deposit, credit deposit ratio, interest income ratio, interest rate, inflation rate, funding gap, GDP growth rate, etc. It was discovered that capital is a significant factor in determining bank profitability. ROA is favorably and considerably impacted by the equity to total assets ratio. Cost of funds, liquidity, funding gap, interest rate term structure, and economic growth rate were found to have a negative impact, whilst inflation rate had a favorable impact on bank profit. It was discovered that the size of the bank and the rate of deposit growth have no appreciable impact on bank profitability. However, the loan to deposit ratio, rate-sensitive assets, and rate-sensitive liabilities have significant negative effects on banks' profitability. It also showed that a nation's macroeconomic growth rate and interest rate term structure have a negative effect on bank profitability.

Khan et al. (2016) examined on effect of firm specific & country specific factor’s on profitability of banks in Pakistan. The study's objective was to look into the variables that influence Pakistani banks' profitability. This study analyzes many parameters to

ascertain how they affect profit. To measure the outcomes of the fixed effect modal and random effect modal, panel data approach was employed. In summary, the analysis revealed that the bank's profitability has been significantly impacted by the independent variables. The money and quasi money variables, as well as the changeable net interest margin, have a big influence on the banks' profitability. The findings showed that changes in firm- and country-specific variables as well as firm-specific internal factors affect commercial bank earnings.

Mahmud et al. (2016) reported a study entitled bank-specific factors affecting the profitability of commercial banks in Bangladesh: a panel data analysis. The objective of this study was to pinpoint the bank-specific factors that influence Bangladesh's commercial banks' profitability. Return on asset was the dependent variable in the study, whereas the independent variables were bank-specific factors including capital adequacy ratio, gearing ratio (risk), liquidity, non-performing loan ratio, operational expense ratio, and bank size. This study discovered that capital, gearing ratio, bank size, and operational expenses are significant factors influencing Bangladeshi banks' profitability. While the other three statistically significant variables indicated a negative relationship with performance, capital demonstrates a positive relationship with bank profitability.

Javaid and Alalawi (2017)analyzed on performance and profitability of Islamic banks in Saudi Arabia: an empirical analysis. The aim of the research was to investigate the effectiveness and efficiency of the banking sector in Saudi Arabia, as well as the contribution of Islamic banking to its efficiency and profitability, between 2000 and 2013. This was achieved by utilizing a range of methodologies to examine variables specific to individual banks, the industry, and the overall economy. The impact of bank-specific, industry-specific, and macroeconomic variables on profitability is examined in this study using unbalanced panel data and robust fixed effect regression models. Size and the natural logarithm of all assets were found to have a favorable, though not statistically significant, impact on profitability. Bigger is thought to bring advantages that can boost revenue. The strong financial standing of Saudi banks is shown in both ROA and ROE, which both have positive and very significant coefficients of the capital adequacy variable (CAR). The ratio of non-performing loans to total loans has a positive relationship with both bank performance metrics. Operating efficiency seems

to be highly significant, management quality is notably favorable in relation to both performance ratios, and cash and balances smaller than assets have negative and insignificant effects. Profitability is inversely correlated with inflation, while growth and profitability are significantly inversely correlated.

Hallunovi (2018) examined the determinants of profitability in commercial banks in Albania. The objective of the study was to investigate the factors that influence Albanian commercial banks' profitability. Return on equity (ROE) and return on assets (ROA) were the two dependent variables in this study that were utilized to quantify profitability. Multiple regression analysis was employed in this study to assess the influence of the factors influencing bank profitability. This study discovered that, while only in the case of the ROA model exhibited substantial statistical significance, there is a positive correlation between capital adequacy and profitability in both models (ROA/ROE). While having a low coefficient of relevance to ROA, total assets had a beneficial impact on profitability (ROA/ROE). Both ROA and ROE show a negative correlation with liquidity assets in terms of probitability; however, the correlation for ROA was not statistically significant, while the correlation for ROE was at 1%. In both models, there was a statistically significant negative correlation between credit risk and profitability (5% for ROA and 1% for ROE).

Neupane (2019) analyzed the factors influencing profitability in Nepalese commercial banks. The objective of the study was to examine factors influencing profitability in Nepalese Commercial Banks. The regression analysis has been employed in this study to examine the effect of the bank specific and macro-economic factor on profitability. It was found that operational expense to operational income and non- interest income to total assets effect return on assets, credit to deposit ratio showed significant effects on net interest margin. However, size has shown significant effect on both ROA and NIM of Nepalese commercial banks. Furthermore, ROA is positively influenced by CD which means that increase in credit and deposit flow leads to increase in profitability. Finally, the study revealed that capital adequacy ratio, credit risk, GDP and inflation has no significant effect on Nepalese commercial bank profitability.

Neupane (2020) investigated the profitability determinants of Nepalese commercial banks. The purpose of this study is to examine the the key determinants of profitability

of Nepalese commercial banks. This study used descriptive statistics was employed to describe the profitability of Nepalese banks and its determinants. This study also adopted a panel data regression model (Fixed Effect Model and Random Effect Model) to investigate the determinants and their impact on profitability of Nepalese commercial banks. It was found that the bank profitability measured by ROA of Nepalese commercial banks is significantly affected by concentration ratio, banking sector development, GDP growth, inflation and exchange rate significantly in opposite direction. NIM is significantly affected only by capital adequacy, absolute number of branches and inflation rate. The study revealed that capital adequacy and deposit of the bank have negative effect on ROA of the banks.

Budathoki and Rai (2020) analyzed the effect of specific factors on bank profitability: Evidence from Nepalese banks. The major objective of the study was to examine the impact of assets quality, capital adequacy ratio, assets diversification and operating efficiency on banks' profitability. This study employs bank scope data of eight commercial banks during the period of 2002/03–2016/17. This study employs ordinary least squares regression models to gauge the relationship between response and predictor variables. Profitability in this study was measured as ROA of the banks. It was found that the independent variables such as assets quality, operating efficiency and capital adequacy ratio have significant negative effect on bank profitability. The results of this study help the bankers and policymakers to take effective action in order to improve banks' profitability.

Kosumi and Kosumi (2021) examined the banks specific factor that determinate the profitability of commercial banks in republic of North Macedonia. This study used the Republic of North Macedonia as a case study to determine the major factors influencing the profitability of commercial banks. Commercial banks' performance is assessed based on their unique characteristics, using data from 13 commercial banks from 2012 to 2018. Return on assets (ROA) is considered the dependent variable for this purpose, while the independent variables include capital adequacy (CAP), bank size (SIZE), credit risk (CR), revenue diversification (DIV), liquidity (L), and leverage (LEV). Since liquidity and bank size were found to have a strong beneficial impact on profitability, the study concluded that these factors have mostly driven the profitability of

commercial banks. However, this analysis also discovered that the banks' ROA and their capital adequacy, credit risk, and leverage were inversely correlated.

Chaudhary et al. (2021) researched on the practice of profitability and liquidity of Nepalese joint venture banks: a comparative study. This study tried to analyze the practice and relationship between liquidity and the profitability of Nepalese Joint Venture banks i.e., Everest Bank ltd. and Himalayan Bank Limited. In this study descriptive as well as inferential research design was used to get the result of sated objectives. It was found that there is high degree positive correlation between total deposit and cash and bank balance of EBL and HBL which were significant. There is also significant positive relation between net profit and total deposit of EBL and HBL during the study period. The average cash and bank balance to total deposit ratio of EBL were higher than that of HBL. This shows the ability of withdrawal of funds immediately by their depositors and their even better ability to cover their deposits.

Atabaeva et al. (2022) analyzed on the liquidity ratios and profitability of the Kyrgyz banking system. This study investigated the trade-off between liquidity and profitability in the Kyrgyz banking systemby focusing on ratios such asliquidity, return on assets, return on equity, loan volume, net interest margin, deposit volume, and exchange rate using the Vector Auto Regression approach and Augmented Dickey-Fuller testmethods etc. The study showed a negative correlation between liquidity and the economic development of Kyrgyzstan. The high rate of the Kyrgyz banking system's liquidity ratio does not positively impact economic growth. Besides this, no significant relation among liquidity ratio and profitability was observed for Kyrgyzstan.

