

**DETERMINANTS OF BANKS STABILITY: EVIDENCES FROM
NEPALESE COMMERCIAL BANKS**

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fulfilment of the requirements for the Degree of Masters of Business Studies

by

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Determinants of Banks Stability: Evidences from 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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Abbreviations

AQ	: Assets Quality
BanSize	: Bank Size
CapRatio	: Capital Ratio
CreRisk	: Credit Risk
CV	: Coefficient of Variance
EBL	: Everest Bank Limited
GDPG	: Gross Domestic Product Growth
INF	: Inflation Rate
LiqRisk	: Liquidity Risk
MBS	: Master in Business Studies
NABIL	: Nabil Bank Limited
NMB	: NMB Bank Limited
NPL	: Non-Performing Loan
NSBL	: Nepal SBI Bank Limited
NRB	: Nepal Rastra Bank
SCB	: Standard Chartered Bank Nepal Limited
SD	: Standard Deviation
SPSS	: Statistical Package for Social Science
TU	: Tribhuvan University

Abstract

The main aim of this study is to investigate the factors that determine the stability of commercial banks in Nepal. More specifically, the study focuses on the correlations that exist between different banking measures and the collective influence that these metrics have on financial stability and performance. In this research, panel data analysis is used to evaluate the impact that several variables, including capital ratio, credit risk, bank size, liquidity risk, GDP growth and inflation, have on the stability of banks. The findings indicate that the stability of a bank is highly influenced by factors such as capital ratio, credit risk and liquidity requirements. It is surprising to learn that the size of a bank has a negative influence on stability, which suggests that bigger banks may have more difficulties in their operations. There is a modest association between bank stability and external economic indicators like GDP growth and inflation, which suggests that internal management practices have a more significant influence in the stability of the economic system. When it comes to safeguarding the stability of banks, the report highlights the need of having robust capital buffers, practicing cautious risk management, and implementing efficient liquidity methods. The study underscores the importance of strong capital buffers, prudent risk management, and effective liquidity strategies in ensuring bank stability. It highlights the necessity for banks to remain vigilant to external economic shifts while focusing on strengthening internal practices. These findings provide valuable insights for policymakers and banking institutions in Nepal, emphasizing the need for robust regulatory frameworks and internal management strategies to bolster the resilience of the banking sector. Policymakers are advised to consider these findings when formulating regulations to ensure a stable banking environment. Additionally, the study suggests that banks focus on internal practices and health to navigate economic conditions successfully. Future research could explore the causal relationships between these variables and bank stability, and comparative studies in different economic contexts could help determine the universality of these findings and inform adaptable strategies.

Keywords: Bank stability, capital ratio, credit risk, bank size, liquidity risk, GDP growth, inflation, risk management

CHAPTER I

INTRODUCTION

1.1 Background of the study

Financial institutions, particularly banks, play a pivotal role in modern economic systems by facilitating financial intermediation, supporting economic growth, and promoting financial system stability (Ngaira & Miroga, 2018). Ensuring bank stability is paramount to prevent disruptions that can cascade throughout the economy. There are contrasting theoretical perspectives on the relationship between banking market competition and stability. The competition-stability view posits that greater competition leads to improved bank stability (Gulati et al., 2023), while the competition-fragility view argues that increased competition may promote risk-taking and reduce stability (Jungo et al., 2024). Bank stability results from a complex interplay of internal and external factors. Internal factors include bank capitalization, management efficiency, asset quality, liquidity, and earnings (Ozil, 2019), while external factors encompass economic growth, inflation, regulatory framework, and overall banking sector development (Yitayaw et al., 2022).

During the course of the growth of financial markets, the banking industry in developing nations has been subjected to major alterations. The banking system and financial institutions have been confronted with difficulties in continuing operating activity, minimizing losses, and meeting the requirements for liquidity. (Shair et al., 2021) It is now absolutely necessary for the advancement of global social and economic conditions to secure financial stability and to achieve sustainable development. As a result of the foundation of trust that underpins all of their dealings with customers, banks are seen as trust agents. Furthermore, banks play a crucial role in the growth of the national economy (Irfan et al., 2019).

