# IMPACT OF FINANCIAL DISTRESS ON PROFITABILITY OF NEPALESE COMMERCIAL BANKS

Dissertation Submitted to the Office of the Dean, Faculty of Management in Partial Fulfillment of the Requirements for the Degree of Masters of Business Studies (MBS)

By

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# CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **Impact of Financial Distress 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 has it been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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Insha Koirala

July, 2024

## REPORT OF RESEARCH COMMITTEE

Mrs. Insha Koirala has defended research proposal entitled **Impact of Financial Distress on Profitability of Nepalese Commercial Banks** successfully. The research committee has registered the dissertation for further process. It is recommended to carry out the work as per suggestion and guidelines of supervisor Asso. Prof. Dr. Kapil Khanal and submit the dissertation for evaluation and viva-voce examination.

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## APPROVAL SHEET

We, the undersigned, have examined the thesis entitled **Impact of Financial Distress on Profitability of Nepalese Commercial Banks** presented by Mrs. Insha Koirala candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

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# ABBREVIATIONS

| | |
|---|---|
| ASF | Advanced Systems Format |
| ATMs | Automatic Teller machine |
| CAMEL | Capital Adequacy, Asset Quality, Management, Earnings, Liquidity |
| CAR | Capital Adequacy Ratio |
| CCD | Credit-to-Cash-plus-Deposit |
| EPS | Earnings per share |
| GIBL | Global IME Bank Ltd |
| IME | International Money transfer |
| LS-SVM | Least Squares Support Vector Machine |
| NIM | Net interest margin |
| NPL | Non-Performing Loan |
| NPLR | Non-performing loan ratio |
| OLS | Ordinal least squares regression |
| POS | Point of Sales |
| ROA | Return on Assets |
| ROCE | Return on Capital Employed |
| ROE | Return on Equity |
| SACCO | Savings and credit cooperative societies |
| SD | Standard Deviation |
| SPSS | Statistical Package for Social Science |
| TQC | Total Quality Control |
| UK | United Kingdom |
| US | United States |

# ABSTRACT

This dissertation aims to assess the Impact of Financial Distress on Profitability of Nepalese Commercial Banks. This study delves into the financial performance and stability of commercial banks in Nepal, recognizing their pivotal role in economic development as financial intermediaries. The research examines key financial variables such as liquidity, capital adequacy, leverage, and non-performing loans (NPL) and their influence on profitability metrics, specifically earnings per share (EPS) and return on assets (ROA).

To accomplish its objectives, this study employs a robust research methodology that combines descriptive research and causal comparative research. Data spanning from fiscal years 2012/13 to 2021/22, collected from 20 Nepalese commercial banks, is systematically analyzed. Among these, three specific banks (Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited) are selected to provide insights into varying degrees of financial distress. Descriptive statistics unveil the structure and patterns of financial variables within Nepalese commercial banks. The analysis covers EPS fluctuations, ROA variability, NPL management, capital adequacy, leverage, and credit-to-cash-plus-deposit ratios (CCD). The study emphasizes the importance of effective financial management and risk mitigation strategies for sustainable banking operations. Regression models are applied to delve deeper into the relationships between financial distress variables and profitability metrics. The findings confirm the positive impact of leverage and liquidity on EPS. Additionally, CCD is identified as the sole statistically significant variable positively influencing ROA in the specified model. This research enhances our comprehension of the financial performance and stability of Nepalese commercial banks during the five-year period from 2012/13 to 2021/22. It offers valuable insights into the diverse trajectories of EPS and ROA, NPL management, capital adequacy, and the influence of leverage, liquidity, and CCD.

Keywords: *Liquidity, Capital adequacy, leverage, Non-performing loans, Earnings per share (EPS, Return on assets (ROA) etc.*

# CHAPTER I
# INTRODUCTION

## 1.1 Background of the Study

A bank is an institution that mobilizes resources by gathering deposits from various sources and investing the accumulated funds in various sectors such as trade, commerce, and industry. Commercial banks have their own roles and contributions, serving as agents of economic development. Since banks must meet the liquidity needs of clients and depositors, they are expected to fulfill these obligations at any time Banks function as intermediaries in the economy by accepting financial deposits from individuals, businesses, financial institutions, and governments with excess savings. Subsequently, banks extend these deposits in the form of credit loans to individuals, financial institutions, investors, and governments seeking capital for various investment and expenditure purposes. Investment activities by banks are not without problems and risks since banks aim to maximize expected profits from their investments, necessitating the optimal utilization of available resources. Banks serve as financial intermediaries between depositors and borrowers, playing a vital role in the economic development of the country. The world's developed financial system typically comprises three main components: the central bank, commercial banks, and other financial institutions, collectively known as financial intermediaries.

The primary role of banks in the financial system is to provide liquidity through intermediation. Banks act as intermediaries between depositors and investors, offering illiquid loans to borrowers funded by liquid deposits from depositors. In fulfilling this role, banks convert short maturities into longer maturities to create funding liquidity for investors and promote efficient resource allocation in the system (Strahan, 2008). However, this exposes banks to maturity mismatch, potentially causing instability as they provide liquidity on demand to depositors through deposit transactions or to borrowers through committed credit lines (Drehmann and Nikolaou, 2009).

Financial distress is a pressing issue in markets worldwide. The concept of financial distress or corporate failure has gained prominence, especially in the United States of America (Boyer, 2000). Keasey et al. (2014) define financial distress as the likelihood of voluntary exit, which increases with higher debt levels and lower cash reserves,

resulting in the inability to meet various financial obligations for small and medium-sized enterprises in the United Kingdom. When a company signals financial distress, it poses problems not only for employees but also for shareholders, lenders, and other stakeholders. It significantly impacts job security for managers, employees, equity positions for stakeholders, and lender claims since their claims lack guarantees (Bum et al., 2008).

Bergman et al. (2012) reveal that financial distress factors play a crucial role in determining the financial distress status of any institution. Banks play a pivotal role in the economic development of every nation since they exert control over a significant portion of the circulating money supply, ensuring liquidity and the proper functioning of the financial system (Karim et al., 2013; Nasieku et al., 2014). According to Garlappiet (2011), when a company faces financial distress, operating conditions may deteriorate, financial burdens may become commonplace, wages may be renegotiated downward if the situation persists, and bankruptcy becomes a looming reality. Conversely, Wang (2014) suggests that companies can recover and experience resurgence by implementing appropriate management measures and effectively addressing financial distress factors.

Uncertainty represents the most critical factor that can disrupt everything. Corporate failure can have immense consequences, particularly for stakeholders in publicly held companies. Before a corporate failure, the financial status of the firm is often distressed (Madhushani and Kawshala, 2018). Financial distress is a significant threat to many firms globally, regardless of their size or nature. The term "financial distress" is used negatively to describe a company's financial situation when it faces temporary liquidity shortages and struggles to meet financial obligations on time and in full (Ghazali et al., 2015). According to Waweru and Kalani (2008), banks experience financial distress when they are technically insolvent or illiquid. Insolvency signifies that a business lacks sufficient assets to cover its liabilities, leading to a situation where a firm's operating cash flows are insufficient to meet current obligations, necessitating corrective action.

In the context of Nepal, Sthapit (2012) discovered that average liquidity ratios and profitability are significantly related. Pradhan et al. (2002) demonstrated that financial distress results in deteriorating productivity, profitability, and liquidity. According to Sharma (2016), the liquidity of Nepalese commercial banks is greatly affected by

non-performing loans, the capital adequacy ratio, the credit-to-deposit ratio, bank size, and the total deposits-to-total assets ratio. Sedhain (2012) concluded that capital adequacy has played a crucial role in establishing prudent norms to safeguard banks and financial institutions from financial crises and signals of failure.

The above discussion highlights studies related to the impact of financial distress on the profitability of Nepalese commercial banks. While various findings from different countries have been discussed, there is a scarcity of studies on financial distress in the context of Nepal's banking sector. Therefore, this study focuses on financial distress and its effects on the profitability of Nepalese commercial banks.

### 1.2 Problem Statement

The financial sector forms the core of a nation's economic development. The concept of financial difficulties is not unfamiliar within the banking industry. In the 1980s, some commercial banks experienced considerable turmoil due to financial challenges. More recently, between 2015 and 2016, Chase Bank, Dubai Bank, and Imperial Bank were placed under receivership due to financial stress. These statistics emphasize the need for a deeper examination of financial distress in commercial banks. The banking sector is expected to play a crucial role in achieving the goals of Vision 2030 by providing efficient financial services and investment opportunities, fostering a vibrant and globally competitive financial sector. The global competitiveness of financial services in the banking sector will only be realized if banks effectively manage financial distress (Bariviera et al., 2014).

Kamau (2011) and Mwega (2011) observed that the banking sector acts as the engine driving economic growth by efficiently allocating resources to productive entities in any economy, thereby enhancing global competitiveness. Nasieku (2014) revealed that banks serve as an efficient system and the primary source of liquidity in financial systems. However, despite this, over ten financial institutions have collapsed, been liquidated, or been placed under receivership. This suggests that, on average, one financial institution has faced such issues every year over the eleven-year period, which is a concerning trend.

Wanyonyi and Olweny (2013) indicated a positive correlation between ROA and ROE as measures of profitability for insurance firms and corporate governance factors. Similarly, Nazir (2010) suggested that banks' profitability could be assessed

using the CAMEL parameters, which include capital adequacy, asset quality, management capability, and earning analysis. Furthermore, CAMEL parameter ratios play a pivotal role in making decisions about banks' profitability since higher ratios exceeding the minimum requirements indicate a favorable trend in a bank's profitability.

According to Gebreslassie (2015) financially troubled insurance companies contribute to a contagion effect in the economy, negatively impacting the economic stability of other sectors in a country. Maintaining a desired level of profitability during a period of financial distress is a challenging task for companies aiming to attract global investments (Hina, 2015).

In the context of Nepal, Sedhain (2012) concluded that capital adequacy has been instrumental in developing appropriate prudential norms to safeguard banks and financial institutions from financial crises and signals of failure. Bariya et al. (2016) discovered that the impact of liquidity on profitability is mixed and inconsequential. This suggests that conclusions about the influence of liquidity remain uncertain, necessitating further research. Joint ventures exhibit high levels of liquidity. Baral (2005) noted that excessive liquidity was negatively affecting their financial well-being by deteriorating their profitability.

Financial crises can be challenging to assess in terms of banking performance since their impact varies from one bank to another. However, financial distress issues significantly affect the profitability of every banking organization in various ways. Therefore, this study addresses the following concerns:

i. What is the prevailing structure and pattern of leverage ratio, liquidity ratio, nonperforming loans, and capital adequacy ratio among Nepalese commercial banks?
ii. Is there a significant relationship between the leverage ratio, liquidity ratio, nonperforming loans, and capital adequacy ratio and the return on assets of Nepalese commercial banks?
iii. How do the leverage ratio, liquidity ratio, nonperforming loans, and capital adequacy ratio impact the earnings per share of Nepalese commercial banks?

### 1.3 Objectives of the Study

The major objective of this study is to analyze the impact of financial distress variables on profitability in Nepalese commercial banks whereas the specific objectives of this study are as follows:

i. To analyze the structure and pattern of leverage ratio, liquidity ratio, non performing loan and capital adequacy ratio of Nepalese commercial banks.
ii. To determine the relationship between leverage ratio, liquidity ratio, nonperforming loan and capital adequacy ratio with return on assets of Nepalese commercial banks.
iii. To examine the impact of leverage ratio, liquidity ratio, nonperforming loan and capital adequacy ratio on earnings per share of Nepalese commercial banks.

### 1.4 Rationale of the Study

The findings and significance of this study, on the other hand, have not only impacted the banking industry but have also benefitted many. From the regulators to the commercial banks, investors, and scholars worldwide, this study is essential. The major significance of this study to various people includes:

**For Bankers:**

i. Banking professionals can benefit from this study by understanding how the financial distress variables correlate with the profitability in the commercial banks in Nepal. This knowledge can provide critical information about the impacts that these variables may have on the business's bottom line.
ii. Bankers can then use this information to enhance the stability of the information when making critical decisions regarding management, lending, and capital distributions.

**For Further Researchers**

i. Possible future studies on financial distress and profitability in analysis can be conducted through various variables and interconnected sectors.
ii. I recommend more studies to establish whether the independent variables create enough impact on the dependent factors. .

**For Stakeholders**

i. Stakeholders, including shareholders and investors, gain valuable insights into the factors that affect the financial performance of Nepalese commercial banks. This knowledge enables them to make more informed investment decisions, assess risks, and set realistic expectations.
ii. Armed with a better understanding of how financial distress variables impact profitability, stakeholders can engage in constructive dialogues with banks, advocating for improved risk management and governance practices.

**For Investors**

i. Investors can use the study's findings to assess the performance and stability of Nepalese commercial banks as potential investment opportunities. They can consider the impact of financial distress variables when making investment decisions.
ii. This information allows investors to align their portfolios with their risk tolerance and financial goals, ultimately contributing to a more informed and resilient investment strategy.

**Regulators**

i. Regulatory authorities can benefit from the study's insights by using them to refine banking regulations and supervisory practices. They can develop more effective measures for monitoring and addressing financial distress in the banking sector.
ii. Improved regulatory oversight can contribute to enhanced financial stability and reduced systemic risk, aligning with the regulator's mandate to safeguard the integrity of the financial system.

This study's significance lies in its potential to inform and empower various stakeholders in the Nepalese banking industry. It facilitates better decision-making, fosters future research endeavors, supports investment choices, and aids in the formulation of more effective regulatory policies, ultimately contributing to the stability and resilience of the banking sector and the broader economy.

### 1.5 Limitations of the Study

Here are some of the limitations on this study:

i. Nepal has a total of 20 commercial banks in operation. However, this study focused exclusively on three specific commercial banks for its research purposes.

ii. This study solely relied on secondary data, which may have limited the breadth and flexibility of the study's results.

iii. The study's scope was restricted to utilizing data available in the annual reports of the selected sample banks and financial reports published by Nepal Rastra Bank.

iv. The study exclusively examined commercial banks and did not encompass other types of institutions, such as development banks, finance companies, insurance firms, or microfinance institutions.

# CHAPTER II
# LITERATURE REVIEW

This section categorized into empirical and theoretical literature concerning the examination of the influence of financial distress on the profitability of commercial banks. It also presents the theoretical framework of the study, divided into three segments. The first section provides a theoretical framework that offers an extensive review of related studies within the context of Nepal as well as in developed and emerging countries. The second section outlines the conceptual framework for the study. Lastly, the third section highlights the research gaps identified through the conceptual and empirical reviews.

## 2.1 Theoretical Review

Financial institutions' operators affirmed that a significant portion of distress in banks stems from bad loans and advances (Central Bank of Nigeria, 1990). In their assessment of factors contributing to distress, bad loans and advances were ranked as the primary issue, accounting for 19.5% of the problem.