Selvaraj and Devi (2022) explored credit risk management and performances of banks in India: the CAMELS rating model. The objective of the current study was to evaluate Indian banks' performance using the CAMELS model. The model stands for capital adequacy, asset quality, earning, liquidity, management efficiency, and sensitivity. The study employed Return on Equity (ROE) as a measure of the banks' financial performance as the dependent variable, and the CAMELS component as the independent variable. To determine the association between the CAMELS components and performance metric (ROE), a standard multiple regression was employed. According to this study, income had a highly significant component that influences the

performance of Indian banks; a one percentage change in earnings corresponds to a 61.9% increase in bank performance as indicated by the ROE. It was discovered that the performance of Indian banks was significantly impacted by capital sufficiency, asset quality, and liquidity. Conversely, the impact of management efficiency and sensitivity on the performance of Indian banks was negligible.

Naji and Shabib-Ul-Hassan (2023) investigated credit risk management and its impact on the performance of commercial banks in pakistan. The objectuve of the study was to investigate the effect of default or credit risk management on the financial performance of banks and how factors of CRM affect each other. In this study sixteen private commercial banks have been taken into the consideration and the data from the year 2012 to 2021 were analyzed. In this study return on quuity, loan to deposit ratio, loan loss provision ratio, non-performing loan ratio and capital adequacy ratio were analyzed. In this study granger causality and impulse response were been identified and analyzed including regressiomn model. It was found that loan to deposit ratio showed the significant negative effect on ROE of the banks. Similarly, non-performing loan ratio has significant negative effect on ROE of the banks. On the other hand, coefficients of loan loss provision ratio and capital adequacy ratio showed positive effect on ROE of the banks the coefficients were not significant.

Sah and Pradhan (2023) examined the impact of financial ratios, operational efficiency and non-performing loan on the profitability of Nepalese commercial banks. This study looked at how Nepalese commercial banks' profitability was affected by non-performing loans, operational effectiveness, and financial parameters. To determine the relevance and impact of financial ratios, operational effectiveness, and non-performing loans on the profitability of Nepalese commercial banks, correlation coefficients and regression models were computed. It was found that leverage have a negative impact on return on assets. In a similar vein, return on equity and return on assets both benefited from the liquidity ratio. Similarly, return on equity and return on assets were positively impacted by net interest margin. Moreover, return on assets was positively impacted by the capital adequacy ratio. It suggests that a rise in the capital adequacy ratio causes the return on assets to rise as well. Furthermore, the return on equity was negatively impacted by non-performing loans. Furthermore, return on equity and return on assets were negatively impacted by operational efficiency.

KC and Acharya (2023) examined the bank specific determinants of commercial bank's profitability in Nepal. The purpose of this study was to examine the variables affecting Nepal's commercial banks' profitability. Panel data regression analysis was utilized along with descriptive and causal comparative study approaches to examine the effect of the independent factors on ROA. It was shown that interest spread and the capital adequacy ratio significantly and favorably affect ROA. On the other hand, ROA is significantly and negatively impacted by deposit growth. The study did not, however, discover a meaningful correlation between ROA, bank size, asset quality, and liquidity.

Kunjeda (2024) explored the impact of Capital Adequacy on Profitability of Commercial Banks in Nepal. This study was conducted to evaluate the effect of capital adequacy on the profitability of a subset of Nepali commercial banks. Descriptive and causal comparative research designs were used in this study's data analysis. In order to assess capital adequacy, the study examines the core capital ratio, supplemental capital ratio, and capital adequacy ratio. To assess profitability, it examines ROE, ROA, and NPM. It was discovered that there was a very weakly positive link between the capital adequacy indicators and ROE, and a weakly positive association between the variables and NPM. Nonetheless, there was only a slight negative association between the capital adequacy measures and ROA. The results of the regression analysis are insignificant, suggesting that capital adequacy has no discernible effect on profitability.

Gazi et al. (2024) examined the bank-specific and macroeconomic determinants of profitability of Islamic Shariah-based banks: evidence from new economic horizon using panel data. This study's main objective was to examine important factors that allow us to determine the profitability of Bangladeshi banks with a Shariah foundation. For the purpose of this study's data analysis, linear regression models with fixed effects, random effects, and pooled ordinary least squares (OLS) were used. The study revealed a significant correlation between the profitability of Islamic banks in Bangladesh that adhere to Shariah, and the quality of asset management, liquidity, and credit risk. On the other hand, the profitability of the bank was adversely connected with capital sufficiency, operational effectiveness, and bank size. However, GDP growth had no appreciable impact on the sample banks' profitability in Bangladesh.

Table 1
Summary of Empirical Review

Author/Date	Title	Variables	Methodology	Findings
Kamande et al. (2016).	The effect of bank specific factors on financial performance of commercial banks in Kenya.	Independent Variables: capital adequacy, asset quality, management efficiency, earnings ability and liquidity. Dependent variable: ROA	This study adopted an explanatory approach by using panel data research design to fulfill the objectives. Study period: 2011 to 2015	This study found that there has been a significant decrease in capital adequacy during the five-year period. There was also a finding that asset quality affects profitability and the financial performance of banks. The study concludes that Asset quality of the bank have the highest influence on ROA of banks.
Khanal (2016)	Determinants of profitability in Nepalese commercial bank.	Independent Variables: equity to total assets, cost income ratio, loan loss provision ratio, bank size and loan to deposit ratio, real GDP growth rate and inflation Dependent variable: ROA and ROE	This study used Pearson's correlation coefficients and regression models are estimated to test the significance. Study period: 2007/08 to 2013/14	It was found that equity to total assets, loan loss provision to total loan, GDP growth rate and inflation are positively correlated with return on assets and return on equity while expense to revenue ratio, total loan to total deposit ratio and bank size are negatively correlated with return on assets and return on equity.
Islam & Nishiyama (2016)	The determinants of bank profitability: Dynamic panel evidence from South Asian countries.	Independent Variables: equity to total assets, non-performing loan ratio, liquidity ratio, interest expenses ratio, operating profit per employee, deposit growth, bank size and loan to deposit ratio, interest rate and inflation Dependent variable: ROA and ROE	The study used GMM estimator, this paper empirically studies the bank-specific, industry specific and macroeconomics specific determinants of bank profitability. Study period: 1997 to 2012	It was found that that capital plays a strong determinant of bank profitability. Equity to total assets ratio positively and significantly affect ROA. Cost of fund, liquidity, funding gap, term structure of interest rate and economic growth rate found negative influence while rate of inflation positively affect bank profit. It was found that deposit growth rate and a bank size have no significant effect on bank profitability.

Khan et al. (2016)	Effect of firm specific & country specific factor's on profitability of banks in Pakistan.	Independent Variables: total deposit, GDP, net interest margin, lending, money growth rate, total expenses to assets ratio, funding cost and loan loss provision ratio Dependent variable: ROAA	Panel data technique was used to measure the results of the fixed effect modal and random effect model. Study period: 2003 to 2011	This study found that the independent variables have shown a significant impact on the profitability of the bank. The variable Net interest margin, money and quasi money have significant impact on the profitability of the banks. Results found that both factors country (external) specific and firm (internal) specific variables make changes in the commercial bank profits.
Mahmud et al. (2016)	The bank-specific factors affecting the profitability of commercial banks in Bangladesh: A panel data analysis.	Independent Variables: capital adequacy ratio, gearing ratio (risk), liquidity, non-performing loan ratio, operating expense ratio and bank size Dependent variable: ROA	In this study descriptive statistics and correlation analysis tools were used for the data analysis. Study period: 2003 to 2013	This study found that bank size, operating expense, gearing ratio and capital were found to be important variables that affect the bank profitability of Bangladesh. Capital shows positive relation to bank profitability but other three statistically significant variables showed negative relation to performance.
Javaid & Alalawi (2017)	Performance and profitability of Islamic banks in Saudi Arabia: An empirical analysis.	Independent Variables: loan to assets ratio, capital adequacy ratio, loan loss provision ratio, loan to deposit ratio, cash to assets ratio, operating expenses to deposit ratio, operating expenses to assets ratio, leverage ratio, GDP growth rate and inflation	This study used the unbalanced panel data and robust fixed effect model of regression. Study period: 2003 to 2013	It was found that size, the natural logarithm of the total assets has positive effect on profitability but the effect is not significant. Increased size presumed to confer benefits that can enhance profitability. The coefficient of the capital adequacy variable (CAR) is positive and highly significant, with both ROA and ROE reflecting the sound financial condition of Saudi banks.