Profitability in banks signifies a healthy balance between assets and liabilities, indicating stability (Kharabsheh & Gharaibeh, 2022). Medium-term financial stability of banks can be jeopardized by poor capital, asset, and liability quality, aggressive lending practices leading to increased credit risk, and potential losses. Many countries are prioritizing fiscal stability over economic expansion, given concerns about long-term economic growth amid global financial system volatility. Increased financial regulation is evident post-2007 global financial crisis, aiming to stabilize economies

and prevent systemic risks (G.C., 2020). Financial regulation aims to foster economic growth and stability while facilitating productive economic activity.

Banking stability is the absence of banking crises, which happens when all banks within a banking system stay stable or when financial intermediation runs smoothly, creating trust in clients (Jabra, 2020). Banking crises might occur when all banks within a banking system remain stable. There is a degree of interconnectedness not just between banks but also between banks, households, and individual enterprises. Therefore, instability in one bank or across banks may lead to disruptions that harm families and people, which in turn contributes to the instability of the financial system (Ahamed & Mallick, 2019).

The stability of commercial banks is a cornerstone of economic development and financial security within a country. In Nepal, the commercial banking sector plays a critical role in providing necessary financial services, facilitating economic growth, and ensuring the efficient allocation of resources (Khanal, 2024). However, the determinants of bank stability in this context are not fully understood, necessitating further research to identify and analyze these factors.

Nepal has experienced significant economic growth in recent years. The banking sector plays a crucial role in supporting this growth by facilitating investment, trade, and financial inclusion. However, the Nepalese banking sector faces unique challenges, including exposure to external shocks, regulatory issues and the impact of natural disasters (Neupane, 2023). Therefore, a thorough analysis of the determinants of bank stability in the context of Nepal is essential to formulate targeted policies that address the specific challenges faced by its financial institutions.

The stability of the banking sector is a critical aspect of a country's economic health, influencing the overall financial system and its ability to support economic growth. Understanding the determinants of bank stability is crucial for policymakers, regulators, and financial institutions to formulate effective strategies that can mitigate risks and enhance the resilience of the banking sector (Gwachha, 2023). This study aims to provide an analysis of the factors influencing bank stability on the context of Nepal.

1.2 Problem statement

The Nepalese banking system has experienced significant development in recent years. However, it has also faced challenges that could potentially impact the stability of

individual banks and the system as a whole. Understanding the key determinants affecting bank stability within the Nepalese context is crucial for policymakers and bank managers to formulate effective strategies and ensure the banking system's health.

The critical importance of bank stability within modern economic systems, emphasizing its role in facilitating financial intermediation, supporting economic growth, and promoting overall financial system stability (Ngaira & Miroga, 2018). However, despite its significance, achieving and maintaining bank stability is not without its challenges. One prominent issue highlighted in the statement is the contrasting theoretical perspectives on the relationship between banking market competition and stability. While some argue that greater competition can enhance bank stability (Gulati et al., 2023), others suggest that increased competition may lead to risk-taking behavior and reduce stability (Jungo et al., 2024). This presents a dilemma for policymakers and regulators in determining the optimal level of competition within the banking sector to ensure stability while fostering innovation and efficiency.

The studies on banking stability across diverse regions highlight several key determinants that significantly influence the financial resilience of commercial banks. The stability of commercial banks is a critical aspect of a nation's financial system, as it not only affects the banks' ability to operate effectively but also has broader implications for economic growth and development. In Nepal, the determinants of bank stability are multifaceted, encompassing both bank-specific factors and macroeconomic conditions. Research has shown that profitability, deposit and loan portfolios, bank size, capital adequacy, asset quality, and earnings are significant determinants of bank value and stability (Bhattarai, 2017). Moreover, macroeconomic factors such as GDP growth, inflation, exchange rates, and money supply have been identified as influential on bank deposits and, by extension, on overall bank stability (Gautam, 2021).

Another challenge identified is the complex interplay of internal and external factors influencing bank stability. Internal factors such as bank capitalization, management efficiency, asset quality, liquidity, and earnings are crucial determinants of stability (Ozil, 2019). However, external factors including economic growth, inflation, regulatory framework, and overall banking sector development also play significant roles (Yitayaw et al., 2022). Balancing these factors and addressing their

interdependencies poses a formidable challenge for stakeholders in maintaining bank stability.