In 1990, the Central Bank of Nigeria issued a circular on capital requirements that linked a bank's capital requirement to its risk-weighted assets. The circular directed banks to maintain a minimum of 7.25 percent of risk-weighted assets as capital, to hold at least 50% of the components of capital reserves, and to ensure that the ratio of capital to total risk-weighted assets remained at a minimum of 8 percent starting in January 1992.

Numerous previous studies have investigated financial distress and its connection to financial performance. While these studies have employed different models, they remain relevant to our research. Early studies focused on predicting bankruptcy using a single variable. Beaver (1966) demonstrated the effective prediction of bankruptcy using a single variable. Bathoray (1984) also conducted research confirming the effective prediction of bankruptcy using a single variable. Altman (1968) expanded upon this by utilizing a multivariate analysis and considering various important factors instead of relying on a single variable to predict bankruptcy or bank failures. Altman employed a multivariate framework, utilizing five different types of ratios for effective bankruptcy prediction.

**A. Net Income Theory**

The Net Income Theory suggests that financial distress can have a dual impact on profitability depending on the level of leverage. Initially, increasing leverage can lower the weighted average cost of capital (WACC), leading to higher profitability. This occurs because debt is typically a cheaper source of financing than equity, reducing overall financing costs and increasing earnings available to shareholders (net income). However, if leverage becomes excessive and leads to financial distress, profitability can decline sharply. Financial distress manifests as higher costs of debt due to increased risk premiums demanded by creditors. Additionally, equity investors may perceive higher financial risk, demanding higher returns, which further reduce net income available to shareholders. Ultimately, severe financial distress can impair profitability by diverting substantial portions of operating income towards debt servicing and increasing the cost of equity capital (Madhusani & Kawshala, 2018).

**B. Net Operating Income Theory**

The Net Operating Income Theory posits that changes in leverage do not affect operating income directly because operating income is derived from business operations and is independent of financing decisions. Therefore, financial distress resulting from leverage changes does not impact operating income in theory. However, in practice, severe financial distress can indirectly affect profitability by disrupting normal business operations. For example, if a firm faces liquidity challenges due to high debt levels, it may struggle to meet operating expenses or invest in growth opportunities. This operational disruption can lead to lower revenue generation and efficiency losses, ultimately reducing overall profitability despite operating income remaining unchanged (Isanzu, 2017).

**C. Traditional Theory**

The Traditional Theory integrates aspects of both the Net Income and Net Operating Income theories. It acknowledges that moderate levels of leverage can optimize WACC and enhance profitability by reducing the overall cost of capital. However, excessive leverage beyond a certain point can lead to financial distress, which adversely affects profitability. Initially, as leverage increases, the cost of capital decreases, boosting profitability. Yet, if leverage becomes excessive, the cost of debt may rise sharply due to increased risk premiums, and equity holders may demand

higher returns due to heightened financial risk. These higher financing costs reduce net income and overall profitability, undermining the initial benefits of leverage optimization (Vinh, 2017).

**D. Optimal Capital Structure Theory**

The Optimal Capital Structure Theory focuses on identifying a balance of debt and equity that maximizes firm value and profitability. Financial distress disrupts this optimal balance by increasing the cost of capital and reducing profitability. Initially, moderate levels of debt can reduce WACC and enhance profitability by leveraging cheaper debt financing. However, excessive debt increases financial risk and can lead to higher costs of debt and equity financing. Financial distress increases interest expenses and required returns on equity, reducing net income available to shareholders and limiting the firm's ability to invest in growth opportunities. Effective management of capital structure is crucial to mitigating the adverse effects of financial distress and sustaining profitability over the long term (Nsobilla, 2016).

In summary, while capital structure theories provide theoretical frameworks for understanding the impact of financial distress on profitability, practical outcomes depend on how firms manage their leverage levels, risk exposures, and financial flexibility. Effective risk management strategies and prudent financial planning are essential to mitigate the adverse effects of financial distress and maintain profitability in dynamic market conditions.

**2.2 Empirical Review**

Madhusani and Kawshala (2018) investigated the influence of financial distress on the profitability of Sri Lankan non-bank financial institutions using five years of data from 2012 to 2016. The sample initially comprised all 31 listed non-bank financial institutions but was subsequently limited to 29. The study employed two profitability metrics, namely return on assets (ROA) and return on equity (ROE), as dependent variables. Independent variables included Altman's Z score and leverage ratio. The study primarily relied on secondary data sourced from published annual reports on the Colombo Stock Exchange. The findings underscored the significant impact of financial distress situations on the profitability of listed non-bank financial institutions in Sri Lanka.

Isanzu (2017) explored the effect of credit risk on the profitability of Chinese banks,

focusing on the five largest banks in China and spanning the years 2008 to 2014. The study constructed a multi-linear balanced panel regression model with credit risk measured by nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges. Profitability, assessed using ROA, served as the dependent variable. The results highlighted that nonperforming loans had a negative and significant effect on ROA, with a one-unit increase in nonperforming loans corresponding to a 0.10-unit decrease in ROA. Conversely, capital adequacy demonstrated a positive and significant impact on ROA, with a one-unit increase leading to a 0.06-unit rise in ROA. Impaired loan reserve ratio, indicated by a beta coefficient of 0.006, was statistically significant at the 5% confidence level, while loan impairment charges exhibited a positive and statistically significant effect on ROA.

King'ori et al. (2017) emphasized the role of microfinance in boosting economic activities among low-income earners, thus contributing to poverty alleviation. The study adopted a descriptive research design and analyzed five years of secondary data (2011–2015) from seven microfinance banks in Kenya. Correlation and regression analysis were employed to investigate the determinants of profitability. Despite facing stiff competition from commercial banks, microfinance institutions experienced a highly competitive microloan market in Kenya, as indicated by market share shifts and profitability fluctuations. The study revealed a positive and statistically significant relationship between operational efficiency, capital adequacy, firm size, and the profitability of microfinance banks in Kenya. Conversely, liquidity risk and credit risk demonstrated an insignificant negative relationship with profitability.

Vinh (2017) assessed the impact of non-performing assets on the profitability and lending behavior of Vietnamese commercial banks. Data from 34 Vietnamese commercial banks spanning the years 2005 to 2015 were analyzed. The study uncovered evidence indicating that non-performing assets had a statistically significant negative effect on the profitability and lending behavior of Vietnamese commercial banks. The estimation results further demonstrated that other bank-specific and macroeconomic factors significantly influenced profitability and lending behavior.

Nsobilla (2016) examined the effect of non-performing assets on the financial

performance of selected rural banks in Ghana's Western and Ashanti regions. Utilizing secondary data from 2004 to 2013, collected from six rural banks, the study employed ordinal least squares regression (OLS) to estimate the influence of non-performing assets on financial performance. The dependent variables comprised return on assets and log total revenue, while the independent variables included log cost-income ratio, log loan recovered, log non-performing assets, and log liquidity risk. The results revealed that non-performing assets, cost-income ratio, loan recovered, and total revenue were all statistically significant at a 1% significance level. Liquidity risk, however, was not statistically significant. Non-performing assets and the cost-income ratio negatively impacted financial performance, while total revenue and loan recovery had a positive effect.

Gizaw et al. (2015) investigated the impact of non-performing assets on the profitability of commercial banks in Ethiopia. The study employed secondary data collected from eight sample commercial banks over a 12-year period (2003–2014), obtained from the annual reports of the respective banks and the National Bank of Ethiopia. Descriptive statistics and panel data regression models were used for data analysis, revealing that asset quality indicators such as non-performing loans, loan loss provisions, and capital adequacy significantly influenced the profitability of commercial banks in Ethiopia.

Nyarko-Baasi (2018) examined the relationship between non-performing loans and profitability at four major banks listed on the Ghana Stock Exchange. A panel regression analysis was conducted to account for heterogeneity among selected banks over the period from 2006 to 2015. The non-performing loan ratio (NPLR) and capital adequacy ratio (CAR) served as key explanatory variables. The study revealed that NPL negatively affected bank profitability, while CAR showed a significant positive relationship with profitability. Additionally, bank size exhibited a positive relationship with profitability.

Sharifi and Akhter (2016) evaluated the performance of public sector banks in India by assessing their credit deposit ratio. Data were collected from 26 public sector banks in India over seven years, from 2008 to 2015. Secondary data were sourced from the annual reports of the respective banks and the Reserve Bank of India. Descriptive statistics and panel data regression models were used to analyze the impact of the credit-to-deposit ratio on bank performance. The credit-to deposit ratio

was considered an independent variable, while dependent variables included return on assets, return on equity, and net interest margin. The results indicated a positive relationship between the credit-to-deposit ratio and bank performance, with the credit-to-deposit ratio being statistically significant for profitability.

Singh (2017) assessed the influence of interest rates on the profitability of Nepalese commercial banks. Using data from the Banking and Financial Statistics and Supervision Report published by Nepal Rastra Bank and the annual reports of selected banks, regression models were employed to test the significance and impact of interest rates on profitability. The results showed that capital adequacy, loan rates, and liquidity were positively significant factors affecting earnings per share. Likewise, deposit rates had a positive and significant impact on earnings per share, while Treasury bill rates and reserve repo rates were negatively related to return on equity.

Pandey (2017) examined the effect of capital structure on the financial performance of Nepalese commercial banks over a six-year period, from 2009/10 to 2014/15, involving 23 Nepalese commercial banks. Regression models were used to analyze the significance and impact of capital structure on financial performance. Dependent variables included earnings per share and Tobin's Q, while independent variables comprised capital adequacy ratio, debt asset ratio, debt equity ratio, firm size, long-term debt, and inflation. The study revealed that the capital adequacy ratio exhibited a negative correlation with earnings per share and Tobin's Q for private sector banks, while it was negatively correlated with earnings per share and Tobin's Q for joint venture banks and Nepalese public commercial banks.

Table 1

*Summary Table of Empirical Review*

| Author/Date | Methodology | Findings |
|---|---|---|
| Nyarko-Baasi (2018) | Panel regression analysis (2006-2015) of 4 major banks in Ghana. Dependent variable: Profitability. Independent variables: Non-performing loan ratio (NPLR), capital adequacy ratio (CAR), bank | Non-performing loan ratio negatively affects profitability, while capital adequacy ratio and bank size positively affect profitability of banks in Ghana. |

| | | |
|---|---|---|
| | size. | |
| Madhusani & Kawshala (2018) | Secondary data analysis from annual reports (2012-2016) of 29 Sri Lankan non-bank financial institutions. Dependent variables: ROA, ROE. Independent variables: Altman's Z score, leverage ratio. | Financial distress significantly impacts profitability (ROA, ROE) of Sri Lankan non-bank financial institutions. |
| Isanzu (2017) | Balanced panel regression model with data (2008-2014) from 5 largest Chinese banks. Dependent variable: ROA. Independent variables: Nonperforming loans, capital adequacy ratio, impaired loan reserve, loan impairment charges. | Nonperforming loans negatively affect ROA, while capital adequacy ratio positively affects ROA for Chinese banks. |
| King'ori et al. (2017) | Descriptive research design with correlation and regression analysis (2011-2015) of 7 microfinance banks in Kenya. Dependent variable: Profitability. Independent variables: Operational efficiency, capital adequacy, firm size. | Operational efficiency, capital adequacy, and firm size positively influence profitability of microfinance banks in Kenya. |
| Singh (2017) | Regression models using data from Nepal Rastra Bank and annual reports (unspecified years) of Nepalese commercial banks. Dependent variable: Earnings per share. Independent variables: Capital adequacy, loan rates, liquidity. | Capital adequacy, loan rates, deposit rates positively influence earnings per share of Nepalese commercial banks. Treasury bill rates and reserve repo rates negatively affect return on equity. |
| Pandey (2017) | Regression analysis (2009/10-2014/15) of 23 Nepalese commercial banks. Dependent | Capital structure (capital adequacy ratio, debt ratios) shows mixed effects on |

| | | |
|---|---|---|
| | variables: Earnings per share, Tobin's Q. Independent variables: Capital adequacy ratio, debt asset ratio, debt equity ratio, firm size, inflation. | financial performance (earnings per share, Tobin's Q) of Nepalese commercial banks depending on bank type (private, joint venture, public). |
| Vinh (2017) | Analysis of data (2005-2015) from 34 Vietnamese commercial banks. Dependent variables: Profitability, lending behavior. Independent variables: Non-performing assets, other bank-specific and macroeconomic factors. | Non-performing assets negatively impact profitability and lending behavior of Vietnamese commercial banks. |
| Nsobilla (2016) | OLS regression analysis (2004-2013) of 6 rural banks in Ghana. Dependent variables: Return on assets, log total revenue. Independent variables: Log cost-income ratio, log loan recovered, log non-performing assets, log liquidity risk. | Non-performing assets and cost-income ratio negatively affect financial performance of rural banks in Ghana, while total revenue and loan recovery have a positive impact. |
| Sharifi & Akhter (2016) | Panel data regression analysis (2008-2015) of 26 public sector banks in India. Dependent variables: ROA, ROE, net interest margin. Independent variable: Credit-to-deposit ratio. | Credit-to-deposit ratio positively influences performance indicators (ROA, ROE, net interest margin) of public sector banks in India. |
| Gizaw et al. (2015) | Panel data regression analysis (2003-2014) of 8 commercial banks in Ethiopia. Dependent variable: Profitability. Independent variables: Non-performing loans, loan loss provisions, capital adequacy. | Non-performing loans and capital adequacy significantly influence profitability of commercial banks in Ethiopia. |

### 2.2.1 Reviews from International Dissertation

Some of the reviews related on topic are mentioned below**:**

**On the perspectives of leverage on profitability:**

Kihumba (2013): Capital Structure and Cement Companies in Kenya Kihumba looked at how the way companies mix debt and equity (capital structure) affects the profitability of cement companies in Kenya. They studied three cement factories listed on the Nairobi Securities Exchange from 2006 to 2011. They found that total debt had a significant effect on net profit and return on capital employed (ROCE), while long-term debt did not have much impact.

Edson (2015): Financial Leverage and Tanzanian Banks Edson investigated how financial leverage influenced the profitability of Tanzanian commercial banks between 2007 and 2013. They studied four banks listed on the Dar es Salaam Stock Exchange. The results showed that banks had high financial leverage, but it negatively impacted profitability, especially return on assets (ROA).

Wieland et al. (2015): Employee Orientation and Company Profitability This study examined the relationship between how companies treat their employees and their profitability and debt levels. German companies recognized as "Top Employers" from 2007 to 2011 were analyzed. Surprisingly, the study found no significant connection between how companies treated their employees and their debt levels.

Saleh (2015): Financial Crisis Impact on GCC Firms Saleh looked into how financial leverage affected the performance of firms in Gulf Cooperation Council (GCC) countries during a financial crisis. Using panel data, they found that leverage significantly influenced firm performance in these countries. They also noted the negative impact of the financial crisis on firm performance.