		Dependent variable: ROA and ROE		
Hallunovi (2018).	Determinants of profitability in commercial banks in Albania.	Independent Variables: non-performing loan ratio and capital adequacy ratio, Dependent variable: ROA and ROE	In this study multiple regression analysis was used to measure the impact of the determinants of bank profitability. Study period: 2008 to 2015	This study found that there is positive relationship between capital adequacy and profitability in both the models (ROA/ROE), but with strong statistical significance only in the ROA. Total assets had a positive impact on profitability (ROA/ROE), with low coefficient of importance to ROA. Liquidity assets has a negative relationship with profitability in both ROA and ROE, but for the ROA was insignificant and for the ROE was statistically significant.
Neupane (2019)	Factors influencing profitability in Nepalese commercial banks.	Independent Variables: Capital adequacy ratio, size, credit to deposit ratio, operational expense to operational income, non-performing loan to total loan and non-interest income to total assets were used as bank-specific variable, GDP and inflation variable: ROA and NIM	The regression analysis has been employed in this study to examine the effect of the bank specific and macro-economic factor on profitability. Study period: 2011 to 2017	It was found that operational expense to operational income and non- interest income to total assets effect return on assets, credit to deposit ratio showed significant effects on net interest margin. However, size has shown significant effect on both ROA and NIM of Nepalese commercial banks. Furthermore, ROA is positively influenced by CD which means that increase in credit and deposit flow leads to increase in profitability.
Neupane (2020)	Profitability determinants of Nepalese commercial banks.	Independent Variables: bank size, capital adequacy, loans, deposits, off-balance sheet activities, number of branches, bank	This study also adopted a panel data regression model (Fixed Effect Model and Random Effect Model) to investigate the data.	It was found that the bank profitability measured by ROA of Nepalese commercial banks is significantly affected by concentration ratio, banking sector development, GDP growth, inflation and exchange rate significantly in opposite direction. NIM is

		concentration ratio, banking sector development, real GDP, inflation rate and exchange rate Dependent variable: ROA and NIM	Study period: 2011 to 2017	significantly affected only by capital adequacy, absolute number of branches and inflation rate. The study revealed that capital adequacy and deposit of the bank have negative effect on ROA of the banks.
Budathoki & Rai (2020)	Effect of specific factors on bank profitability: Evidence from Nepalese banks.	Independent Variables: capital adequacy ratio, loan loss provision ratio, cost income ratio and non-interest income ratio Dependent variable: ROA	This study employs ordinary least squares regression models to gauge the relationship between response and predictor variables. Study period: 2002/03 to 2016/17	It was found that the independent variables such as assets quality, operating efficiency and capital adequacy ratio have significant negative effect on bank profitability. The results of this study help the bankers and policymakers to take effective action in order to improve banks' profitability.
Kosumi & Kosumi (2021)	Banks specific factor that determinate the profitability of commercial banks in republic of North Macedonia.	Independent Variables: capital adequacy, bank size, credit risk, revenue diversification, liquidity and leverage Dependent variable: ROA	In this study descriptive statistics and correlation analysis were employed. Study period: 2012 to 2018	The study found that commercial banks profitability has been driven mainly by banks liquidity and bank size, since liquidity and bank size has significant positive effect on profitability was found in this study. On the other hand, this study also found that there was an inverse relationship between the capital adequacy, credit risk and leverage and ROA of the banks.
Chaudhary et al. (2021)	Practice of profitability and liquidity of Nepalese joint venture banks: a comparative study.	Independent Variables: deposit and cash balance Dependent variable: net profit	In this study descriptive as well as inferential research design was used to get the result of sated objectives. Study period: 2012/13 to 2019/20	It was found that there is high degree positive correlation between total deposit and cash and bank balance of EBL and HBL which were significant. There is also significant positive relation between net profit and total deposit of EBL and HBL during the study period. The average cash and bank balance to total deposit ratio of EBL were

				higher than that of HBL. This shows the ability of withdrawal of funds immediately by their depositors and their even better ability to cover their deposits.
Atabaeva et al. (2022)	The liquidity ratios and profitability of the Kyrgyz banking system.	Independent Variables: liquidity, loan volume, net interest margin, deposit volume and exchange rate Dependent variable: ROA and ROE	This study used Vector Auto Regression approach and Augmented Dickey-Fuller test methods. Study period: 2001 to 2019	The study showed a negative correlation between liquidity and the economic development of Kyrgyzstan. The high rate of the Kyrgyz banking system's liquidity ratio does not positively impact economic growth. Besides this, no significant relation among liquidity ratio and deposit volume was observed for Kyrgyzstan.
Selvaraj & Devi (2022)	Credit risk management and performances of banks in India: the CAMELS rating model.	Independent Variables: capital adequacy, assets quality, management efficiency, earning ability, liquidity and sensitivity Dependent variable: ROE	A standard multiple regression was used to ascertain the relationship between the CAMELS components and performance measure (ROE). Study period: 2011 to 2020	This study found that earning stood out as a highly significant factor that affects the performance of banks in India a percentage change in earning will leads to a 61.9% increment in the bank performance measured by the ROE. Capital Adequacy, Asset quality, Liquidity was found to be a significant effect on the performance of Indian banks. On the other hand, Management efficiency and Sensitivity were insignificant that affect the performance of the banks in India.
Naji & Shabib-Ul-Hassan (2023)	Credit risk management and its impact on the performance of commercial banks in pakistan.	Independent Variables: loan to deposit ratio, non-performing loan ratio, loan loss provision ratio, capital adequacy ratio Dependent variable: ROE	In this study granger causality and impulse response were been identified and analyzed including regressiomn model. Study period: 2012 to 2021	It was found that loan to deposit ratio showed the significant negative effect on ROE of the banks. Similarly, non-performing loan ratio has significant negative effect on ROE of the banks. On the other hand, coefficients of loan loss provision ratio and capital adequacy ratio showed positive effect on ROE of the banks the coefficients were not significant.

Sah & Pradhan (2023)	Impact of financial ratios, operational efficiency and non-performing loan on the profitability of Nepalese commercial banks.	Independent Variables: net interest margin, liquid assets to total assets ratio, total debt to total assets ratio, Capital adequacy ratio, operating expenses to operating income ratio, non-performing loan ratio Dependent variable: ROE	Correlation coefficients and regression models were computed to analyze the data. Study period: 2015/16 to 2020/21	It was found that leverage have a negative impact on return on assets. In a similar vein, return on equity and return on assets both benefited from the liquidity ratio. Similarly, return on equity and return on assets were positively impacted by net interest margin. Moreover, return on assets was positively impacted by the capital adequacy ratio.
KC & Acharya (2023)	Bank specific determinants of commercial bank's profitability in Nepal.	Independent Variables: capital adequacy ratio, asset quality, bank liquidity, bank size, interest spread, and deposit growth. Dependent variable: ROA	Panel data regression analysis was utilized along with descriptive and causal comparative study approaches. Study period: 2011/12 to 2020/21	It was found interest spread and the capital adequacy ratio significantly and favorably affect ROA. On the other hand, ROA is significantly and negatively impacted by deposit growth. The study did not, however, discover a meaningful correlation between ROA, bank size, asset quality, and liquidity.
Kunjeda (2024)	Impact of Capital Adequacy on Profitability of Commercial Banks in Nepal.	Independent Variables: core capital ratio, supplemental capital ratio and capital adequacy ratio. Dependent variable: ROE, ROA, and NPM	Descriptive and causal comparative research designs were used in this study's data analysis. Study period: 2068/69 to 2077/78	It was discovered that there was a very weakly positive link between the capital adequacy indicators and ROE, and a weakly positive association between the variables and NPM. Nonetheless, there was only a slight negative association between the capital adequacy measures and ROA. The results of the regression analysis are insignificant, suggesting that capital adequacy has no discernible effect on profitability.
Gazi et al. (2024)	Bank-specific and macroeconomic	Independent Variables: capital	For the purpose of this study's data analysis, linear	The study revealed a significant correlation between the profitability of