Ozili's (2018) investigation in Africa emphasizes the impact of banking efficiency, foreign bank presence, and institutional factors such as government effectiveness and regulatory quality. Similarly, Ozili's (2019) study in Nigeria underscores the importance of bank efficiency, nonperforming loans, and regulatory capital ratios. Chand et al. (2020) provides insights into Fiji's banking sector, revealing positive associations with bank stability for factors like bank size, funding risk, and economic growth, while noting negative impacts from liquidity risk and political crises. Singh's (2021) analysis of Nepalese banks identifies capital adequacy, asset quality, and earnings as pivotal factors affecting stability, with credit growth negatively impacting stability.

Trung et al.'s (2021) study in Vietnamese commercial banks emphasizes the positive influence of bank size and liquidity ratios on stability, contrasting with the negative impact of credit growth. Chai et al. (2022) in Pakistan highlight the adverse effects of credit and liquidity risks on stability, alongside the negative influence of larger bank size. Kharabsheh and Gharaibeh's (2022) examination of Jordanian banks stresses the positive role of SME loans and capital adequacy, while signaling the negative effects of financial inclusion and liquidity and credit risks. Finally, Gulati et al.'s (2023) investigation in India, Nepal, Bangladesh, and Pakistan underscores the detrimental impact of inflation on stability and the positive influence of institutional quality.

However, despite the importance of these factors, the Nepalese banking industry has experienced fluctuations in stability, with improvements in the early years of the study period followed by a declining trend. This instability can be attributed to various elements, including credit risk, which has been found to negatively impact bank stability. Additionally, the interest rate and money supply have been shown to have a positive and significant impact, while the exchange and inflation rates have a negative effect on bank stability (Bhattarai, 2017).

Despite the essential role that banks play as intermediaries in facilitating economic activities, there exist challenges and concerns within the banking sector that warrant attention. Issues such as regulatory complexities, technological disruptions, and macroeconomic uncertainties may impact the effectiveness of banks in fulfilling their intermediary function. Additionally, varying degrees of financial stability among banks

can pose risks to the overall economic well-being of a country. In order to ensure the continued positive contributions of the banking sector to economic growth and stability, it becomes imperative to identify and address the specific problems and challenges faced by banks. This research aims to investigate and analyze the determinants of bank stability on the Nepalese banking sector. Mainly the following research questions are raised:

- i In which extent does bank specific factors i.e., capital ratio, credit risk, bank size and liquidity risk relate with the bank stability?
- ii Is there any relationship exists between external factors i.e., GDP growth and inflation with the bank stability?
- iii How bank specific factors i.e., capital ratio, credit risk, bank size and liquidity risk affect the bank stability?
- iv Do external factors i.e., GDP growth and inflation affect the bank stability?

1.3 Objectives of the study

The main aim of the study is to examine the bank stability determinants in financial sector in Nepal. However, the specific objectives of the study are as follows:

- i To assess the relationship between bank-specific factors, including capital ratio, credit risk, bank size, and liquidity risk, and bank stability within the context of Nepal.
- ii To examine the relationships between external factors, specifically GDP growth and inflation and the stability of banks.
- iii To analyze the influence of bank-specific factors, including capital ratio, credit risk, bank size and liquidity risk on the stability of banks.
- iv To analyze the impact of external factors i.e., GDP growth and inflation on the stability of banks.

1.4 Rationale of the study

The study seeks to offer valuable insights into the impact of key bank-specific factors, such as capital ratio, credit risk, bank size, and liquidity risk, on the stability of banking institutions. Understanding these dynamics is crucial for banks in formulating effective risk management strategies and ensuring their long-term stability. By exploring the relationships between external factors like GDP growth and inflation with bank stability, the study aims to provide policymakers and regulators with evidence-based

insights. This information is essential for crafting and refining policies that can foster a stable banking sector, contributing to overall economic resilience.

The study builds upon existing empirical research by integrating insights from relevant studies which not only enhances the academic understanding of the subject but also contributes to the theoretical advancement in comprehending the interplay of factors influencing bank stability. Ascertaining the strong factors that significantly affect bank stability among both bank-specific and external factors is imperative for risk mitigation. The study aims to identify these key determinants, aiding in the development of strategies that can enhance overall economic stability by ensuring the resilience of the banking sector.

The study is context-specific, acknowledging the unique economic environment under investigation. However, the findings may also contribute to the broader body of knowledge in banking and finance, allowing for potential generalizability and applicability in similar economic contexts. The research rationale stems from the practical implications for banking institutions, the policy relevance for regulators, the academic contribution to theoretical understanding, the importance of risk mitigation, and the potential for broader generalizability within the field of banking stability.