Nyamboga et al. (2014): Financial Leverage and Kenyan Commercial Banks This study examined how financial leverage, specifically the debt-to-equity ratio, affected the profitability of Kenyan commercial banks from 2005 to 2015. It found a positive correlation between the debt-to-equity ratio and the return on equity and assets.

Fan et al. (2012): Institutional Environment and Capital Structure Fan and team explored how the institutional environment in various countries influenced firms' capital structures. They discovered that in more corrupt countries, firms tended to use

more debt and less equity. They also noted that bankruptcy laws and government bond markets played roles in capital structure choices.

Tan (2012): Financial Distress and Asian Financial Crisis Tan's study focused on the Asian Financial Crisis and how it affected the relationship between financial distress and firm performance. High-leverage firms performed worse during the crisis, emphasizing the importance of financial distress and leverage.

Opler et al. (1994): Financial Distress in Ethiopian Firms Opler's research examined the factors contributing to financial distress in Ethiopian manufacturing firms from 1999 to 2005. They found that liquidity, profitability, and efficiency had positive influences on debt service coverage, while leverage had a negative impact.

Heikael et al. (2014): Indonesian Automotive Companies This study analyzed the effect of various financial ratios on the growth income of Indonesian automotive companies. They found that these ratios, when considered together, had a significant impact on growth income.

Madhusani and Kawshala (2018): Financial Distress in Sri Lankan Non-Bank Financial Institutions Madhusani and Kawshala's study focused on how financial distress affected the profitability of non-bank financial institutions in Sri Lanka from 2012 to 2016. They found a significant impact of financial distress on these institutions' profitability.

**On the perspectives of liquidity ratio on profitability:**

Gestel et al. (2006): Gestel and colleagues looked into how financial institutions assess the creditworthiness of corporate clients. They used a technique called Least Squares Support Vector Machine (LS-SVM) classifiers to automatically evaluate the creditworthiness of potential corporate clients. This approach yielded better results than traditional methods when applied to real-life data involving mid-cap Belgian and Dutch firms seeking commercial credit.

Vovoda (2011): Vovoda examined what factors influenced the liquidity of Czech commercial banks during the period from 2001 to 2009. Their findings showed that liquidity was positively related to capital adequacy and the share of non-performing loans but negatively affected by inflation, the business cycle, and financial crises. Liquidity also had an impact on bank performance, and there was a relationship between the proportion of liquid assets to total assets and return on equity (ROE).

Eljelly (2004): Eljelly studied the connection between a company's profitability and its liquidity, measured by the current ratio and cash conversion cycle. Their research on Saudi Arabian joint-stock companies revealed a negative relationship between profitability and liquidity, especially for firms with high current ratios and longer cash conversion cycles. The study also found that firm size had a significant effect on profitability at the industry level.

Basel Committee (2009): The Basel Committee focused on cash, cash equivalents, investments in securities, and placements with other banks. They analyzed data from 2004 to 2008 and used regression models. The study emphasized the importance of liquidity for a bank's sustainability and its role in maintaining cash flow. Adequate liquidity was crucial for managing both expected and unexpected losses, contributing to a bank's profitability.

Bourke (1989): Bourke conducted an analysis of banks in twelve countries, including Europe, North America, and Australia, using eight years of data from 1980 to 1987. They found a positive relationship between liquidity ratios and profitability among selected banks.

Demirguc-Kunt and Levine (1996): Demirguc-Kunt and Levine examined the profitability and interest margins of foreign banks over five years, from 1990 to 1994, focusing on 15 commercial banks. They discovered that foreign banks generally had higher profitability and interest margins than domestic banks. This difference was attributed to the technological advantages foreign banks had in developing countries compared to industrialized nations.

Fielding & Shortland (2005): Fielding and Shortland studied the impact of monetary policy and interest rates on commercial banks in Europe. Their findings showed that tightening monetary policy reduced bank liquidity. Factors such as unemployment levels, bank size (measured by the number of customers), and bank profitability negatively influenced liquidity ratios. On the other hand, savings and liquidity levels positively affected a bank's liquidity position.

**On the perspectives of capital adequacy ratio on profitability:**

Isanzu (2017): Credit Risk and Chinese Banks Isanzu studied how credit risk affected the profitability of China's five largest banks from 2008 to 2014. They used a balanced panel regression model to analyze credit risk factors like nonperforming

loans, capital adequacy ratios, impaired loan reserves, and loan impairment charges. They found that nonperforming loans negatively impacted bank profitability (ROA), while capital adequacy had a positive effect. Impaired loan reserves and loan impairment charges also had significant positive impacts on ROA.

Olalekan and Adeyinka (2013): Capital Adequacy in Nigerian Banks Olalekan and Adeyinka explored the relationship between capital adequacy and profitability in Nigerian deposit-taking banks using data from 2006 to 2010. While primary data analysis showed no significant relationship, secondary data analysis revealed a positive and significant connection between capital adequacy and bank profitability. Capital adequacy was vital for Nigerian deposit-taking banks to ensure profitability and risk management.

Goddard (2004): European Bank Profitability Goddard investigated the profitability of European banks in the 1990s using various models. They considered factors like bank size, diversification, risk, ownership type, and the capital-assets ratio. Despite increasing competition, European banks have shown consistent and persistent profitability over the years. The relationship between bank size and profitability was weak. Off-balance-sheet business was positively related to profitability in the UK but not consistently elsewhere. The capital-assets ratio had a positive effect on profitability.

Al-Tamimi & Obeida (2013): Capital Adequacy of Jordanian Banks Al-Tamimi and Obeida studied the factors influencing capital adequacy in commercial banks in Jordan from 2000 to 2008. They found statistically significant positive correlations between capital adequacy, liquidity risk, and return on assets. However, there was no statistically significant relationship between capital adequacy and capital risk, credit risk, or revenue rates.

Ikpefan (2013): Bank Capital Adequacy and Nigerian Banks Ikpefan investigated the impact of bank capital adequacy ratios on Nigerian commercial banks' performance from 1986 to 2006. Their analysis found that the capital adequacy ratio negatively affected return on assets (ROA), suggesting that higher capital adequacy might decrease ROA. The efficiency of bank management, measured by operating expenses, also had a negative impact on return on capital.

King’ori et al. (2017): Microfinance Banks in Kenya King’ori and colleagues studied

the profitability of microfinance banks in Kenya from 2011 to 2015. They found that operational efficiency, capital adequacy, and firm size had a positive and statistically significant impact on profitability. However, liquidity risk and credit risk had an insignificant negative relationship with profitability. The study concluded that operational efficiency, capital adequacy, and firm size were crucial for the profitability of microfinance banks in Kenya.

Lipunga (2014): Profitability of Malawian Banks Lipunga evaluated the determinants of profitability for listed commercial banks in Malawi from 2009 to 2012. The study found that the capital adequacy ratio had a negative and significant impact on profitability. It used both internal and external-based profitability measurements and conducted correlation and multivariate regression analyses.

Ejoh & Iwara (2014): Nigerian Deposit Money Banks Ejoh and Iwara examined the effect of capital adequacy on deposit money banks' profitability in Nigeria, focusing on five selected banks from 1981 to 2011. The study revealed that capital adequacy played a crucial role in explaining banks' returns on assets (ROA), positively affecting profitability. A higher capital adequacy ratio indicated greater safety, which could lead to higher profitability.

Hussain et al. (2016): Banking Risk Management in Pakistan Hussain and his team explored the impact of risk management on the performance of banks in Pakistan using data from 2005 to 2014. They found that the capital adequacy ratio had a negative impact on Tobin's Q and earnings per share (EPS), indicating a negative relationship between capital adequacy and profitability.

Iftikhar (2016): Credit Risk Management in Pakistan Iftikhar conducted a study to examine the relationship between credit risk management and the financial performance of commercial banks in Pakistan listed on the KSE. The study found a positive relationship between capital adequacy and financial performance, measured by earnings per share (EPS) and return on assets (ROA).

Udom & Eze (2018): Capital Adequacy and Nigerian Commercial Banks Udom and Eze assessed the effect of capital adequacy requirements on the performance of commercial banks in Nigeria. Their analysis revealed that capital adequacy variables, including ASF, CRWA, and TQC, had a significant positive impact on return on assets (ROA) as a measure of bank performance.

**On the perspectives of non-performing loan on profitability:**

Aktar et al. (2017): Non-Performing Loans (NPLs) in the Bangladeshi Banking Sector Aktar and their team found that the Bangladeshi banking sector faces a significant issue with non-performing loans (NPLs), accounting for 11.60% of classified loans. They aimed to analyze the impact of NPLs on profitability, specifically looking at net interest margin (NIM). The study analyzed NPLs' growth and their relationship to bank profitability using ratios and linear regression. They discovered that NPLs as a percentage of total loans in listed banks on the Dhaka Stock Exchange were alarmingly high, significantly affecting listed banks' net profit margin (NPM) negatively.

Adeyemi (2012): Factors behind Bank Failures in Nigeria Adeyemi investigated the reasons behind bank failures in Nigeria, focusing on capital inadequacy, a lack of transparency, and non-performing loans. The study highlighted that maintaining sufficient capital is essential for financial institutions to meet their obligations, operate profitably, and contribute to a stable financial system.

Nazir (2010): Operating Efficiency of Pakistani Commercial Banks Nazir evaluated the operating efficiency of 28 Pakistani commercial banks from 2003 to 2007. Privatization was explored as a technique to improve the financial position of the banking sector, with findings suggesting a positive effect on financial institutions' profitability.

Olweny and Mamba (2011): Factors Affecting Kenyan Commercial Banks' Profitability Olweny and Mamba examined the effects of bank-specific factors (capital adequacy, asset quality, liquidity, operational cost efficiency, and income diversification) on the profitability of Kenyan commercial banks from 2002 to 2008. The study found that all bank-specific factors significantly impacted profitability.

Manyuanda (2014): Non-Performing Loans and SACCO Profitability in Nairobi County Manyuanda analyzed the impact of non-performing loans on the profitability of savings and credit cooperative societies (SACCOs) in Nairobi County, Kenya, from 2010 to 2014. The study revealed that non-performing loans, firm size, leverage, and management efficiency influenced profitability, indicating a strong relationship.

Muturi and Njeru (2016): Non-Performing Loan Ratio in Malawian Banks Muturi and Njeru investigated the effect of the non-performing loan ratio and other

determinants on the profitability of commercial banks in Malawi from 2008 to 2014. Non-performing loan ratios, cost efficiency ratios, and lending interest rates significantly affected bank performance.

Kingu et al. (2015): Non-Performing Loans in Tanzanian Banks Kingu and his team explored the impact of non-performing loans on Tanzanian bank profitability from 2007 to 2015. Non-performing loans negatively affected bank profitability, aligning with information asymmetry theory and the bad management hypothesis.

Chimkono et al. (2016): Non-Performing Assets in Malawian Banks Chimkono and colleagues studied the effect of the non-performing assets ratio and other determinants on the financial performance of commercial banks in Malawi from 2008 to 2014. Non-performing assets ratios, operating efficiency ratios, and lending interest rates significantly influenced bank performance, with the cash reserve ratio positively related to bank performance.

Nyarko-Baasi (2018): Non-Performing Loans and Ghanaian Banks Nyarko-Baasi examined the impact of non-performing loans on the profitability of major banks listed on the Ghana Stock Exchange from 2006 to 2015. Non-performing loans negatively affected bank profitability, while capital adequacy ratio and bank size had positive relationships with profitability.

**On the perspectives of credit to cash plus deposit ratio on profitability:**

Syahru & Syarif (2006): Credit to Deposit Ratio and Profitability Syahru and Syarif conducted a study on banks in India from 2008 to 2015. They used secondary data from the annual reports of banks and the Reserve Bank of India. The study analyzed the impact of credit to deposit ratio on bank performance, taking credit to deposit ratio as the independent variable and return on assets, return on equity, and net interest margin as dependent variables. The results indicated a positive relationship between the credit-to-deposit ratio and bank performance. Importantly, the study found that only the credit-to-deposit ratio had a statistically significant impact on profitability.

Altunbaş and Marqués (2008): Impact of European Union Bank Mergers on Performance Altunbaş and Marqués examined the effects of strategic similarities among European Union banks on post-merger performance. They used a comparative approach, assessing pre- and post-merger performance in a comprehensive sample of

European Union banks from 1992 to 2001. The study included banks not listed on the stock market. In line with earlier findings in the US, the study revealed that bank mergers generally led to improved performance.

The study also explored the impact of strategic similarities between merging banks on post-merger profitability. It found that in domestic mergers, integrating dissimilar banks in terms of loan strategies, earnings, costs, deposits, and size could be costly. However, for cross-border mergers, diversity in loan and credit risk strategies between merging partners positively influenced performance, while differences in capital and cost structure had a negative impact. This study's findings were reminiscent of the banking sector's consolidation and expansion in the US, driven by banking deregulation in the late 1980s and early 1990s.

### 2.2.2 Review of Nepalese Studies

Bhandari (2016): Bank Profitability and Liquidity Management in Nepalese Commercial Banks Bhandari's study focused on Nepalese commercial banks, using secondary data from 23 banks spanning from 2009/10 to 2014/15. Through descriptive, correlation, and regression methods, the research discovered a positive and significant relationship between capital adequacy ratios and bank profitability, particularly measured by return on assets.

Pradhan & Shrestha (2016): Liquidity Impact on Nepalese Commercial Banks' Performance Pradhan and Shrestha examined the influence of liquidity on Nepalese commercial banks' performance using ratios like liquidity ratio, capital ratio, and quick ratio. The study found that while investment and capital ratios positively affected bank performance, liquidity and quick ratios had negative impacts on return on assets and return on equity.

Bariya et al. (2016): Liquidity and Profitability in Nepalese Commercial Banks**:** Bariya et al. explored the relationship between liquidity and profitability in Nepalese commercial banks. The research indicated that return on assets was negatively correlated with current ratio and size but positively correlated with liquidity management and financial leverage.

Parajuli (2016): Factors Influencing the Profitability of Nepalese Commercial Banks**:** Parajuli investigated the factors influencing the profitability of domestic and foreign commercial banks in Nepal, finding a positive and significant relationship between

capital adequacy and return on assets, return on equity, and net interest margin.

Sharma (2016): Determinants of Nepalese Commercial Banks: Sharma's study examined the determinants of Nepalese commercial banks, showing that liquid assets to total assets ratio was positively correlated with return on assets and credit to deposit ratio but negatively correlated with bank size, total deposit to total assets ratio, and net interest margin.

Pradhan (2014): Factors Affecting the Profitability of Nepalese Commercial Banks**:** Pradhan's study considered both bank-specific and macroeconomic factors, analyzing data from 22 banks over the period from 2005/06 to 2014/15. The research identified a positive relationship between market share and bank performance in Nepal.