	determinants of profitability of Islamic Shariah-based banks: evidence from new economic horizon using panel data	adequacy, asset management quality, operational efficiency, credit risk, bank size, economic growth, inflation rate and interest rate spread Dependent variable: ROA and ROE	regression models with fixed effects, random effects, and pooled ordinary least squares (OLS) were used. Study period: 2010 to 2022	Islamic banks in Bangladesh that adhere to Shariah, and the quality of asset management, liquidity, and credit risk. On the other hand, the profitability of the bank was adversely connected with capital sufficiency, operational effectiveness, and bank size. However, GDP growth had no appreciable impact on the sample banks' profitability in Bangladesh.

2.3 Research Gap

Previous studies on the profitability analysis of various banks were conducted by a variety of specialists, researchers, and students. However, the results of earlier research are constrained by the narrow conclusions, thorough testing, and essential variable adjustments. A new, validating research study was necessary because the previous studies' research was limited. Studies on the bank-specific profitability factor of commercial banks were conducted across varying time periods; the data from the five years covered by the preceding studies is covered by the data from the ten years by this study. It became imperative to conduct fresh research on the analysis of profitability in recent times. In order to fill this gap, a fresh investigation was needed to assess the profitability of the sample commercial banks in terms of bank-specific criteria. This study differs significantly in that it uses multiple regression analysis to analyze the effects of bank size, capital adequacy ratio, operational expense ratio, liquidity ratio, and non-performing loan ratio on bank profitability. This analysis provides a clear picture of how bank-specific factors affect commercial banks' profitability.

CHAPTER-III
RESEARCH METHODOLOGY

Research methodology outlines the approach, protocols, and strategies employed in carrying out research. It is a roadmap for reaching the objective. More correct conclusions and discoveries are produced by appropriate and sufficient methods, which eventually aids in suggesting workable solutions to their search issues.

3.1 Research Design

The research is designed as per objectives of the study. To fulfill the objectives of the study certain research design is essential. To achieve the specific objective of the study, causal research has been carried out to analyze the effect of determinants on profitability. Descriptive research design is adopted for summarization of data collected and for the comparative analysis whereas casual research design is followed to analyze the impact of bank specific factors on profitability of Nepalese commercial banks.

3.2 Population and Sample

There are 20 commercial banks operating in Nepal, which are assumed to be the population of the study but it is not possible to study all of these commercial banks within this study. So, taking the total number of commercial banks as population of the study, only six joint venture commercial banks SCNBL, NABIL, NMB, EBL, SBI and HBL has been taken as sample. While selecting the sample for the study banks are selected using random sampling method using cluster sampling technique. The 20 commercial banks are shorted by the ownership of the banks and the banks having joint venture ownership are selected as sample for the study.

3.3 Sources of Data

Data is very reliable and effective source for research. This study mainly depends on the use of secondary data. In this study banks specific secondary data are collected from the published annual reports of the sample banks. Besides this the related data for the analysis also collected from previous reports and articles. This study covers ten-year data of the sample banks from 2013/14 to 2022/23.

3.4 Research Framework and Definition of Variables

Based on the review of the literature, to examine the relationship between the dependent variable i.e. ROA and ROE and independent variables i.e. bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio the following multiple conceptual framework has been assumed, this framework has been used in this study taking the reference from the previous studies. This Research framework is presented as;

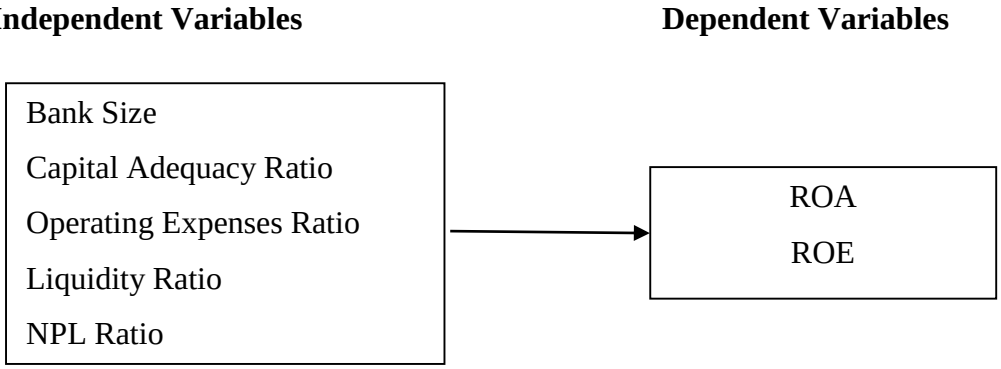

Figure 1: Research Framework

Source: Mahmud et al. (2016), Neupane (2019) and Kosumi and Kosumi (2021)

Definition of Variables

- **Size**

The natural logarithm of total assets is used in this study to calculate the bank's size. Bank size is a measure of how well-positioned larger businesses are to take advantage of economies of scale in transactions and generate higher levels of profit than smaller businesses (Kosumi & Kosumi, 2021).

- **Capital Adequacy Ratio**

This is the formula utilized to describe the capital being held versus what's known as total risk-weighted assets (RWAs) (Almazari & Alamri, 2017). The acceptable amount of Total capital adequacy held by a bank is at least 8.5%. It is calculated as;

$$\text{Total Capital Adequacy Ratio} = \frac{\text{Total Capital}}{\text{Risk Weighted Assets}}$$

- **Operating Expenses Ratio**

The ratio of operational costs to assets is the monetary component of average operating costs on total assets. This is done to show how well assets are distributed to customers (Poudel, 2012). Cost to assets ratio can be calculated as:

$$\text{Operating Cost to Assets Ratio} = \frac{\text{Total Operating Cost}}{\text{Total Assets}}$$

- **Liquidity Ratio**

This ratio helps to reduce the danger of a bank failure by measuring the bank's liquidity ratio between cash and bank balance and total deposit of the banks. The bank may not be able to pay its depositors and fund its regular payments if it has insufficient cash and bank balance (Kosumi & Kosumi, 2021). Liquidity ratio of the bank is calculated as;

$$\text{Liquidity Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

- **Non-performing Loan Ratio**

The non-performing loan in the entire loan and advance portfolio are identified by this ratio. A higher ratio suggests that the bank's asset quality is below par. Therefore, it is better to have a lower percentage of non-performing assets to loans and advances. Up to 5% of the entire loan and advance amount is available as NPL (Islam & Nishiyama, 2016). If it exceeds 5% Nepal Rastra Bank forced to apply reformative measures.

$$\text{NPL to Total Loans and Advances Ratio} = \frac{\text{Non-performing Loan}}{\text{Loan and Advance}}$$

- **Return on Assets**

One of the main measures of managerial effectiveness is the ratio. It shows how effectively the bank used its resources. The ratio calculates the extent to which the bank's management has used all of its resources to generate profits. Greater ROA is a sign of more effective use of all available assets, and vice versa (Islam et al., 2020).

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

- **Return on Equity**

The owner's claim of a bank is referred to as equity. Shareholder's equity is the excess of total assets over external liabilities. This ratio gauges how carefully management has used shareholder funds while upholding investors' interests and optimizing their net worth. It measures the rate of return that the bank's stockholders can obtain. The ratio helps the business generate a strong return on equity (Mahmud et al., 2016). This ratio is calculated by dividing net profit by total equity capital.