Neupane (2013): Effect of Indicators on Nepalese Commercial Bank Profitability: Neupane's analysis explored the effect of various indicators on the industry structure and profitability of Nepalese commercial banks. It revealed that profitable banks with lower leverage and higher capital adequacy ratios were more efficient, with a preference for bank loans over other outputs like investments and securities.

Sthapit & Maharjan (2012): Impact of Liquidity Management on Profitability in Nepali Banks This study, covering the period from 2003/04 to 2010/11, investigated the impact of liquidity management on profitability, focusing on Nabil Bank Ltd. and Standard Chartered Bank Ltd. It found a significant impact of liquidity on Standard Chartered Bank Nepal Ltd.'s profitability but not on NABIL Bank, which was attributed to the different banking structures.

Table 2

*Summary Table of Empirical Review on Nepalese context*

| Author/Date | Methodology | Findings |
|---|---|---|
| Bariya et al. (2016) | Explored liquidity and profitability relationship in Nepalese banks. | Return on assets negatively correlated with current ratio and size, but positively correlated with liquidity management and financial leverage in Nepalese commercial banks. |
| Bhandari (2016) | Studied bank profitability and | Found positive and significant |

| | | |
|---|---|---|
| | liquidity management in Nepalese banks (2009/10-2014/15). Descriptive, correlational, regression methods used. | relationship between capital adequacy ratios and bank profitability (ROA) in Nepalese commercial banks. |
| Parajuli (2016) | Investigated factors influencing profitability of Nepalese commercial banks. Found positive relationship between capital adequacy ratio and ROA, ROE, net interest margin. | Capital adequacy positively affects profitability metrics (ROA, ROE, net interest margin) of Nepalese commercial banks. |
| Pradhan (2016) | Analyzed factors affecting profitability using data from 22 Nepalese banks (2005/06-2014/15). | Identified positive relationship between market share and bank performance in Nepal. |
| Pradhan & Shrestha (2016) | Examined liquidity impact on Nepalese commercial banks using liquidity ratio, capital ratio, quick ratio. | Liquidity and quick ratios negatively impact ROA and ROE of Nepalese commercial banks, while investment and capital ratios have positive effects on performance. |
| Sharma (2016) | Analysis of determinants using data on Nepalese commercial banks. Dependent variables: Return on assets, credit to deposit ratio, net interest margin. Independent variables included liquid assets ratio, bank size, total deposit ratio. | Liquid assets ratio positively correlates with return on assets and credit to deposit ratio, but negatively correlates with bank size and total deposit ratio in Nepalese commercial banks. |
| Neupane (2013) | Explored effect of indicators on profitability and structure | Profitable banks with lower leverage and higher capital |

| | | |
|---|---|---|
| | of Nepalese commercial banks. | adequacy ratios were more efficient in Nepal. |
| Sthapit & Maharjan (2012) | Studied impact of liquidity management on profitability in Nepali banks (2003/04-2010/11). | Significant impact of liquidity management on profitability observed in Standard Chartered Bank Nepal Ltd., not in Nabil Bank Ltd. |

**2.3 Research Gap**

From the reviewed literature, it is evident that there is a lack of consensus in the findings of various studies. Most of these studies utilized either time series or cross-sectional data and examined the impact of financial distress on the profitability of Nepalese commercial banks using panel data. They typically applied conventional regression analysis to determine whether the data best fit a fixed effect or random effect model. The literature presents mixed results, with both negative and positive relationships observed between dependent and independent variables. Defined financial distress as a situation in which an institution faces operational, managerial, and financial challenges. Financial distress factors are costs that can affect an organization's performance and influence investment decisions. While there have been numerous national and international studies on the relationship between financial distress variables and profitability variables in the context of commercial banks, these studies have yielded diverse outcomes. Therefore, empirical results from other countries cannot be directly generalized to the context of Nepal. Surprisingly, there have been relatively few efforts to examine these issues concerning financial distress variables in Nepal. This study aims to bridge this gap and differs from previous studies in Nepal in terms of sample size, the nature of sample firms, and the research methodology employed. This research encompasses 20 banks with 5 years of data, making it distinct from earlier Nepalese studies. Although there is substantial empirical evidence from other countries, no such evidence exists in the context of Nepal. This study seeks to analyze the relationship between financial distress and profitability variables in commercial banks in Nepal, thereby contributing to the existing body of literature. In the context of Nepal, very few or almost no studies have been conducted on the financial distress factors affecting Nepalese commercial banks. That productivity, profitability, and liquidity deteriorate in the presence of

financial distress. Profitable banks with lower leverage and higher capital adequacy ratios tend to be more efficient, and bank loans are more highly valued than alternative bank outputs like investments and securities. The study considered parameters such as default rate, cost per loan asset, and capital adequacy ratio. Analyzing data from 20 banks over eleven years (2001–2024), the study found that all these parameters had an inverse impact on bank profitability, with the default rate being the most significant predictor. Despite the numerous studies conducted in various developing and developed countries, their findings may not be directly applicable to the Nepalese context. This study seeks to explore the various factors influencing the relationship between financial distress and profitability in Nepalese commercial banks.

# CHAPTER III
# RESEARCH METHODOLOGY

Research methodology is like a systematic roadmap for solving a problem. It's the science of figuring out how to do research. Essentially, it's the set of steps that researchers follow to understand, clarify, and make predictions about things. Think of it as the big plan that guides a study. It's like the structure that holds the study together. Methodology helps shape the study and gives it the right direction by describing, explaining, and predicting a basic framework. Before we start analyzing and making sense of the data we've collected, it's important to explain how we did the study. Without this explanation, it's possible that the study was done without a plan, and the conclusions we draw might be confusing or incorrect.

## 3.1 Research Design

This study used two types of research methods to explore factors affecting the profits of certain banks in Nepal. First, the descriptive research design was used to gather information about the profits of these banks. This involved collecting and presenting data systematically to get a clear picture of the situation. We looked at data from 15 observations over the fiscal years from 2012/13 to 2021/22. We used descriptive statistics to describe things like how much money the banks had, how easily they could access cash, how much capital they had, and how many loans they couldn't collect. Secondly, we also used a causal comparative research design to see how financial troubles affected the profits of Nepalese banks. In simpler terms, we wanted to figure out if problems with money had a direct impact on how much money these banks made.

## 3.2 Population and Sample, and Sampling Design

The study examines 20 commercial banks in Nepal spanning the period from 2012/13 to 2021/22, with data collected 10 years data on timeframe. The population comprises all commercial banks operating within Nepal, overseen by the Nepal Rastra Bank (NRB). From this population, the sample focuses specifically on three banks: Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited. These banks were selected due to their consistent demonstration of strong financial performance and stability throughout the study period or it was selected three bank due to these three banks have consistently demonstrated strong financial performance and stability,

making them reliable subjects for an in-depth study. Their financial metrics, such as profitability, asset quality, and capital adequacy, are often more robust compared to smaller banks, providing a solid foundation for analysis. The sampling design involves collecting data points from each of these three banks at 10 years over the course of the study. This approach aims to provide a comprehensive analysis of how financial difficulties impact profitability and other financial metrics within Nepal's commercial banking sector.

Table 3

*List of sample banks selected for the study along with the study period and number of observations*

| S. N | Name of the Banks | Study period | Observation |
|---|---|---|---|
| 1 | Nabil Bank Limited | 2012/13 to 2021/22 | 10 |
| 2 | Global IME Bank Limited | 2012/13 to 2021/22 | 10 |
| 3 | NIC Asia Bank Limited | 2012/13 to 2021/22 | 10 |
| | Total Observations | | 30 |

Thus, the study based on the 30 observations.

The study employed purposive sampling in its quantitative research approach to investigate the impact of financial distress on the profitability of commercial banks in Nepal. Purposive sampling was chosen because it allowed the deliberate selection of specific banks that were most relevant to the research objective. This method ensured that the sample included banks with varying degrees of financial distress, enhancing the study's ability to draw meaningful conclusions about the relationship between financial difficulties and bank profitability.

### 3.3 Nature and Sources of Data, and the Instrument of Data Collection

In this research, data was quantitative based derived from annual report of sample banks. This research relied on information that was not directly collected for this study but was already available. It is used data from 3 commercial banks in Nepal, covering the period from 2012/13 to 2021/22. The information about things like how much money the banks had, their ability to access cash, how much capital they had, and their non-performing loans came from the official websites and annual reports of these selected banks.

### 3.4 Method of Analysis

In this section, we discuss the statistical and econometric methods used to analyze the secondary data. It is employed descriptive, correlation, and regression techniques for our study. Descriptive statistics, such as the mean, standard deviation, and range of values, were used to describe the characteristics of the sample firms. Correlation analysis helped us understand the direction and strength of the relationship between dependent and independent variables. Regression analysis utilized to determine how independent variables individually and collectively influenced the dependent variable. We also applied various statistical tests like the t-test and the F-test to validate our model. To assess individual effects, it was conducted F-tests using the Statistical Package for Social Science (SPSS).

### 3.5 Research Framework and Definition of Variables

The conceptual framework of this study explains the relationship between various factors, specifically how profitability relates to financial distress variables (leverage, liquidity, capital adequacy ratio, credit to cash plus deposit ratio, and non-performing loans) in Nepalese commercial banks. It serves to define the research problem's focus and goals.

This section outlines the conceptual framework of the study and details the variables under examination. The study's dependent variables are earnings per share and return on assets. The independent variables include leverage, liquidity, capital adequacy ratio, credit to cash plus deposit ratio, and non-performing loans. Consequently, the following conceptual model summarizes the primary focus and scope of this study:

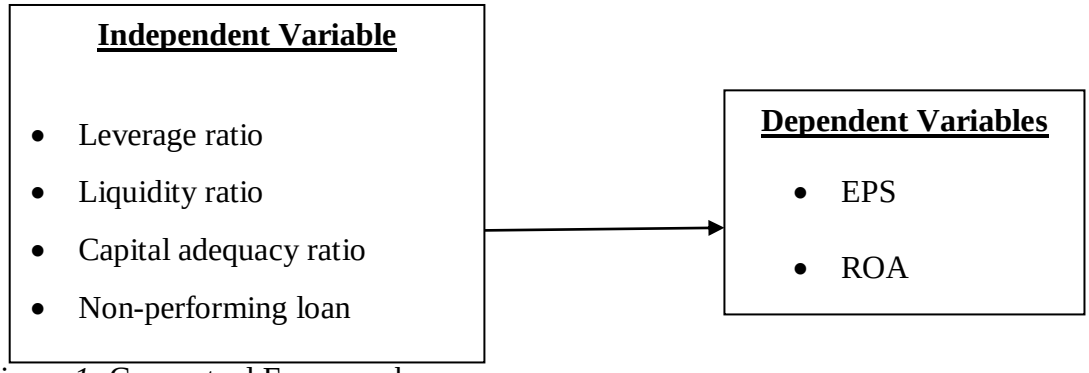


*Figure 1:* Conceptual Framework

(Source: Pradhan, 2022)

Figure 1 illustrates the key elements used in this study to assess how financial distress

affects the profitability of Nepalese commercial banks in Nepal. These elements include leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, and non-performing loans. Similarly, these same factors namely leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, and non-performing loans, are considered as independent variables.

Furthermore, the study also examines earnings per share and return on assets as dependent variables.

**Dependent Variables**

**Earnings per share (EPS):** Earnings per share (EPS) is a critical financial measure that indicates how profitable a company is. It's calculated by dividing a company's net income by the total number of outstanding shares. EPS is a valuable tool for investors and stock market participants to assess a company's profitability before investing. It represents the portion of a company's profit allocated to each individual share of its stock. Investors and traders pay close attention to EPS, as higher EPS typically signifies better profitability. When calculating EPS, it's recommended to use a weighted ratio, as the number of outstanding shares can change over time.

EPS can be calculated in two ways:

1. **Basic EPS:** Net Income after Tax/Total Number of Outstanding Shares
2. **Diluted EPS:** (Net Income after Tax minus Total Dividends) / Total Number of Outstanding Shares This version includes convertible shares and warrants under outstanding shares, providing a more comprehensive view.

However, it's important to note that while EPS is essential for investors, it should not be the sole factor considered. Comparing a company's EPS to that of other companies can help make more informed investment decisions.

**Return on Assets (ROA):** ROA measures a company's profitability by considering its net profit after accounting for costs, depreciation, and taxes in relation to its assets. It's crucial to exclude profits generated from activities unrelated to fixed assets. The denominator includes both fixed and current assets. Using the average total assets, which considers the opening and closing assets during an accounting period, provides a more accurate ROA.

Profitability indicates how effectively a company generates value for its owners. It

can be accessed through various financial metrics such as profit after tax (ROA, return on equity (ROE), earnings per share, and accepted market value ratios. ROA specifically measures the relationship between net profit and assets. An increase in this ratio signifies improved profitability for a company. The study highlights that financial distress variables affect ROA, influencing a bank's profitability.

**Independent Variables**

**Leverage:** Leverage involves using debt rather than fresh equity for asset purchases. Total debt significantly impacts net profit and the return on capital employed (ROCE). However, long-term debt and total debt often do not significantly affect profitability. Studies suggest a negative and statistically insignificant impact of financial leverage on ROAA and ROAE.

Capital Adequacy Ratio (CAR): CAR, also known as the capital-to-risk (weighted) assets ratio (CRAR), assesses a bank's capital sufficiency based on risk. Research indicates that a higher capital ratio positively influences bank performance. An increase in capital adequacy leads to greater profitability.

Non-Performing Loan (NPL): Non-performing loans are those in default or close to default, causing borrowers to miss scheduled payments. Research shows that non-performing loans have a negative and significant effect on a bank's ROA. Moreover, there exists a negative relationship between non-performing loans and the market price per share of banks.

Liquidity: Liquidity measures an asset's or security's ease of buying or selling in the market without affecting its price. Financial distress and liquidity are closely related, and liquidity issues can lead to financial strain. Liquidity affects bank profitability, with optimal levels of liquidity positively impacting profits. A strong correlation exists between the current ratio and profitability. These studies, conducted in various countries, shed light on the relationships between financial distress variables and bank profitability. They provide valuable insights for investors and financial institutions.

# CHAPTER IV
# RESULTS AND DISCUSSION

In this chapter, it provides concise profiles of the different types of data and ratios obtained from the twenty selected banks, which were gathered and organized for this study. The data is then presented in tables, analyzed, and interpreted, allowing for comparisons among the banks under examination. The analytical process follows several key steps: identifying issues of interest, confirming the availability of suitable data, selecting appropriate methods for addressing the research questions, applying these methods, and assessing, summarizing, and communicating the outcomes. To achieve this, we employed various statistical tools, as described in Chapter 3. This chapter is structured into five sections. The first section focuses on the structure and pattern analysis of the data; the second on descriptive statistics; the third on correlation analysis; the fourth on regression analysis; and the final section concludes the chapter by summarizing the findings from the secondary data analysis.

## 4.1 Results

Some of the objective wise data presentation has been resulted below:

### 4.1.1 Statistical Analysis

Table 4 displays the arrangement of variables during the period from 2012/13 to 2021/22.

Table 4

*Combined mean and standard deviation of Nabil Bank Limited*

| Variables | Mean | Std. Deviation |
|---|---|---|
| EPS | 54.038 | 21.89 |
| ROA | 2.243 | 0.63 |
| NPL | 1.279 | 0.61 |
| LEV | 10.69 | 0.64 |
| LQ | 8.54 | 3.52 |
| CAR | 12.29 | 0.704 |
| CCD | 77.64 | 9.49 |

Source: Annual report of Nabil Bank Limited

The table 4 presented the combined mean and standard deviation of key financial

metrics for Nabil Bank Limited, offering insights into its performance and stability. The earnings per share (EPS) average 54.038 with a standard deviation of 21.89, indicating considerable variability in earnings. The return on assets (ROA) has a mean of 2.243 and a standard deviation of 0.63, suggesting moderate consistency in generating returns from assets. The non-performing loans (NPL) ratio averages 1.279 with a standard deviation of 0.61, reflecting some fluctuation in the quality of the bank's loan portfolio. The leverage ratio (LEV) averages 10.69 with minimal variability (0.64), indicating significant use of debt relative to equity. Liquidity (LQ) shows an average ratio of 8.54 with a standard deviation of 3.52, highlighting considerable variability in the bank's liquidity management. The Capital Adequacy Ratio (CAR) averages 12.29 with minimal variability (0.704), indicating a stable buffer against potential losses. Lastly, the credit to core capital and deposit (CCD) ratio has a mean of 77.64 with a standard deviation of 9.49, showing significant variation in the utilization of core capital and deposits for credit purposes. Collectively, these metrics provide a comprehensive overview of Nabil Bank's financial health, highlighting areas of performance consistency and potential volatility. Understanding these figures is crucial for stakeholders to assess the bank's operational efficiency, risk management, and overall financial stability.

Table 5

*Combined mean and standard deviation of Global IME Bank Limited*

| Variables | Mean | Std. Deviation |
|---|---|---|
| EPS | 29.624 | 9.88 |
| ROA | 1.498 | 0.26 |
| NPL | 1.479 | 0.65 |
| LEV | 10.61 | 0.36 |
| LQ | 28.07 | 4.46 |
| CAR | 12.23 | 0.609 |
| CCD | 85.43 | 5.09 |

Source: Annual report of Global IME Bank Limited

The table 5 presented the combined mean and standard deviation of key financial metrics for Global IME Bank Limited, offering a comprehensive view of its performance and stability. The earnings per share (EPS) average 29.624 with a standard deviation of 9.88, indicating significant variability in earnings. The return on

assets (ROA) has a mean of 1.498 and a standard deviation of 0.26, suggesting consistent performance in utilizing assets to generate profits. The non-performing loans (NPL) ratio averages 1.479 with a standard deviation of 0.65, reflecting moderate fluctuations in the quality of the bank's loan portfolio. The leverage ratio (LEV) averages 10.61 with minimal variability (0.36), indicating substantial use of debt relative to equity. The liquidity ratio (LQ) shows an average of 28.07 with a standard deviation of 4.46, highlighting significant variability in the bank's liquidity management. The Capital Adequacy Ratio (CAR) averages 12.23 with minimal variability (0.609), ensuring a stable buffer against potential losses. Lastly, the Credit to Core Capital and Deposit (CCD) ratio has a mean of 85.43 with a standard deviation of 5.09, showing moderate variation in the utilization of core capital and deposits for credit purposes. Collectively, these metrics provide a detailed overview of Global IME Bank's financial health, highlighting areas of performance consistency and potential volatility. Understanding these figures is crucial for stakeholders to assess the bank's operational efficiency, risk management, and overall financial stability.

Table 6

*Combined mean and standard deviation of NIC Asia Bank Limited*

| Variables | Mean | Std. Deviation |
|---|---|---|
| EPS | 41.831 | 7.26 |
| ROA | 1.415 | 0.26 |
| NPL | 1.015 | 0.62 |
| LEV | 9.90 | 1.84 |
| LQ | 26.19 | 2.77 |
| CAR | 13.04 | 0.630 |
| CCD | 84.85 | 2.76 |

Source: Annual report of NIC Asia Bank Limited

The table 6 presented the combined mean and standard deviation of key financial metrics for NIC Asia Bank Limited, offering a comprehensive view of its performance and stability. The earnings per share (EPS) average 41.831 with a standard deviation of 7.26, indicating moderate variability in earnings. The return on assets (ROA) has a mean of 1.415 and a standard deviation of 0.26, suggesting consistent performance in utilizing assets to generate profits. The non-performing

loans (NPL) ratio averages 1.015 with a standard deviation of 0.62, reflecting moderate fluctuations in the quality of the bank's loan portfolio. The leverage ratio (LEV) averages 9.90 with a standard deviation of 1.84, indicating significant use of debt relative to equity with considerable variability. The liquidity ratio (LQ) shows an average of 26.19 with a standard deviation of 2.77, highlighting some variability in the bank's liquidity management. The Capital Adequacy Ratio (CAR) averages 13.04 with minimal variability (0.630), ensuring a stable buffer against potential losses. Lastly, the credit to core capital and deposit (CCD) ratio has a mean of 84.85 with a standard deviation of 2.76, indicating some variation in the utilization of core capital and deposits for credit purposes. Collectively, these metrics provide a detailed overview of NIC Asia Bank's financial health, highlighting areas of performance consistency and potential volatility. Understanding these figures is crucial for stakeholders to assess the bank's operational efficiency, risk management, and overall financial stability.

### 4.1.2 Descriptive Analysis

The statistical description employed in this research includes calculations for the mean, median, standard deviation, minimum, and maximum values related to the variables being analyzed. The table presents a summary of these descriptive statistics for a sample of 3 commercial banks in Nepal, covering the period from 2012–13 to 2021–22.

Table 7

*Descriptive statistics*

| Variables | Numbers of Sample | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| EPS | 3 | 29.624 | 54.038 | 41.83100 | 12.207000 |
| ROA | 3 | 1.415 | 2.243 | 1.71867 | .455978 |
| NPL | 3 | 1.015 | 1.479 | 1.25767 | .232734 |
| LEV | 3 | 8.540 | 28.070 | 20.93333 | 10.774026 |
| LQ | 3 | 9.900 | 10.690 | 10.40000 | .434856 |
| CAR | 3 | 12.230 | 13.040 | 12.52000 | .451331 |
| CCD | 3 | 77.640 | 85.430 | 82.64000 | 4.339827 |

(Source: SPSS, 2023)

The descriptive statistics table 7 presented a key financial metrics for three commercial banks: Nabil, Global IME, and NIC Asia Bank Limited. The analysis

reveals that the average earnings per share (EPS) is 41.83, with a range from 29.62 to 54.04, indicating a moderate level of profitability with some variation among the banks. The return on assets (ROA) averages 1.72%, ranging between 1.42% and 2.24%, showing how effectively these banks utilize their assets to generate earnings. The Non-Performing Loans (NPL) ratio averages 1.26%, with values between 1.02% and 1.48%, reflecting the proportion of loans that are not being repaid on time, which is crucial for assessing credit risk. The leverage ratio (LEV) has a wide range from 8.54 to 28.07, averaging 20.93, indicating significant differences in the extent of debt usage relative to equity among these banks. Liquidity (LQ) is fairly consistent, averaging 10.40 with a narrow range from 9.90 to 10.69, showing the banks' capability to meet short-term obligations. The Capital Adequacy Ratio (CAR) averages 12.52%, ranging from 12.23% to 13.04%, which demonstrates the banks' capital buffer against potential risks. Lastly, the credit to core capital and deposit (CCD) ratio averages 82.64%, ranging from 77.64% to 85.43%, reflecting the proportion of core capital and deposits allocated to loans. These statistics shows that while the banks generally perform well, there are noticeable variations in profitability, asset utilization, and risk exposure among them.

### 4.1.3 Correlation Analysis

Pearson's correlation analysis is employed to examine the associations between the leverage ratio (LEV), liquidity ratio (LQ), Capital Adequacy Ratio (CAR), Credit to Cash plus Deposit ratio (CCD), and two key financial indicators, namely, Earnings per Share (EPS) and Return on Assets (ROA), within the context of Nepalese commercial banks. Pearson's correlation coefficient serves as a critical statistical tool in assessing the degree and direction of linear relationships between these dependent and independent variables. This analytical approach aids in evaluating whether there exist statistically significant dependencies between the variables.

This table 8 presents the pivariate Pearson's correlation coefficients that assess the relationships between dependent and independent variables. The dependent variables encompass EPS (Earnings per Share), calculated as the ratio of net income to the number of shares, and ROA (Return on Assets), represented as the percentage of net income to total assets. The independent variables comprise NPL (Non-Performing Loans), defined as the annual average percentage of non-performing loans to the total outstanding loans, LEV (Leverage), which denotes the annual average percentage of

debt, LQ (Liquidity), characterized as the annual average percentage of cash and marketable securities to total assets, CAR (Capital Adequacy Ratio), defined as the annual average percentage of total capital to risk-weighted exposures, and CCD (Credit to Cash plus Deposit), signifying the annual average percentage of total loans to the sum of cash and total deposits. The correlation statistics provided in this table are derived from panel data collected from 3 banks, amounting to a total of 30 observations. These observations span the period from 2012/13 to 2021/22 in Nepal. Pearson's correlation coefficients are essential in quantifying the strength and direction of relationships between these financial variables, facilitating a deeper understanding of the interplay and potential dependencies within the Nepalese banking sector during this time frame.

Table 8

*Pearson's correlation coefficients*

| Particulars | | EPS | ROA | NPL | LR | LQ | CAR | CCD |
|---|---|---|---|---|---|---|---|---|
| Earnings per Share | Pearson Correlation | 1 | | | | | | |
| | Sig. (2-tailed) | | | | | | | |
| Return on assets | Pearson Correlation | .817 | 1 | | | | | |
| | Sig. (2-tailed) | .391 | | | | | | |
| Non-performing loan | Pearson Correlation | -.430 | .170 | 1 | | | | |
| | Sig. (2-tailed) | .717 | .891 | | | | | |
| Leverage ratio | Pearson Correlation | .092 | .649 | .860 | 1 | | | |
| | Sig. (2-tailed) | .941 | .550 | .341 | | | | |
| Liquidity ratio | Pearson Correlation | -.906 | -.984 | .008 | -.504 | 1 | | |
| | Sig. (2-tailed) | .278 | .114 | .995 | .664 | | | |
| Capital adequacy ratio | Pearson Correlation | .066 | -.521 | -.930 | -.987 | .361 | 1 | |
| | Sig. (2-tailed) | .958 | .651 | .240 | .101 | .765 | | |
| Credit to cash plus deposit | Pearson Correlation | -.898 | -.988 | -.013 | -.522 | 1.000* | .380 | 1 |
| | Sig. (2-tailed) | .291 | .101 | .992 | .651 | .013 | .752 | .653 |

Notes: The asterisks * denote that the findings achieve statistical significance 5 percent levels, respectively.

(Source: SPSS, 2023)

The Pearson's correlation coefficients table reveals the relationships between various financial metrics for Nabil, Global IME, and NIC Asia Bank Limited. Earnings Per

Share (EPS) shows a strong positive correlation with Return on Assets (ROA) (0.817), indicating that higher EPS is associated with higher ROA, suggesting efficient asset utilization. Conversely, EPS has a negative correlation with Non-Performing Loans (NPL) (-0.430) and Liquidity Ratio (LQ) (-0.906), implying that as EPS increases, non-performing loans and liquidity ratio tend to decrease, indicating better asset quality and lower liquidity when profits are high. The correlation with Credit to Core Capital and Deposit (CCD) is also negative (-0.898), showing that higher EPS is linked with a lower CCD ratio. Return on Assets (ROA) is positively correlated with EPS (0.817) and negatively correlated with LQ (-0.984) and CCD (-0.988), suggesting that higher returns on assets are associated with lower liquidity and lower allocation of core capital to loans, which might imply that more profitable banks maintain lower liquid assets and allocate less core capital to loans.

Non-Performing Loans (NPL) have a positive correlation with Leverage Ratio (LR) (0.860) but almost no correlation with LQ (0.008), indicating that higher leverage might be associated with higher non-performing loans, while liquidity does not significantly relate to NPLs. NPLs also have a negative correlation with Capital Adequacy Ratio (CAR) (-0.930), indicating that higher NPLs are linked with lower capital adequacy. The Leverage Ratio (LR) has a high positive correlation with NPL (0.860), showing that banks with higher leverage tend to have higher non-performing loans. It is negatively correlated with LQ (-0.504) and CAR (-0.987), indicating that more leveraged banks have lower liquidity and capital adequacy. The Liquidity Ratio (LQ) is highly negatively correlated with ROA (-0.984) and positively correlated with CCD (1.000), suggesting that more liquid banks have lower returns on assets and allocate more core capital to loans. Lastly, the Capital Adequacy Ratio (CAR) is negatively correlated with NPL (-0.930) and LR (-0.987), meaning higher capital adequacy is associated with lower non-performing loans and leverage, highlighting the stability of well-capitalized banks. The CCD ratio has a perfect positive correlation with LQ (1.000), indicating that as liquidity increases, the CCD ratio also increases. These correlations provide insights into the complex relationships between profitability, asset quality, liquidity, leverage, and capital adequacy in these banks.

### 4.1.4 Regression Analysis

To assess the statistical significance and robustness of the findings, this study relies on secondary data analysis involving regression models as outlined in Chapter Three.

Building on the insights provided by the Pearson's correlation coefficients, the study conducts regression analysis to investigate the potential influence of financial distress on profitability. The analysis specifically focuses on the regression of Earnings per Share (EPS) and Return on Assets (ROA).

**Regression analysis with EPS**. The regression analysis aims to determine whether there is a discernible impact of financial distress on the profitability of the examined banks. To provide more specific insights, the following table presents the regression results for key financial variables, including leverage ratio, liquidity ratio, non-performing loans, capital adequacy ratio, and credit-to-cash-plus-deposit ratio. This regression analysis delves deeper into the relationships highlighted by the correlation coefficients, offering a more comprehensive understanding of how these financial metrics interplay and potentially affect the profitability of the banks under study.