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

3.5 Methods of Analysis

The study is completed using a variety of financial and statistical approaches, including regression, correlation, and descriptive analysis to examine the effects of independent factors on bank profitability. Tools used in this study are;

Descriptive Statistics

Numerical summaries and descriptions of data are known as descriptive statistics. The information gathered from an experiment, survey, historical record, etc. is referred to as "data". The following list contains statistical tools that were utilized in this study to more precisely analyze the data.

- **Arithmetic Mean**

The best value that represents the group as a whole is the arithmetic mean, which is the arithmetic average of a variable. In this study, it is utilized to determine the mean of the profitability and financial ratios. Mean is calculated as:

$$\text{Mean } (\bar{X}) = \frac{\Sigma X}{n}$$

Where,

ΣX = Sum of given Observation

n = No. of Observation

- **Standard Deviation**

The standard deviation is an absolute measure of dispersion that satisfies most of the requirements for a good measure of dispersion, but it has a drawback compared to other measures. Increased standard deviation Variability will increase and vice versa. The amount that the data deviate from the central value is measured by dispersion. To put it another way, it is useful to examine the data's quality in terms of variance (Yadav et al., 2010). It is used to find out standard deviation of all the financial ratios and profitability ratios calculated. It is calculated as:

$$\text{Standard Deviation (SD)} = \sqrt{\frac{\Sigma(X - \bar{X})^2}{n}}$$

Relationship Analysis

- **Correlation Analysis**

The relationship between an independent variable and another independent variable is known as the correlation coefficient. It is a technique for ascertaining how these two variables are related to one another. A variable is said to have a correlation coefficient if the two are so related that changes in one variable's value are caused by changes in the value of another.

$$\text{Correlation Coefficient (r)} = \frac{n\Sigma XY - \Sigma X \Sigma Y}{\sqrt{n\Sigma X^2 - (\Sigma X)^2}\sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}$$

Where,

X & Y = Variables i.e. bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio in ROA and ROE of the banks

- **t- Statistics**

For this study, t-test for significance of an observed and sample correlation coefficient between profitability and the determining factors in this study. The t-distribution analysis consists of;

Null hypothesis (H_0); $\rho = 0$ i.e. The correlation between the variables are not significant in the population.

Alternative Hypothesis (H_1); $\rho \neq 0$ i.e. The correlation between the variables are significant in the population.

Test statistic under H_0;

$$t = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

Where,

r = Sample correlation between two variables

r^2 = Coefficient Determination

n = No. observations

Level of significance: Level of significance $\propto = 5\%$

Decision: If p-value for the calculated correlation coefficient is less than the significance level the null hypothesis is rejected concluding the coefficient is significant in the population and if p-value for the calculated correlation coefficient is greater than the significance level null hypothesis is accepted concluding that the coefficient is not significant in the population.

- **Regression Analysis**

Using regression analysis tools, the bank analysis of specific profitability variables in this study attempted to examine the profitability factors in commercial banks and their impact on profitability. The profitability of the banks is examined in this study through the analysis of ROA and ROE, while the main research variables are bank-specific parameters such as bank size, capital adequacy ratio, operational expenses ratio, liquidity ratio, and non-performing loan (NPL) ratio. This study examines the following regression equation to determine how independent variables affect dependent variables.

The models:

$ROA = \beta_0 + \beta_1 SIZE + \beta_2 CAR + \beta_3 OER + \beta_4 LIR + \beta_5 NPLR + e$

$ROE = \beta_0 + \beta_1 SIZE + \beta_2 CAR + \beta_3 OER + \beta_4 LIR + \beta_5 NPLR + e$

Where,

ROA = Return on Assets

ROE = Return on Equity

β_0 = Beta coefficient of the regression equation

β_1 = Beta coefficient for SIZE

β_2 = Beta coefficient for Capital Adequacy ratio

β_3 = Beta coefficient for Operating Expenses Ratio

β_4 = Beta coefficient for Liquidity Ratio

β_5 = Beta coefficient for Non-performing Loan Ratio

SIZE = Logarithm of Total Assets

CAR = Capital Adequacy Ratio

OER = Operating Expenses Ratio

LIR = Liquidity Ratio

NPLR = Non-performing Loan Ratio

e = Residual term of the regression equation

CHAPTER-IV
RESULT AND DISCUSSION

The purpose of this chapter is to analyze the collected data to achieve the objective of the study. In this chapter of results of the data analysis through financial as well as statistical tools and the discussion of the results are presented.

4.1 Results

The results section of the study tries to reveal the profitability position of the sample banks and the bank specific factors affecting of profitability of the banks here under.

4.1.1 Descriptive Summary of the Variables

The descriptive summary of variables of SCNBL, NABIL, NMB, EBL, SBI and HBL during the study period such as, bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio, NPL ratio, return on assets and return on equity are analyzed in this part of the study.

Table 2
Descriptive Summary of Variables

Variables	ROA	ROE	SIZE	CAR	OER	LIR	NPLR
Mean	1.65	16.06	5.10	10.74	3.58	13.37	1.01
Maximum	2.66	33.10	5.68	16.76	8.16	37.52	5.03
Minimum	0.47	4.65	4.48	5.43	1.07	3.05	0.10
Std. Dev.	0.49	5.98	0.24	2.34	2.15	8.62	1.00
Observations	60	60	60	60	60	60	60

Source: Appendix- II

Table 2 shows that the descriptive summary of the variables of the study i.e. return on assets, return on equity, bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio of the sample banks. The observation for the study is 60 for each variable since six sample banks and 10 years' data are arranged in the panel data set.

The average return on assets over the study period is 1.65 percent, with maximum of 2.66 percent and minimum of 0.47 percent during the study period. The return on assets shows that the banks are managing the assets properly in the earning activities. There is 0.49 percent standard deviation in the ROA, which means that ROA of the banks fluctuated by 0.49 percent from the average ROA.

The average return on equity over the study period is 16.06 percent, with maximum of 33.10 percent and minimum of 4.65 percent during the study period. The return on equity shows that the equity holders of the banks earn more than 15 percent. There is 5.98 percent standard deviation in the ROE, which means that there is high fluctuation in ROE of the banks.

There is on average logged value of total assets is 5.10 point in the sample banks during the study period with maximum of 5.68 point and minimum of 4.48 point. The standard deviation in the total assets of the sample banks is 0.24, which shows the variance of total assets from the average total assets over the study period and there is quite consistent assets pattern during the study period.

The average capital adequacy ratio over the study period is 10.74 percent, with maximum of 16.76 percent and minimum of 5.43 percent during the study period. The average capital adequacy ratio shows that the banks have maintained the capital requirement as per the NRB guidelines. There is 2.34 percent standard deviation in the capital adequacy ratio, which means that capital adequacy ratio of the banks fluctuated by 2.34 percent from the average of the capital adequacy ratio.

The average operating expenses ratio over the study period is 3.58 percent, with maximum of 8.16 percent and minimum of 1.07 percent during the study period. The operating expenses ratio shows that the banks on average spend 3.58 percent of total assets for the regular operating activities during the study period. There is 2.15 percent standard deviation in the operating expenses ratio, which means that operating expenses ratio of the banks fluctuated by 2.15 percent from the average of the operating expenses ratio.

The average liquidity ratio over the study period is 13.37 percent, with maximum and minimum of 37.52 percent and 3.05 percent respectively. The liquidity ratio shows that the banks have maintained the liquidity requirement since there is more that 10 percent liquidity in hand which makes banks secured in term of short term liquidity crisis. There is 8.62 percent standard deviation in the liquidity ratio, which means that liquidity ratio of the banks fluctuated by 8.62 percent from the average of the liquidity ratio.

The average NPL ratio over the study period is 1.01 percent, with maximum of 5.03 percent and minimum of 0.10 percent during the study period. The NPL ratio shows that the banks are quite efficiently managing their loan and advances since there is less than 5 percent NPL ratio in the banks on average. There is 0.1.00 percent standard deviation in the NPL ratio, which means that NPL ratio of the banks fluctuated by 1.00 percent from the average of the NPL ratio.