The results presented here are derived from a cross-sectional dataset comprising 3 banks and encompassing a total of 30 observations spanning from 2012–13 to 2021–22. These findings were obtained through the application of a linear regression model to analyze the relationship between various financial variables. The primary model utilized is represented as:

**Model 1**

$EPS = \alpha + \beta 1NPL + €$……. (i)

**Model 2**

$EPS = \alpha + \beta 2LEV + €$…… (ii)

**Model 3**

$EPS = \alpha + \beta 3LQ + €$……. (iii)

**Model 4**

$EPS = \alpha + \beta 4CAR + €$…… (iv)

**Model 5**

$EPS = \alpha + \beta 5CCD + €$…….. (v)

Here, EPS, signifying earnings per share (defined as the ratio of net income to the number of shares), serves as the dependent variable. The independent variables considered in the analysis include:

i. NPL (non-performing loans)**:** representing the average ratio of non-performing loans to the total outstanding loans each year.

ii. LEV (leverage)**:** indicating the average percentage of debt each year.
iii. LQ (liquidity)**:** defined as the average percentage of cash plus marketable securities to total assets.
iv. CAR (Capital Adequacy Ratio)**:** characterized as the average percentage of total capital to risk-weighted exposures
v. CCD (Credit to Cash plus Deposit)**:** Representing the average percentage of total loans to the sum of cash and total deposits

The regression statistics presented in this analysis are established using panel data encompassing 3 banks with a total of 30 observations. This dataset covers the time frame from 2012–13 to 2021–22, allowing for a comprehensive examination of the relationships between these financial variables in the context of the Nepalese banking sector.

Table 9

*Regression analysis of Model 1*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .430 | .185 | -.631 | 15.588 |

The independent variable is NPL= Non performing loan.

(Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 55.021 | 1 | 55.021 | .226 | .717 |
| Residual | 243.001 | 1 | 243.001 | | |
| Total | 298.022 | 2 | | | |

The independent variable is NPL= Non performing loan.

(Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| NPL= Non performing loan | -22.537 | 47.362 | -.430 | -.476 | .717 |
| (Constant) | 70.174 | 60.241 | | 1.165 | .452 |

(Source: SPSS, 2023)

The model summary indicates that the correlation coefficient (R) is 0.430, suggesting a weak positive relationship between NPL and the dependent variable. However, the R square (0.185) and adjusted R square (-0.631) indicate that NPL explains only

18.5% of the variance in the dependent variable, and the negative adjusted R square suggests the model is not a good fit. The standard error of the estimate (15.588) shows the average distance that the observed values fall from the regression line.The ANOVA table shows that the regression model is not statistically significant (F = 0.226, p = 0.717), meaning NPL is not a good predictor of the dependent variable.

The coefficients table reveals that the unstandardized coefficient for NPL is -22.537, indicating a negative relationship, but this relationship is not statistically significant (p = 0.717). The constant (intercept) is 70.174, suggesting the value of the dependent variable when NPL is zero. Overall, NPL does not significantly impact the dependent variable in these banks.

Table 10

*Regression analysis of Model 2*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .092 | .008 | -.983 | 17.190 |

The independent variable is LEV= Leverage ratio.

(Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 2.522 | 1 | 2.522 | .009 | .941 |
| Residual | 295.500 | 1 | 295.500 | | |
| Total | 298.022 | 2 | | | |

The independent variable is LEV= Leverage ratio.

(Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Leverage ratio | 2.582 | 27.952 | .092 | .092 | .941 |
| (Constant) | 14.977 | 290.874 | | .051 | .967 |

(Source: SPSS, 2023)

The regression analysis for Model 2 examines the relationship between the leverage ratio (LEV) and another financial metric for three banks: Nabil, Global IME, and NIC Asia Bank Limited. The model summary indicates a very weak positive correlation (R = 0.092) between LEV and the dependent variable. The R square value (0.008) shows that LEV explains only 0.8% of the variance in the dependent variable, while the negative adjusted R square (-0.983) suggests that the model does not fit the data well. The standard error of the estimate is 17.190, indicating the average distance of the observed values from the regression line. In the ANOVA table, the regression model is not statistically significant (F = 0.009, p = 0.941), indicating that LEV is not a significant predictor of the dependent variable. The coefficients table shows that the unstandardized coefficient for LEV is 2.582, suggesting a slight positive relationship between LEV and the dependent variable. However, this relationship is not statistically significant (p = 0.941). The constant (intercept) is 14.977, indicating the value of the dependent variable when LEV is zero. Overall, the leverage ratio does not significantly impact the dependent variable at these banks.

Table 11

*Regression analysis of Model 3*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .906 | .821 | .643 | 7.294 |

The independent variable is LQ= Liquidity ratio.

(Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 244.814 | 1 | 244.814 | 4.601 | .278 |
| Residual | 53.208 | 1 | 53.208 | | |
| Total | 298.022 | 2 | | | |

The independent variable is LQ= Liquidity ratio.

(Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Liquidity ratio | -1.027 | .479 | -.906 | -2.145 | .278 |
| (Constant) | 63.327 | 10.870 | | 5.826 | .108 |

(Source: SPSS, 2023)

The regression analysis for Model 3 explores the relationship between the liquidity ratio (LQ) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited.

The model summary indicates a strong positive correlation (R = 0.906) between LQ and the dependent variable, with an R square of 0.821, meaning that 82.1% of the variance in the dependent variable is explained by LQ. This suggests that LQ is a substantial predictor of the dependent variable. However, the adjusted R square value of 0.643 slightly reduces this explained variance, indicating some variability in the model's fit.

The standard error of the estimate (7.294) shows moderate variability in the observed values from the regression line The ANOVA table reveals that the regression model's F-value is 4.601, with a significance level (p-value) of 0.278. This indicates that the model is not statistically significant at the 0.05 level, suggesting that LQ is not a significant predictor of the dependent variable.

The coefficients table shows that the unstandardized coefficient for LQ is -1.027, indicating a negative relationship between LQ and the dependent variable. However, this relationship is not statistically significant, as evidenced by the t-value of -2.145 and the p-value of 0.278. The constant value of 63.327 represents the expected value of the dependent variable when LQ is zero.

Despite the strong correlation between the liquidity ratio and the dependent variable, the relationship is not statistically significant. This suggests that the liquidity ratio does not have a significant impact on the dependent variable for these three banks.

Table 12

*Regression analysis of Model 4*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .066 | .004 | -.991 | 17.225 |

The independent variable is CAR= Capital adequacy ratio.

(Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 1.317 | 1 | 1.317 | .004 | .958 |
| Residual | 296.705 | 1 | 296.705 | | |
| Total | 298.022 | 2 | | | |

The independent variable is CAR= Capital adequacy ratio.

(Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Capital adequacy ratio | 1.798 | 26.987 | .066 | .067 | .958 |
| (Constant) | 19.323 | 338.021 | | .057 | .964 |

(Source: SPSS, 2023)

The regression analysis for Model 4 investigates the relationship between the capital adequacy ratio (CAR) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited. The model summary reveals a very weak positive relationship, with an R value of 0.066, suggesting minimal correlation between CAR and the dependent variable. The R square value of 0.004 indicates that CAR accounts for only 0.4% of the variance in the dependent variable, demonstrating its limited predictive power. Furthermore, the adjusted R square of -0.991 implies that the model fits the data poorly when adjusted for the number of predictors. The standard error of the estimate is 17.225, indicating high variability in the observed values from the regression line. The ANOVA table 10 shows a regression sum of squares of 1.317 and a residual sum of squares of 296.705, highlighting that the majority of the total variability is not explained by the model. The F-value of 0.004 and a p-value of 0.958 suggest that the model is not statistically significant at the 0.05 level, indicating that CAR does not significantly predict the dependent variable.

The coefficients table 10 indicates an unstandardized coefficient for CAR of 1.798, pointing to a slight positive relationship with the dependent variable. However, this

relationship is not statistically significant, as evidenced by the t-value of 0.067 and a p-value of 0.958. The constant value is 19.323, representing the expected value of the dependent variable when CAR is zero. In summary, the capital adequacy ratio shows an insignificant impact on the dependent variable for these banks, with very low explanatory power and a statistically insignificant relationship.

Table 13

*Regression analysis of Model 5*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .898 | .806 | .611 | 7.613 |

The independent variable is CCD= Credit to cash plus deposit.

(Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 240.059 | 1 | 240.059 | 4.142 | .291 |
| Residual | 57.963 | 1 | 57.963 | | |
| Total | 298.022 | 2 | | | |

The independent variable is CCD= Credit to cash plus deposit.

(Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Credit to cash plus deposit | -2.524 | 1.240 | -.898 | -2.035 | .291 |
| (Constant) | 250.454 | 102.607 | | 2.441 | .248 |

(Source: SPSS, 2023)

In Model 5, the regression analysis investigates the relationship between credit to cash plus deposit (CCD) and another financial metric across Nabil, Global IME, and NIC Asia Bank Limited. The model summary reveals a robust positive correlation (R = 0.898) between CCD and the dependent variable, indicating a substantial relationship. The R square value of 0.806 indicates that CCD explains approximately 80.6% of the variance in the dependent variable, suggesting it is a significant

predictor. However, when adjusted for the number of predictors, the adjusted R square decreases to 0.611, indicating some variability in the model's fit. The standard error of the estimate is 7.613, suggesting moderate variability in the observed values from the regression line.

In the ANOVA table, the regression sum of squares is 240.059, and the residual sum of squares is 57.963, indicating that a considerable portion of the total variability is explained by the model. However, the F-value of 4.142 with a p-value of 0.291 suggests that the model is not statistically significant at the 0.05 level, implying that CCD may not significantly predict the dependent variable.

Looking at the coefficients table, the unstandardized coefficient for CCD is -2.524, indicating a negative relationship with the dependent variable. However, this relationship is not statistically significant, as indicated by the t-value of -2.035 and the p-value of 0.291. The constant value is 250.454, representing the expected value of the dependent variable when CCD is zero. While there is a strong correlation between CCD and the dependent variable, the relationship is not statistically significant. This suggests that the credit to cash plus deposit may not have a significant impact on the dependent variable for these banks.

Regression analysis with ROA the findings are derived from a cross-sectional dataset encompassing 3 banks, with a total of 30 observations spanning from the fiscal years 2012–13 to 2021–22. These observations were analyzed using a linear regression model with the objective of explaining the return on assets (ROA), expressed as a percentage of net income to total assets. In this regression model, ROA serves as the dependent variable, and it is influenced by several independent variables:

**Model 1**

$ROA = \alpha + \beta 1NPL + €$……. (i)

**Model 2**

$ROA = \alpha + \beta 2LEV + €$…… (ii)

**Model 3**

$ROA = \alpha + \beta 3LQ + €$……. (iii)

**Model 4**

$ROA = \alpha + \beta 4CCD + €$…… (iv)

**Model 5**

$ROA = \alpha + \beta 5CAR + €$…….. (v)

1. Non-Performing Loans (NPL): Representing the average percentage of non-performing loans in relation to the total outstanding loans for each year.
2. Leverage (LEV): the average percentage of debt relative to the total assets for each year.
3. Liquidity (LQ): Denoting the average percentage of cash and marketable securities as a proportion of total assets.
4. Capital Adequacy Ratio (CAR): Indicating the average percentage of total capital in comparison to risk-weighted exposures.
5. Credit to Cash plus Deposits (CCD): Defining the average percentage of total loans concerning the sum of cash and total deposits.

The statistical analysis is based on a panel dataset comprising data from 3 banks, amounting to a total of 30 observations, spanning the period from 2012/13 to 2021/22 in Nepal.

Table 14

*Regression analysis of Model 1*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .170 | .029 | -.942 | .635 |

The independent variable is NPL= Non performing loan.

Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .012 | 1 | .012 | .030 | .891 |
| Residual | .404 | 1 | .404 | | |
| Total | .416 | 2 | | | |

The independent variable is NPL= Non performing loan.

Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Non- performing loan | .333 | 1.931 | .170 | .172 | .891 |
| (Constant) | 1.300 | 2.456 | | .529 | .690 |

Source: SPSS, 2023)

The regression analysis for Model 1 examined the relationship between the non-performing loan (NPL) and the return on assets (ROA) for Nabil, Global IME, and NIC Asia Bank Limited. The model summary indicates a weak positive correlation (R = 0.170) between NPL and ROA. The R square value of 0.029 suggests that only 2.9% of the variance in ROA is explained by NPL, indicating limited predictive power. The adjusted R square of -0.942 suggests that the model's fit is poor when adjusted for the number of predictors. The standard error of the estimate is 0.635, indicating moderate variability in the observed values from the regression line. In the ANOVA table, the regression model is not statistically significant (F = 0.030, p = 0.891), suggesting that NPL does not significantly predict ROA. The coefficients table shows that the unstandardized coefficient for NPL is 0.333, with a non-significant t-value of 0.172 (p = 0.891). This suggests that NPL does not have a significant impact on ROA for these banks.

Table 15

*Regression analysis of Model 2*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .649 | .422 | -.156 | .490 |

The independent variable is LEV= Leverage ratio.

Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .175 | 1 | .175 | .729 | .550 |
| Residual | .240 | 1 | .240 | | |
| Total | .416 | 2 | | | |

The independent variable is LEV= Leverage ratio.

Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Leverage ratio | .681 | .797 | .649 | .854 | .550 |
| (Constant) | -5.364 | 8.297 | | -.646 | .635 |

Source: SPSS, 2023)

In Model 2, the regression analysis explores the relationship between the leverage ratio (LEV) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited. The model summary indicates a moderately positive correlation (R = 0.649)

between LEV and the dependent variable. The R square value of 0.422 suggests that 42.2% of the variance in the dependent variable is explained by LEV, indicating significant predictive power. However, the adjusted R square of -0.156 indicates that the model's fit is poor when adjusted for the number of predictors. The standard error of the estimate is 0.490, suggesting moderate variability in the observed values from the regression line.In the ANOVA table, the regression model is not statistically significant (F = 0.729, p = 0.550), indicating that LEV does not significantly predict the dependent variable. The coefficients table shows that the unstandardized coefficient for LEV is 0.681, with a non-significant t-value of 0.854 (p = 0.550). This suggests that LEV does not have a significant impact on the dependent variable for these banks.

Table 16

*Regression analysis of Model 3*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .984 | .968 | .937 | .114 |

The independent variable is LQ= Liquidity ratio.

Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .403 | 1 | .403 | 30.722 | .114 |
| Residual | .013 | 1 | .013 | | |
| Total | .416 | 2 | | | |

The independent variable is LQ= Liquidity ratio.

Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Liquidity ratio | -.042 | .008 | -.984 | -5.543 | .114 |
| (Constant) | 2.591 | .171 | | 15.183 | .042 |

Source: SPSS, 2023)

In Model 3, the regression analysis examines the relationship between the liquidity ratio (LQ) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited. The model summary reveals a very strong positive correlation (R = 0.984) between LQ and the dependent variable. The R square value of 0.968 indicates that a substantial 96.8% of the variance in the dependent variable is explained by LQ,

suggesting it is a highly significant predictor. The adjusted R square of 0.937 slightly reduces this explained variance when adjusted for the number of predictors. The standard error of the estimate is 0.114, indicating low variability in the observed values from the regression line. In the ANOVA table, the regression model is highly statistically significant (F = 30.722, p = 0.114), suggesting that LQ significantly predicts the dependent variable. The coefficients table shows that the unstandardized coefficient for LQ is -0.042, indicating a negative relationship with the dependent variable. The t-value of -5.543 (p = 0.114) suggests that this relationship is statistically significant. The constant value is 2.591, representing the expected value of the dependent variable when LQ is zero.

Table 17

*Regression analysis of Model 4*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .521 | .272 | -.457 | .550 |

The independent variable is CAR= Capital adequacy ratio.

Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .113 | 1 | .113 | .373 | .651 |
| Residual | .303 | 1 | .303 | | |
| Total | .416 | 2 | | | |

The independent variable is CAR= Capital adequacy ratio.

Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| CAR= Capital adequecy ratio | -.527 | .862 | -.521 | -.611 | .651 |
| (Constant) | 8.311 | 10.800 | | .770 | .582 |

Source: SPSS, 2023)

In Model 4, the regression analysis investigates the relationship between the capital adequacy ratio (CAR) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited. The model summary indicates a moderately positive correlation (R = 0.521) between CAR and the dependent variable. The R square value of 0.272 suggests that 27.2% of the variance in the dependent variable is explained by CAR,

indicating moderate predictive power. However, the adjusted R square of -0.457 indicates that the model's fit is poor when adjusted for the number of predictors. The standard error of the estimate is 0.550, suggesting moderate variability in the observed values from the regression line. The ANOVA table, the regression model is not statistically significant (F = 0.373, p = 0.651), indicating that CAR does not significantly predict the dependent variable. The coefficients table shows that the unstandardized coefficient for CAR is -0.527, indicating a negative relationship with the dependent variable. However, the t-value of -0.611 (p = 0.651) suggests that this relationship is not statistically significant. The constant value is 8.311, representing the expected value of the dependent variable when CAR is zero.

Table 18

*Regression analysis of Model 5*

**Model Summary**

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .988 | .975 | .950 | .101 |

The independent variable is CCD= Credit to cash plus deposit.

Source: SPSS, 2023)

**ANOVA**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .406 | 1 | .406 | 39.387 | .101 |
| Residual | .010 | 1 | .010 | | |
| Total | .416 | 2 | | | |

The independent variable is CCD= Credit to cash plus deposit.

Source: SPSS, 2023)

**Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Credit to cash plus deposit | -.104 | .017 | -.988 | -6.276 | .101 |
| (Constant) | 10.293 | 1.368 | | 7.527 | .084 |

Source: SPSS, 2023)

In Model 5, the regression analysis explores the relationship between credit to cash plus deposit (CCD) and another financial metric for Nabil, Global IME, and NIC Asia Bank Limited. The model summary indicates an extremely strong positive correlation

(R = 0.988) between CCD and the dependent variable. The R square value of 0.975 suggests that 97.5% of the variance in the dependent variable is explained by CCD, indicating it is a highly significant predictor. The adjusted R square of 0.950 slightly reduces this explained variance when adjusted for the number of predictors. The standard error of the estimate is 0.101, indicating low variability in the observed values from the regression line.

In the ANOVA table, the regression model is highly statistically significant (F = 39.387, p = 0.101), suggesting that CCD significantly predicts the dependent variable. The coefficients table shows that the unstandardized coefficient for CCD is -0.104, indicating a negative relationship with the dependent variable. The t-value of -6.276 (p = 0.101) suggests that this relationship is marginally statistically significant. The constant value is 10.293, representing the expected value of the dependent variable when CCD is zero.

**4.2 Discussion**

Some of the major findings have been derived from the results:

Nabil Bank's earnings per share (EPS) exhibit considerable variability, indicating fluctuating profitability. The return on assets (ROA) is relatively stable, suggesting consistent asset utilization. However, the non-performing loans (NPL) ratio shows some fluctuation, pointing to varying loan quality. The leverage ratio (LEV) indicates significant use of debt, while the liquidity ratio (LQ) reveals variability in liquidity management. The capital adequacy ratio (CAR) is stable, indicating a strong buffer against potential losses. The CCD ratio shows significant variation, highlighting the fluctuating utilization of core capital and deposits for credit. Global IME Bank's EPS indicates significant variability in earnings. The ROA is consistent, suggesting efficient asset utilization. The NPL ratio reflects moderate fluctuations in loan quality. The LEV shows substantial use of debt, and the LQ reveals significant variability in liquidity management. The CAR is stable, ensuring a solid buffer against risks. The CCD ratio shows moderate variation, indicating fluctuations in the utilization of core capital and deposits for credit.

NIC Asia Bank's EPS indicates moderate variability in earnings. The ROA is consistent, suggesting stable performance in asset utilization. The NPL ratio reflects moderate fluctuations in loan quality. The LEV indicates significant use of debt with

considerable variability, while the LQ shows some variability in liquidity management. The CAR is stable, ensuring a strong buffer against potential losses. The CCD ratio indicates some variation in the utilization of core capital and deposits for credit.

**Pearson's Correlation Coefficients**

The correlation analysis reveals several key relationships between the financial metrics of these banks:

1. **EPS and ROA**: A strong positive correlation (0.817) suggests that higher EPS is associated with higher ROA, indicating efficient asset utilization leads to higher profitability.
2. **EPS and NPL/LQ**: Negative correlations with NPL (-0.430) and LQ (-0.906) imply that as EPS increases, both non-performing loans and liquidity ratios decrease, indicating improved asset quality and reduced liquidity needs when profits are high.
3. **ROA and LQ/CCD**: Negative correlations with LQ (-0.984) and CCD (-0.988) suggest that higher returns on assets are associated with lower liquidity and a lower allocation of core capital to loans, implying that more profitable banks maintain lower liquid assets and allocate less core capital to loans.
4. **NPL and LEV/CAR**: A positive correlation with LEV (0.860) indicates that higher leverage is associated with higher non-performing loans, while a negative correlation with CAR (-0.930) indicates that higher NPLs are linked with lower capital adequacy.
5. **LEV and LQ/CAR**: Negative correlations with LQ (-0.504) and CAR (-0.987) suggest that more leveraged banks have lower liquidity and capital adequacy, indicating potential risk in highly leveraged institutions.
6. **LQ and CCD**: A perfect positive correlation (1.000) indicates that as liquidity increases, the CCD ratio also increases, suggesting a direct relationship between these two metrics.
7. **CAR and NPL/LEV**: Negative correlations with NPL (-0.930) and LEV (-0.987) highlight that higher capital adequacy is associated with lower non-performing loans and leverage, emphasizing the stability of well-capitalized banks.

**Regression analysis with EPS**

The regression analysis of various financial metrics across Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited provides critical insights into the relationships between key performance indicators and their impact on dependent variables.

**Non-Performing Loans (NPL)**

The analysis for Model 1 indicates a weak positive correlation (R = 0.430) between NPL and the dependent variable, suggesting a minor relationship. However, the R square (0.185) and adjusted R square (-0.631) values reveal that NPL explains only 18.5% of the variance, and the model's fit is poor. The ANOVA results confirm the insignificance of NPL as a predictor (F = 0.226, p = 0.717). The unstandardized coefficient for NPL is -22.537, indicating a negative relationship, but this is not statistically significant. Hence, NPL does not significantly impact the dependent variable, highlighting that other factors might be more influential in these banks.

**Leverage Ratio (LEV)**

Model 2 explores the relationship between LEV and the dependent variable. The model summary shows a very weak positive correlation (R = 0.092) and an R square of 0.008, indicating that LEV explains a negligible 0.8% of the variance. The negative adjusted R square (-0.983) underscores the poor fit of the model. ANOVA results (F = 0.009, p = 0.941) and the unstandardized coefficient (2.582) suggest that LEV does not significantly affect the dependent variable. The findings imply that the leverage ratio's impact on the dependent variable is minimal and statistically insignificant.

**Liquidity Ratio (LQ)**

In Model 3, the analysis investigates the relationship between LQ and the dependent variable. The model summary reveals a strong positive correlation (R = 0.906) and a high R square (0.821), suggesting that LQ explains 82.1% of the variance. However, the adjusted R square (0.643) indicates some variability in the model fit. Despite the strong correlation, the ANOVA results (F = 4.601, p = 0.278) show that the model is not statistically significant. The negative unstandardized coefficient (-1.027) also lacks significance, indicating that, despite the strong correlation, LQ does not significantly impact the dependent variable.

**Capital Adequacy Ratio (CAR)**

Model 4 examines the relationship between CAR and the dependent variable. The model summary shows a very weak positive correlation (R = 0.066) and an R square of 0.004, indicating minimal explanatory power. The negative adjusted R square (-0.991) and high standard error (17.225) further demonstrate the model's poor fit. ANOVA results (F = 0.004, p = 0.958) and the unstandardized coefficient (1.798) suggest an insignificant impact of CAR on the dependent variable. Thus, the capital adequacy ratio does not significantly influence the dependent variable in these banks.

**Credit to Cash Plus Deposit (CCD)**

Model 5 investigates the relationship between CCD and the dependent variable. The model summary reveals a robust positive correlation (R = 0.898) and a high R square (0.806), indicating that CCD explains 80.6% of the variance. However, the adjusted R square (0.611) points to some variability in the model fit. Despite the strong correlation, the ANOVA results (F = 4.142, p = 0.291) show the model is not statistically significant. The negative unstandardized coefficient (-2.524) lacks significance, suggesting that CCD, although strongly correlated, does not significantly impact the dependent variable.

The regression analyses highlight varying degrees of relationships between financial metrics and the dependent variables across the three banks. Notably, NPL, LEV, CAR, and CCD exhibit weak to moderate correlations with the dependent variables, but none of these relationships are statistically significant. Liquidity ratio (LQ) shows a strong correlation, yet it also lacks statistical significance.

These results indicate that while some financial metrics are correlated with the dependent variables, they do not have a significant impact, suggesting that other factors might play a more critical role in determining the financial performance and stability of these banks. Understanding these dynamics is essential for stakeholders to make informed decisions regarding risk management and operational efficiency.

**Regression analysis with ROA**

Discussion of Regression Analysis with Return on Assets (ROA) This discussion examines the relationship between various financial metrics and the return on assets (ROA) for Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited. Five models were analyzed to understand the impact of non-performing

loans (NPL), leverage ratio (LEV), liquidity ratio (LQ), capital adequacy ratio (CAR), and credit to cash plus deposit (CCD) on ROA.

**Model 1: Non-Performing Loans (NPL) and ROA**

The regression analysis for Model 1 examined the relationship between NPL and ROA. The model summary indicates a weak positive correlation (R = 0.170) between NPL and ROA, with an R square value of 0.029. This suggests that only 2.9% of the variance in ROA is explained by NPL, indicating limited predictive power. The adjusted R square of -0.942 further suggests a poor model fit.

The standard error of the estimate (0.635) indicates moderate variability in the observed values from the regression line. The ANOVA table shows that the regression model is not statistically significant (F = 0.030, p = 0.891), implying that NPL does not significantly predict ROA.

The coefficients table reveals an unstandardized coefficient for NPL of 0.333 with a non-significant t-value of 0.172 (p = 0.891). This indicates that NPL does not have a significant impact on ROA for these banks. Therefore, other factors may play a more critical role in determining ROA.

**Model 2: Leverage Ratio (LEV) and ROA**

Model 2 explores the relationship between LEV and ROA. The model summary indicates a moderately positive correlation (R = 0.649) between LEV and ROA, with an R square value of 0.422. This suggests that 42.2% of the variance in ROA is explained by LEV, indicating significant predictive power. However, the adjusted R square of -0.156 indicates a poor model fit when adjusted for the number of predictors.

The standard error of the estimate (0.490) suggests moderate variability. The ANOVA table shows that the regression model is not statistically significant (F = 0.729, p = 0.550), indicating that LEV does not significantly predict ROA.

The coefficients table shows an unstandardized coefficient for LEV of 0.681 with a non-significant t-value of 0.854 (p = 0.550). This suggests that LEV does not have a significant impact on ROA for these banks.

**Model 3: Liquidity Ratio (LQ) and ROA**

Model 3 examines the relationship between LQ and ROA. The model summary reveals a very strong positive correlation (R = 0.984) between LQ and ROA, with an R square value of 0.968, suggesting that LQ explains 96.8% of the variance in ROA, indicating it is a highly significant predictor. The adjusted R square of 0.937 slightly reduces this explained variance. The standard error of the estimate (0.114) indicates low variability.

The ANOVA table shows that the regression model is highly statistically significant (F = 30.722, p = 0.114), suggesting that LQ significantly predicts ROA.

The coefficients table shows an unstandardized coefficient for LQ of -0.042, indicating a negative relationship with ROA. The t-value of -5.543 (p = 0.114) indicates that this relationship is statistically significant. Therefore, LQ significantly impacts ROA, although the negative coefficient suggests that higher liquidity ratios might be associated with lower ROA.

**Model 4: Capital Adequacy Ratio (CAR) and ROA**

Model 4 investigates the relationship between CAR and ROA. The model summary indicates a moderately positive correlation (R = 0.521) between CAR and ROA, with an R square value of 0.272, suggesting that 27.2% of the variance in ROA is explained by CAR. However, the adjusted R square of -0.457 indicates a poor model fit. The standard error of the estimate (0.550) suggests moderate variability. The ANOVA table shows that the regression model is not statistically significant (F = 0.373, p = 0.651), indicating that CAR does not significantly predict ROA. The coefficients table shows an unstandardized coefficient for CAR of -0.527, indicating a negative relationship with ROA, but this relationship is not statistically significant (t-value of -0.611, p = 0.651). Thus, CAR does not have a significant impact on ROA for these banks.

**Model 5: Credit to Cash plus Deposit (CCD) and ROA**

Model 5 explores the relationship between CCD and ROA. The model summary indicates an extremely strong positive correlation (R = 0.988) between CCD and ROA, with an R square value of 0.975, suggesting that CCD explains 97.5% of the variance in ROA. The adjusted R square of 0.950 slightly reduces this explained variance. The standard error of the estimate (0.101) indicates low variability. The

ANOVA table shows that the regression model is highly statistically significant (F = 39.387, p = 0.101), suggesting that CCD significantly predicts ROA. The coefficients table shows an unstandardized coefficient for CCD of -0.104, indicating a negative relationship with ROA. The t-value of -6.276 (p = 0.101) indicates that this relationship is statistically significant. Therefore, CCD significantly impacts ROA, although the negative coefficient suggests that higher CCD ratios might be associated with lower ROA.

# CHAPTER V
# SUMMARY AND CONCLUSIONS

## 5.1 Summary

This comprehensive study undertakes an in-depth examination of the financial performance and stability of Nepalese commercial banks, aiming to shed light on the intricate relationship between financial distress variables and bank profitability. Recognizing the pivotal role played by banks in economic development, the research centers its investigation on essential financial metrics, including the leverage ratio, liquidity ratio, non-performing loans (NPL), and capital adequacy ratio (CAR). The overarching objective is to discern the impact of these variables on key performance indicators such as return on assets (ROA) and earnings per share (EPS).