4.1.2 Correlation Analysis

In this part of the analysis the relationship of ROA and ROE of SCNBL, NABIL, NMB, EBL, SBI and HBL with bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio are analyzed through Pearson's correlation coefficient and the results of correlation is calculated with the help of Eviews software.

Table 3
Correlation Matrix

Variables	ROA	ROE	SIZE	CAR	OER	LIR	NPLR
ROA	1						
ROE	0.708**	1					
SIZE	-0.388**	-0.487**	1				
CAR	0.174	-0.542**	0.229	1			
OER	-0.112	-0.093	0.292*	-0.053	1		
LIR	0.053	0.337**	-0.243	-0.391**	-0.356**	1	
NPLR	-0.338**	-0.121	0.381**	-0.192	-0.239	0.140	1

Source: Appendix- III

Note: * indicates significant at 5% & ** indicates significant at 1%

Table 3 highlights that the relationship analysis results between profitability i.e. ROA and ROE and the bank specific factors i.e. bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio of sample banks. The correlation coefficient of return on assets (ROA) with bank size (SIZE) is negative i.e. -0.388 which means that increasing total assets of the banks decreases the return on assets of the banks and the negative correlation between return on assets and banks size is significant at 1 percent level of significance.

Similarly, correlation coefficient of return on assets (ROA) with capital adequacy ratio (CAR) is positive i.e. 0.174 which means that increasing capital adequacy ratio of the banks increases the return on assets of the banks and the positive correlation between return on assets and capital adequacy ratio is not significant at 5 percent level of significance.

On the other hand, correlation coefficient of return on assets (ROA) with operating expenses ratio (OER) is negative i.e. 0.112 which means that increasing operating expenses ratio of the banks decreases the return on assets of the banks and the negative correlation between return on assets and operating expenses ratio is not significant at 5 percent level of significance.

Likewise, correlation coefficient of return on assets (ROA) with liquidity ratio (LIR) is positive i.e. 0.053 which means that increasing liquidity ratio of the banks increases the return on assets of the banks and the positive correlation between return on assets and liquidity ratio is not significant at 5 percent level of significance.

In contrast, correlation coefficient of return on assets (ROA) with NPL ratio (NPLR) is negative i.e. -0.338 which means that increasing NPL ratio of the banks decreases the return on assets of the banks and the negative correlation between return on assets and NPL ratio is significant at 1 percent level of significance.

Table 2 also shows that the correlation coefficient of return on equity (ROE) with bank size (SIZE) is negative i.e. -0.487 which means that increasing total assets of the banks decreases the return on equity of the banks and the negative correlation between return on equity and banks size is significant at 1 percent level of significance.

Similarly, correlation coefficient of return on equity (ROE) with capital adequacy ratio (CAR) is negative i.e. -0.542 which means that increasing capital adequacy ratio of the banks decreases the return on equity of the banks and the negative correlation between return on equity and capital adequacy ratio is significant at 1 percent level of significance.

On the other hand, correlation coefficient of return on equity (ROE) with operating expenses ratio (OER) is negative i.e. -0.093 which means that increasing operating expenses ratio of the banks decreases the return on equity of the banks and the negative correlation between return on equity and operating expenses ratio is not significant at 5 percent level of significance.

Likewise, correlation coefficient of return on equity (ROE) with liquidity ratio (LIR) is positive i.e. 0.337 which means that increasing liquidity ratio of the banks increases the return on equity of the banks and the positive correlation between return on equity and liquidity ratio is significant at 1 percent level of significance.

In contrast, correlation coefficient of return on equity (ROE) with NPL ratio (NPLR) is negative i.e. -0.121 which means that increasing NPL ratio of the banks decreases the return on equity of the banks and the negative correlation between return on equity and NPL ratio is not significant at 5 percent level of significance.

4.1.3 Regression Analysis

The regression analysis in this part tries to find out the impact of bank size, capital adequacy ratio, operating expenses ratio, liquidity ratio and NPL ratio into the ROA and ROE of the sample banks. For this analysis the total deposit and loan and advance of SCNBL, NABIL, NMB, EBL, SBI and HBL is arranged in a panel data set and the model is run Eviews software. In this study ordinary expected generalized least square regression analysis model is used for the analysis.

Table 4
Effect of Bank Specific Factors on ROA

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	3.878**	0.904	4.291	0.002
SIZE	-0.599*	0.187	-3.207	0.011
CAR	0.065*	0.025	2.591	0.029
OER	-0.001	0.024	-0.036	0.972
LIR	0.012*	0.005	2.589	0.029
NPLR	-0.119	0.054	-2.195	0.056
R-squared	0.326			
F-statistic	5.214**			
Prob(F-statistic)	0.001			

Source: Appendix- IV
Note: * indicates significant at 5% & ** indicates significant at 1%

Table 4 presents the regression analysis result for the dependent variable ROA and independent variables bank size (SIZE), capital adequacy ratio (CAR), operating expenses ratio (OER), liquidity ratio (LIR) and NPL ratio (NPLR) of sample banks. The table present the R-squared value of 0.326, which shows that 32.60 percent variation in ROA is explained by independent variables i.e. SIZE, CAR, OER, LIR and NPLR of the banks during the study period. Similarly, the F-statistics and p-value of F-statistics are 5.214 and 0.001 respectively which means that the effect of independent variables on ROA is significant since p-value is less than 1 percent.

The coefficients of bank size (SIZE) is -0.599 which shows significant negative effect of bank size ratio in ROA of the banks at 5 percent level of significance since the p-value for the coefficient i.e. 0.011 less than 5 percent level of significance. This result shows that 1 percent increase in bank size influence to decrease ROA by 0.599 percent.

Similarly, the regression coefficients of capital adequacy ratio (CAR) is 0.065 which shows significant positive effect of capital adequacy ratio in ROA of the banks since the p-value for the coefficient i.e. 0.029 less than 5 percent level of significance. This result shows that 1 percent increase in capital adequacy ratio influence to increases ROA by 0.065 percent.

Likewise, the coefficients of operating expenses ratio (OER) is -0.001 which shows no significant negative effect of operating expenses ratio in ROA of the banks since the p-value for the coefficient i.e. 0.972 higher than 5 percent level of significance. This result shows that 1 percent increase in operating expenses ratio influence to decrease ROA by 0.001 percent.

Similarly, the coefficients of liquidity ratio (LIR) is 0.012 which shows significant positive effect of liquidity ratio in ROA of the banks since the p-value for the coefficient i.e. 0.029 less than 5 percent level of significance. This result shows that 1 percent increase in liquidity ratio influence to increase ROA by 0.012 percent.

In contrast, the coefficients of NPL ratio (NPLR) is -0.119 which shows insignificant negative effect of NPL ratio in ROA of the banks since the p-value for the coefficient i.e. 0.056 higher than 5 percent level of significance. This result shows that 1 percent increase in NPL ratio influence to decrease ROA by 0.119 percent.

Table 5
Effect of Bank Specific Factors on ROE

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	57.736**	9.895	5.835	0.000
SIZE	-7.043*	2.193	-3.212	0.011
CAR	-0.761*	0.253	-3.009	0.015
OER	-0.060	0.249	-0.241	0.815
LIR	0.182**	0.054	3.338	0.009
NPLR	-0.585	0.692	-0.845	0.420
R-squared	0.460			
F-statistic	9.200**			
Prob(F-statistic)	0.000			

Source: Appendix- IV
Note: * indicates significant at 5% & ** indicates significant at 1%

Table 5 shows the regression analysis result for the dependent variable ROE and independent variables bank size (SIZE), capital adequacy ratio (CAR), operating expenses ratio (OER), liquidity ratio (LIR) and NPL ratio (NPLR) of sample banks. The table present the R-squared value of 0.460, which shows that 46.00 percent variation in

ROE is explained by independent variables i.e. SIZE, CAR, OER, LIR and NPLR of the banks during the study period. Similarly, the F-statistics and p-value of F-statistics are 9.200 and 0.000 respectively which means that the effect of independent variables on ROE is significant since p-value is less than 1 percent.