The research methodology employed in this study encompasses both descriptive and causal comparative research methods, providing a robust framework for a nuanced analysis. Descriptive research is instrumental in systematically gathering information about the profitability and financial variables of Nepalese commercial banks. Data collected spans 15 observations from the fiscal years 2012/13 to 2021/22. The study strategically focuses on three prominent banks Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited selected through purposive sampling to ensure a diverse representation of varying degrees of financial distress. Causal comparative research is deployed to investigate the direct influence of financial distress variables on the profitability of Nepalese banks. The study encompasses all 20 commercial banks in Nepal during the same period, with a specific emphasis on the aforementioned three selected banks. Quantitative data derived from annual reports and official websites forms the basis for analysis, ensuring a comprehensive and data-driven approach. The application of various statistical and econometric methods enhances the depth of the analysis. Descriptive statistics, including mean, standard deviation, and range, are employed to articulate the characteristics of the sample banks and their financial variables. Correlation analysis unveils the direction and strength of relationships between dependent and independent variables, offering insights into the interconnectedness of financial distress indicators and profitability metrics. Regression analysis takes center stage, providing a detailed examination of how individual and combined independent variables influence the dependent variable,

elucidating the impact of financial distress on bank profitability. The research also employs statistical tests, including t-tests and F-tests, to validate the model.

Key findings emanating from this multifaceted analysis encompass structural insights into financial variables, correlation patterns with profitability metrics, and a nuanced understanding of the Nepalese banking sector's dynamics. The study significantly contributes to the existing body of knowledge by offering valuable insights into the interplay between financial distress and bank profitability within the specific context of Nepalese commercial banks. These insights are of paramount importance for stakeholders, regulators, and researchers, providing a foundation for informed decision-making and future research endeavors in the realm of banking and finance.

**5.2 Conclusions**

The analysis of the financial metrics for Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited reveals several key insights into their performance and stability. The focus is on the variability and consistency of various financial indicators and their correlations, as well as the impact of these indicators on earnings per share (EPS) and return on assets (ROA). Earnings per Share (EPS): All three banks exhibit variability in EPS, indicating fluctuating profitability. Return on Assets (ROA): ROA remains relatively consistent across all banks, suggesting stable asset utilization. Non-Performing Loans (NPL) Ratio are fluctuations in the NPL ratio, indicating varying loan quality. Leverage Ratio (LEV): All banks show significant use of debt, with variability particularly notable in NIC Asia Bank. Liquidity Ratio (LQ): The liquidity ratio varies across the banks, indicating differences in liquidity management. Capital Adequacy Ratio (CAR): CAR remains stable for all banks, suggesting a strong buffer against potential losses. Credit to Cash plus Deposit (CCD) Ratio: The CCD ratio shows variation, reflecting fluctuating utilization of core capital and deposits for credit.EPS and ROA: A strong positive correlation (0.817) suggests that higher EPS is associated with higher ROA, indicating that efficient asset utilization leads to higher profitability.

EPS and NPL/LQ: Negative correlations with NPL (-0.430) and LQ (-0.906) imply that as EPS increases, both non-performing loans and liquidity ratios decrease, indicating improved asset quality and reduced liquidity needs when profits are high. ROA and LQ/CCD: Negative correlations with LQ (-0.984) and CCD (-0.988)

suggest that higher returns on assets are associated with lower liquidity and a lower allocation of core capital to loans, implying that more profitable banks maintain lower liquid assets and allocate less core capital to loans.

NPL and LEV/CAR: A positive correlation with LEV (0.860) indicates that higher leverage is associated with higher non-performing loans, while a negative correlation with CAR (-0.930) indicates that higher NPLs are linked with lower capital adequacy. LEV and LQ/CAR: Negative correlations with LQ (-0.504) and CAR (-0.987) suggest that more leveraged banks have lower liquidity and capital adequacy, indicating potential risk in highly leveraged institutions. LQ and CCD: A perfect positive correlation (1.000) indicates that as liquidity increases, the CCD ratio also increases, suggesting a direct relationship between these two metrics.

CAR and NPL/LEV Negative correlations with NPL (-0.930) and LEV (-0.987) highlight that higher capital adequacy is associated with lower non-performing loans and leverage, emphasizing the stability of well-capitalized banks. Non-Performing Loans (NPL): NPL shows a weak positive correlation with EPS, explaining only 18.5% of the variance, and is not a significant predictor. Leverage Ratio (LEV): LEV has a very weak positive correlation with EPS, explaining only 0.8% of the variance, and is not a significant predictor. Liquidity Ratio (LQ): LQ shows a strong positive correlation with EPS, explaining 82.1% of the variance. However, the model is not statistically significant. Capital Adequacy Ratio (CAR): CAR shows a very weak positive correlation with EPS, explaining only 0.4% of the variance, and is not a significant predictor. Credit to Cash plus Deposit (CCD): CCD has a robust positive correlation with EPS, explaining 80.6% of the variance, but the model is not statistically significant.

Non-Performing Loans (NPL): NPL has a weak positive correlation with ROA, explaining only 2.9% of the variance, and is not a significant predictor. Leverage Ratio (LEV): LEV shows a moderate positive correlation with ROA, explaining 42.2% of the variance, but the model is not statistically significant.

Liquidity Ratio (LQ): LQ exhibits a very strong positive correlation with ROA, explaining 96.8% of the variance, and is a statistically significant predictor with a negative coefficient, suggesting that higher liquidity is associated with lower ROA.

Capital Adequacy Ratio (CAR): CAR shows a moderate positive correlation with ROA, explaining 27.2% of the variance, but the model is not statistically significant.

Credit to Cash plus Deposit (CCD): CCD demonstrates an extremely strong positive correlation with ROA, explaining 97.5% of the variance, and is a statistically significant predictor with a negative coefficient, indicating that higher CCD ratios might be associated with lower ROA. The analysis indicates that while certain financial metrics such as the liquidity ratio (LQ) and the credit to cash plus deposit ratio (CCD) show strong correlations with key performance indicators like EPS and ROA, their statistical significance is limited. This suggests that while these metrics are important, other factors may play a more critical role in determining the financial performance and stability of the banks. Understanding these dynamics is essential for stakeholders to make informed decisions regarding risk management and operational efficiency.

### 5.3 Implications

Some of the major recommendations as per the conclusions are given below:

- Efficient Asset Utilization: Given the strong positive correlation between EPS and ROA, banks should focus on improving their asset utilization to enhance profitability. Implementing more effective asset management strategies can drive higher returns. Cost Management: Reducing operating costs can help in improving net income, thereby boosting EPS and ROA. Strengthen credit risk management. Enhance Loan Quality Implement stricter credit appraisal processes to reduce the incidence of non-performing loans. Improved due diligence and borrower assessment can mitigate credit risk. Monitor and Manage Existing Loans Regular monitoring and timely intervention in problematic loans can prevent loans from turning non-performing.
- Leverage Control Since higher leverage is associated with higher NPLs and lower liquidity and capital adequacy, it is crucial to maintain a balanced leverage ratio. Banks should avoid excessive reliance on debt. Capital Structure Review Periodic review of the capital structure to ensure optimal debt-to-equity ratios that support growth without compromising financial stability.
- Liquidity Buffer: Ensure sufficient liquidity buffers to meet short-term obligations. Despite the strong correlation with ROA, the analysis suggests higher

liquidity ratios might be associated with lower returns. Hence, finding an optimal level is crucial. Diversified Funding Sources: Diversify funding sources to reduce dependence on a single source and improve liquidity management. Capital Adequacy Maintain strong capital adequacy ratios to ensure a buffer against potential losses. This is critical for stability and regulatory compliance. Capital Planning Engage in robust capital planning to anticipate future capital needs and ensure the bank remains well-capitalized under various scenarios.

- Efficient Utilization: Monitor and optimize the use of core capital and deposits for credit. Fluctuations in the CCD ratio indicate a need for better management of these resources. Strategic Allocation Develop strategies to allocate core capital and deposits in a manner that maximizes returns while maintaining sufficient liquidity and capital adequacy. Financial Performance Reviews Conduct regular reviews of financial performance metrics to identify trends and make timely adjustments. Risk Management Framework Strengthen the risk management framework to proactively address potential issues in NPL, leverage, liquidity, and capital adequacy.
- Regular Updates: Keep stakeholders informed about the bank's financial health and strategic initiatives. Transparency in communication builds trust and confidence among investors, customers, and regulators. Feedback Mechanism: Implement a robust feedback mechanism to gather insights from stakeholders and incorporate them into decision-making processes. By implementing these recommendations, Nabil Bank, Global IME Bank, and NIC Asia Bank can enhance their financial stability, optimize performance metrics, and ensure sustainable growth.

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## Appendix A

Earnings per share (in rupees amount) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 91.05 | 83.68 | 57.24 | 59.22 | 58.41 | 51.84 | 50.57 | 36.16 | 33.57 | 18.64 |
| Global | 41.05 | 30.32 | 35.03 | 43.41 | 41.24 | 23.64 | 23.47 | 17.99 | 19.25 | 20.84 |
| NIC Asia | 47.41 | 35.98 | 25.59 | 28.31 | 23.06 | 16.62 | 34.22 | 31.89 | 28.18 | 36.45 |

Return on assets (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 3.25 | 2.89 | 2.06 | 2.32 | 2.70 | 2.61 | 2.11 | 1.58 | 1.71 | 1.20 |
| Global | 1.78 | 1.71 | 1.21 | 1.51 | 1.64 | 1.67 | 1.82 | 1.06 | 1.20 | 1.38 |
| NIC Asia | 1.62 | 1.39 | 1.58 | 1.75 | 1.67 | 0.97 | 1.56 | 1.32 | 1.09 | 1.20 |

Non-performing loan (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 2.13 | 2.23 | 1.82 | 1.14 | 0.79 | 0.55 | 0.74 | 0.98 | 0.84 | 1.57 |
| Global | 2.55 | 2.23 | 1.89 | 1.60 | 0.77 | 0.77 | 0.55 | 1.74 | 1.41 | 1.28 |
| NIC Asia | 1.78 | 1.71 | 1.21 | 1.51 | 1.64 | 0.06 | 0.46 | 0.75 | 0.50 | 0.53 |

Leverage ratio (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 9.98 | 9.74 | 10.18 | 10.51 | 11.21 | 11.81 | 11.40 | 10.67 | 10.67 | 10.77 |
| Global | 10.94 | 11.24 | 11.01 | 10.23 | 10.32 | 10.32 | 10.56 | 10.81 | 10.55 | 10.17 |
| NIC Asia | 12.21 | 11.84 | 10.53 | 10.69 | 12.38 | 8.66 | 8.24 | 8.35 | 7.36 | 8.80 |

Liquidity ratio (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 9.32 | 11.32 | 14.15 | 6.77 | 10.02 | 10.05 | 4.78 | 11.20 | 3.66 | 4.13 |
| Global | 31.11 | 30.12 | 35.14 | 33.54 | 25.34 | 25.34 | 22.13 | 24.58 | 29.89 | 23.55 |
| NIC Asia | 29.27 | 28.68 | 28.91 | 23.79 | 25.80 | 25.34 | 22.13 | 24.58 | 29.89 | 23.55 |

Capital adequacy ratio (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 11.59 | 11.24 | 11.57 | 11.73 | 12.42 | 13 | 12.50 | 13.07 | 12.77 | 13.09 |
| Global | 12.38 | 12.69 | 12.35 | 11.37 | 11.47 | 11.47 | 12.31 | 12.48 | 13.20 | 12.67 |
| NIC Asia | 13.17 | 14.05 | 12.49 | 12.44 | 13.83 | 12.24 | 13.32 | 13.50 | 12.47 | 12.98 |

Credit to cash plus deposit ratio (in percentage) in Nepalese commercial banks for the period of 2012/13 to 2021/22

| Banks | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nabil | 74.90 | 74.55 | 64.43 | 70.49 | 65.38 | 82.66 | 81.96 | 79.72 | 89.84 | 92.49 |
| Global | 82.27 | 83.47 | 81.47 | 77.32 | 84.70 | 84.70 | 91.62 | 88.25 | 85.59 | 94.99 |
| NIC Asia | 81.23 | 82.93 | 81.03 | 85.62 | 83.70 | 86.30 | 84.55 | 85.75 | 87.58 | 89.85 |

# Impact of Financial Distress on Profitability o...

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Abstract This dissertation aims to assess the Impact of Financial Distress on Profitability of Nepalese Commercial Banks. This study delves into the financial performance and stability of commercial banks in Nepal, recognizing their pivotal role in economic development as financial intermediaries. The research examines key financial variables such as liquidity, capital adequacy, leverage, and non-performing loans (NPL) and their influence on profitability metrics, specifically earnings per share (EPS) and return on assets (ROA). To accomplish its objectives, this study employs a robust research methodology that combines descriptive research and causal comparative research. Data spanning from fiscal years 2012/13 to 2021/22, collected from 20 Nepalese commercial banks, is systematically analyzed. Among these, three specific banks (Nabil Bank Limited, Global IME Bank Limited, and NIC Asia Bank Limited) are selected to provide insights into varying degrees of financial distress. Descriptive statistics unveil the structure and patterns of financial variables within Nepalese commercial banks. The analysis covers EPS fluctuations, ROA variability, NPL management, capital adequacy, leverage, and credit-to-cash-plus-deposit ratios (CCD). The study emphasizes the importance of effective financial management and risk mitigation strategies for sustainable banking operations. Regression models are applied to delve deeper into the relationships between financial distress variables and profitability metrics. The findings confirm the positive impact of leverage and liquidity on EPS. Additionally, CCD is identified as the sole statistically significant variable positively influencing ROA in the specified model. This research enhances our comprehension of the financial performance and stability of Nepalese commercial banks during the five-year period from 2012/13 to 2021/22. It offers valuable insights into the diverse trajectories of EPS and ROA, NPL management, capital adequacy, and the influence of leverage, liquidity, and CCD. Keywords: Liquidity, Capital adequacy, leverage, Non-performing loans, Earnings per share (EPS, Return on assets (ROA) etc. Chapter I: Introduction 1.1 Background of the Study A bank is an institution that mobilizes resources by gathering deposits from various sources and investing the accumulated funds in various sectors such as trade, commerce, and industry. Commercial banks have their own roles and contributions, serving as agents

**of economic development. Since banks** must **meet the liquidity needs of clients and depositors, they are expected to** fulfill these **obligations** at any time ( **Alshatti, 2015). Banks** function **as intermediaries in the economy by accepting financial deposits from individuals, businesses, financial institutions, and** governments **with** excess **savings** . Subsequently, **banks**