The coefficients of bank size (SIZE) is -7.043 which shows significant negative effect of bank size ratio in ROE of the banks at 5 percent level of significance since the p-value for the coefficient i.e. 0.011 less than 5 percent level of significance. This result shows that 1 percent increase in bank size influence to decrease ROE by 7.043 percent.

Similarly, the regression coefficients of capital adequacy ratio (CAR) is -0.761 which shows significant negative effect of capital adequacy ratio in ROE of the banks since the p-value for the coefficient i.e. 0.015 less than 5 percent level of significance. This result shows that 1 percent increase in capital adequacy ratio influence to decreases ROE by 0.761 percent.

Likewise, the coefficients of operating expenses ratio (OER) is -0.060 which shows no significant negative effect of operating expenses ratio in ROE of the banks since the p-value for the coefficient i.e. 0.815 higher than 5 percent level of significance. This result shows that 1 percent increase in operating expenses ratio influence to decrease ROE by 0.060 percent.

Similarly, the coefficients of liquidity ratio (LIR) is 0.182 which shows significant positive effect of liquidity ratio in ROE of the banks since the p-value for the coefficient i.e. 0.009 less than 1 percent level of significance. This result shows that 1 percent increase in liquidity ratio influence to increase ROE by 0.182 percent.

In contrast, the coefficients of NPL ratio (NPLR) is -0.585 which shows no significant negative effect of NPL ratio in ROE of the banks since the p-value for the coefficient i.e. 0.420 less than 5 percent level of significance. This result shows that 1 percent increase in NPL ratio influence to decrease ROE by 0.585 percent.

4.2 Discussions

The effect of banks specific factors on profitability of Nepalese commercial banks found that the correlation coefficient of return on assets (ROA) with bank size (SIZE) is negative i.e. -0.388 which means that increasing total assets of the banks decreases the return on assets of the banks and the negative correlation between return on assets and banks size is significant but the result is consistent with the finding of Javaid et al. (2011) who found negative relation of bank size with ROA but the result contradicts the finding of Budathoki and Rai (2020), who found the positive association between return on assets and bank size of the banks.

Similarly, correlation coefficient of return on assets (ROA) with capital adequacy ratio (CAR) is positive i.e. 0.174 which means that increasing capital adequacy ratio of the banks increases the return on assets of the banks and the positive correlation between return on assets and capital adequacy ratio is similar with the finding of Budathoki and Rai (2020) who revealed that capital adequacy ratio has positive relation with return on assets of the banks.

On the other hand, correlation coefficient of return on assets (ROA) with operating expenses ratio (OER) is negative i.e. -0.112 which means that increasing operating expenses ratio of the banks decreases the return on assets of the banks and the negative correlation between return on assets and operating expenses ratio is not significant but the result is consistent with the finding of Poudel (2012) who found negative relationship between return on assets and operating cost ratio of the banks.

Likewise, correlation coefficient of return on assets (ROA) with liquidity ratio (LIR) is positive i.e. 0.053 which means that increasing liquidity ratio of the banks increases the return on assets of the banks and the positive correlation between return on assets and liquidity ratio is not significant. The result is opposite with the finding of Shehzad et al. (2013) and Atabaeva et al. (2022) who found found the negative relation of retrn on assets and liquidity in their study.

In contrast, correlation coefficient of return on assets (ROA) with NPL ratio (NPLR) is negative i.e. -0.338 which means that increasing NPL ratio of the banks decreases the return on assets of the banks and the negative correlation between return on assets and

NPL ratio is significant. The result is in line with the finding of Mahmud et al. (2016) who found negative relation of return on assets with NPL ratio.

Likewise, the correlation coefficient of return on equity (ROE) with bank size (SIZE) is negative i.e. -0.487 which means that increasing total assets of the banks decreases the return on equity of the banks and the negative correlation between return on equity and banks size is significant and this result is similar with the finding of Neupane (2019) who found negative relation of bank size with return on equity of the banks.

Similarly, correlation coefficient of return on equity (ROE) with capital adequacy ratio (CAR) is negative i.e. -0.542 which means that increasing capital adequacy ratio of the banks decreases the return on equity of the banks and the negative correlation between return on equity and capital adequacy ratio is significant but the result is opposite with the finding of Javaid and Alalawi (2017) who revealed the positive association between capital adequacy and return on equity of the banks.

On the other hand, correlation coefficient of return on equity (ROE) with operating expenses ratio (OER) is negative i.e. -0.093 which means that increasing operating expenses ratio of the banks decreases the return on equity of the banks and the negative correlation between return on equity and operating expenses ratio is significant and the result is in line with the finding of Poudel (2012) who found negative relationship between return on assets and operating cost ratio of the banks.

Likewise, correlation coefficient of return on equity (ROE) with liquidity ratio (LIR) is positive i.e. 0.337 which means that increasing liquidity ratio of the banks increases the return on equity of the banks and the positive correlation between return on equity and liquidity ratio is significant and the result is consistent with the findings of Neupane (2019) and Javaid and Alalawi (2017) who found that there was positive relation between liquidity and return on equity of the banks. But the results is opposite with the finding of and Atabaeva et al. (2022) who found negative relation return on equirt with liquidity ratio of the banks.

In contrast, correlation coefficient of return on equity (ROE) with NPL ratio (NPLR) is negative i.e. -0.121 which means that increasing NPL ratio of the banks decreases the

return on equity of the banks and the negative correlation between return on equity and NPL ratio is not significant and the result is not consistent with the finding of Javaid et al. (2011) who found the positive association between return on equity and NPL ratio of the banks.

The regression analysis found that the coefficients of bank size (SIZE) is -0.599 which shows significant negative effect of bank size ratio in ROA of the banks at 5 percent level of significance but the result is opposite with the findings of Shehzad et al. (2013), Neupane (2020), Islam and Nishiyama (2016) and Kosumi and Kosumi (2021) who found the positive effect of assets of the banks on return on assets of the banks.

Similarly, the regression coefficients of capital adequacy ratio (CAR) is 0.065 which shows significant positive effect of capital adequacy ratio in ROA of the banks and this is consistent with the findings of Mahmud et al. (2016), Kamande et al. (2016) and Javaid and Alalawi (2017) and contradict with the findings of Neupane (2020), Budathoki and Rai (2020) and KC and Acharya (2023) who found negative effect of capital adequacy ratio on return on assets of the banks. Since, higher level of capital provides adequate safeguard against potential bank failure which in turn reduces the risk and it provides a positive signal about market value and enhance financial performance of the banks.

Likewise, the coefficients of operating expenses ratio (OER) is -0.001 which shows no significant negative effect of operating expenses ratio in ROA of the banks but the result is consistent with the result obtained by Poudel (2012) who found negative effect of operating cost ratio on return on assets of the banks.

Similarly, the coefficients of liquidity ratio (LIR) is 0.012 which shows significant positive effect of liquidity ratio in ROA of the banks and the results in in line with the findings of Mahmud et al. (2016), Kamande et al. (2016), Kosumi and Kosumi (2021) and Sah and Pradhan (2023) who found that liquidity ratio has positive effect on return on assets of the banks. But Shehzad et al. (2013) and Islam and Nishiyama (2016) found negative effect of liquidity ratio on return on assets of the banks.

In contrast, the coefficients of NPL ratio (NPLR) is -0.119 which shows insignificant negative effect of NPL ratio in ROA of the banks and the result is consistent with the

finding of Mahmud et al. (2016) and Islam and Nishiyama (2016) statisng that NPL ratio has negative effect on return on assets of the bansk. Since NPL ratio increases with the increment is loan ratio and increasing interest rate in loan and advances of the banks increases the profitability which increases return on assets of the banks.

Likewise, another regression analysis found that the coefficients of bank size (SIZE) is -7.043 which shows significant negative effect of bank size ratio in ROE of the banks but the result is not consistent with the findings of Javaid and Alalawi (2017), Islam and Nishiyama (2016) and Shehzad et al. (2013) who found that increase in bank size influence to increase return on equity of the banks.

Similarly, the regression coefficients of capital adequacy ratio (CAR) is -0.761 which shows significant negative effect of capital adequacy ratio in ROE of the banks but the result is not consistent with the finding of Javaid and Alalawi (2017) and Naji and Shabib-Ul-Hassan (2023) who found that increase in capital adequacy influence to increases return on equity of the banks.

Likewise, the coefficients of operating expenses ratio (OER) is -0.060 which shows no significant negative effect of operating expenses ratio in ROE of the banks but the result is in line with the finding of Poudel (2012) and Sah and Pradhan (2023) who found negative effect of operating cost ratio on profitability of the banks.

Similarly, the coefficients of liquidity ratio (LIR) is 0.182 which shows significant positive effect of liquidity ratio in ROE of the banks but the result is consistent with the finding of Sah and Pradhan (2023) who found positive effect of liquidity ratio on return on equity of the banks but the result is not consistent with the finding of Islam and Nishiyama (2016) and Shehzad et al. (2013) who found that increase in liquidity ratio influence to decrease return on equity of the banks.

In contrast, the coefficients of NPL ratio (NPLR) is -0.585 which shows no significant negative effect of NPL ratio in ROE of the banks and the result is opposite with the finding of Islam and Nishiyama (2016) who showed that increase in NPL ratio influence to increase return on equity of the banks because NPLR increases loan ratio and increasing interest rate in loan and advances of the banks increases return on equity of

the banks. But the result is consistent with the findings of Sah and Pradhan (2023) and Naji and Shabib-Ul-Hassan (2023) who found negative effect of NPL ratio on return on equity of the banks.

CHAPTER-V
SUMMARY AND CONCLUSION

In this chapter, the summary of the study has been presented along with conclusions and actionable suggestions for the sample banks for the enhancement of profitability with the proper balance in the factors of the profitability analyzed in this study.

5.1 Summary

An economy controlled by banks has a greater role for the banking sector than one dominated by capital. Growth of Nepal's economy is largely dependent on the performance of the country's commercial banks. As a result, making money is necessary to endure throughout time. Financial development and economic growth are significantly influenced by bank profitability. But a few particular elements determine how profitable banks are. Analyzing the bank-specific components of Nepal's commercial banks' profitability is the primary goal of this study. This study also tries assess the profitability position of Nepalese commercial banks, examine the relationship of bank size, capital adequacy ratio, operating essences ratio, liquidity ratio and NPL ratio with ROA and ROE of Nepalese commercial banks and evaluate the effect of SIZE, CAR, OER, LIR and NPLR on profitability (ROA and ROE) of Nepalese commercial banks. The study is totally based on secondary sources of data collected from published annual reports of sample banks selected for this study and the study covers the data of sample banks from year 2013/14 to 2022/23.

Profitability analysis means the study of profit and ability which motivates the organization to achieve the objectives effectively and efficiently. It is one of the most important mechanisms for running business operations. The effective operation of a business concern resulting into the excess of income over the expenditure fully depends upon as to what extent the management follows proper study, effective coordination and dynamic control. There are 20 commercial banks have been operating in Nepal which are considered to be the population of the study and out of them six joint venture commercial banks i.e. SCNBL, NABIL, NMB, EBL, SBI and HBL have been taken as a sample of the study and the collected data have been analyzed by using descriptive statistics such as; mean, standard deviation, maximum and minimum values etc.

Similarly, the relationship among profitability and the factors affecting the profitability are analyzed through correlation and regression analysis tools and for this analysis data collected from the different sample banks are arranged in the panel data set and analyzed with the help of Eviews software.

The analysis found that there is quite satisfactory profitability in the commercial banks under the study in term of ROA whereas ROE of the banks have higher variance over the study period. The liquidity ratio of sample banks also has higher variance during the study period than other variables. The average return on assets over the study period is 1.65 percent, meaning that the banks are managing the assets properly in the earning activities. Similarly, average return on equity over the study period is 16.06 percent, showing that the equity holders of the banks earn more than 15 percent during the study period.

Similarly, there is quite consistent assets pattern during the study period. The average capital adequacy ratio over the study period is 10.74 percent, which shows that the banks have maintained the capital requirement as per the NRB guidelines. Likewise, the average operating expenses ratio over the study period shows that on average banks spend 3.58 percent of total assets for the regular operating activities. In contrast, the average liquidity ratio over the study period is 13.37 percent, meaning that the banks have maintained the liquidity requirement since there is more that 10 percent liquidity in hand which makes banks secured in term of short term liquidity crisis. However, the average NPL ratio over the study period is 1.01 percent, which shows that the banks are quite efficiently managing their loan and advances since there is less than 5 percent NPL ratio in the banks on average.

The relationship analysis found that bank size, operating expenses ratio and non-performing loan ratio have negative relation with profitability as return on assets of the banks and capital adequacy ratio and liquidity ratio have positive relation with return on assets of the banks. Another relationship analysis revealed that bank size, capital adequacy ratio, operating expenses ratio and non-performing loan ratio have negative relation with profitability as return on equity of the banks and liquidity ratio has positive relation with return on equity of the banks.

The analysis also found that there is significant positive effect of capital adequacy ratio and liquidity ratio on return on assets of the banks. The effect of bank size on return on assets is significant negative. On the other hand, operating expenses ratio and NPL ratio have no significant effect on return on assets of the banks. Likewise, there is significant positive effect of liquidity ratio on return on equity of the banks. However, there is significant negative effect of bank size and capital adequacy ratio of banks on return on equity of the banks. But operating expenses ratio and non-performing loan ratio have no significant effect of return on equity of the banks.

5.2 Conclusion

The purpose of this study is to examine the key bank specific factors of profitability of Nepalese commercial banks. In this study banks specific factors of profitability are analyzed in this study as bank size, capital adequacy ratio, operating essences ratio, liquidity ratio and NPL ratio and the profitability of the banks such as return on assets and return on equity. It is concluded that profitability of the banks as ROE and liquidity ratio of the banks during the study period have higher variances in comparison to other variables of the study.

The relationship analysis concludes that bank size, operating expenses ratio and non-performing loan ratio have negative relation with profitability as return on assets of the banks and capital adequacy ratio and liquidity ratio have positive relation with return on assets of the banks. Another relationship analysis revealed that bank size, capital adequacy ratio, operating expenses ratio and non-performing loan ratio have negative relation with profitability as return on equity of the banks and liquidity ratio has positive relation with return on equity of the banks.

The regression analysis concludes that capital adequacy ratio and liquidity ratio have significant positive effect on return on assets of the banks. The bank size has significant negative on return on assets of the banks. On the other hand, operating expenses ratio and NPL ratio have no significant effect on return on assets of the banks. Likewise, it is also concluded that there is significant positive effect of liquidity ratio on return on equity of the banks. However, there is significant negative effect of bank size and capital adequacy ratio of banks on return on equity of the banks. The operating expenses ratio and NPL ratio have no significant effect of return on equity of the banks. The

results of this study help the bankers and policy makers to take effective action in order to improve banks' profitability by managing these banks specific factors of the profitability.

5.3 Implications

The bank specific factor of profitability analysis in the study has various implications to different stakeholders.

- The management of the banks can look at the variables analyzed in this study and can get idea to maintain the level of these variables as the NRB guideline to get better financial performance. The management of liquidity ratio can help to get adequate liquidity in hand and utilize the fund in earning sector to increase profitability.
- Since NPL ratio usually decreases the earning of the banks, but the increasing NPL shows higher flow of loan and advance in the bank which increases the interest income and the profitability increases, so banks should focus on the granting loan and advance with the plan to recover in future.
- As this study include the variables like; capital adequacy ratio and liquidity ratio for the analysis the policy makers can get the information of the availability of liquidity and capital in the banks and can make required action toward this in future for better banking environment.
- This study clearly shows the significant factors affecting the profitability of the Nepalese commercial and the investors who are interested to invest in banking sectors can select the stronger banks to invest by reviewing the findings of this study.
- This study covers only five bank specific variables and ten sample banks into consideration, therefore, further research needs to be done by including macroeconomic variables and more samples to make comprehensive study.

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