The study on the determinants of bank stability within Nepalese commercial banks holds significant value for future researchers also. The Nepalese banking system provides a unique context due to its evolving regulatory landscape and the specific challenges it faces. By focusing on Nepalese banks, this study offers insights that may not be directly transferable from studies in developed economies. Further research could build upon these findings, investigating whether the identified determinants hold true in different regulatory periods or how recent policy changes may reshape the stability landscape.

1.5 Limitations of the study

The limitations of the study are as:

- i The study is confined only to a sample of five commercial banks within the specified context.
- ii The research is constrained by the availability of data covering a period of ten years only from fiscal year 2013/14 to 2022/23.
- iii The study is limited to descriptive, correlation, and regression analyses only.

- iv The reliability of the study is contingent on the availability and quality of data from the selected commercial banks.
- v The contextual specificity of the study, focusing on a particular region or economic environment, may limit the external validity of the findings.

CHAPTER II

LITERATURE REVIEW

The literature review and theoretical framework provide a comprehensive understanding of the existing research landscape and the conceptual underpinnings guiding the study on banking stability determinants. The detailed review of the literature and theoretical review sets the stage for empirical investigation by establishing a context-rich framework that informs the study's design, methodology, and interpretation of results.

2.1 Theoretical review

Theoretical underpinnings, drawing on concepts like the concentration-stability hypothesis and market discipline theory, offer a foundation for the study, shaping the hypotheses and guiding the selection of variables. These theories, rooted in industrial organization economics and financial economics, respectively, contribute to understanding the relationships between market structure, market forces and banking stability. This chapter has three sections which include theoretical review, empirical review and research gap of the study.

The concentration-stability hypothesis

The concentration-stability hypothesis is a concept that posits a positive relationship between market concentration and banking stability. It suggests that a high level of concentration in the banking industry leads to greater stability due to various factors such as increased market power, reduced competition, and enhanced risk management capabilities. This hypothesis has been a subject of interest for researchers in the field of banking and financial stability.

The concentration-stability hypothesis, rooted in the structure-conduct-performance (SCP) paradigm of industrial organization economics, posits that the level of market concentration in the banking industry is linked to the stability of individual banks and the overall financial system (Mason, 1939; Bain, 1951). Scholars extended the SCP framework to analyze banking by adapting the hypothesis to assess how the structure of the industry influences banks' conduct and performance. The SCP model suggests that more concentrated markets may exhibit different behaviors, impacting the stability of the entities within the industry (Bain, 1956; Demsetz, 1973).

The concentration-stability hypothesis is commonly measured using market concentration indices, such as the Herfindahl-Hirschman Index (HHI) or concentration ratios. These metrics quantify the dominance of a few large banks in a particular market (Herfindahl, 1950; Hirschman, 1964). The stability of banks is assessed through various financial indicators, including the Z-score, return on assets (ROA), and other relevant financial ratios (Berger, 1995; Boyd & De Nicolo, 2005).

A study by Chand et al. (2020) on bank stability determinants in Fiji employed the concentration-stability hypothesis as a theoretical foundation. The research utilized a balanced panel of seven banking institutions from 2000 to 2018 and applied fixed-effect regression models. The study found nuanced relationships between market concentration and stability indicators, contributing valuable insights into the unique dynamics of Fiji's small island economy (Chand et al., 2020).

The concentration-stability hypothesis aligns with the idea that dominant banks, by possessing more market share and resources, may be better equipped to withstand economic shocks and disruptions (Boyd & De Nicolo, 2005). This concentration may result in reduced competitive pressures, potentially lowering the likelihood of aggressive risk-taking behaviors by banks to maintain or increase market share (Demsetz, 1973). However, the relationship between concentration and stability is contingent on various factors, and empirical studies often reveal context-specific nuances (Berger, 1995).

The concentration-stability hypothesis provides a theoretical foundation for understanding the relationship between market concentration and banking stability. Rooted in the SCP paradigm, this hypothesis has been applied in empirical studies to assess the impact of concentration on various stability indicators, offering insights into the complex dynamics of banking industries in different contexts.

Market discipline theory

Market discipline theory, a key concept in banking and financial economics, is grounded in the idea that market forces and information play a crucial role in influencing the behavior and stability of financial institutions. The theory suggests that when market participants, including depositors, creditors, and investors, possess accurate and timely information about a bank's financial health, they can discipline the bank by adjusting their investment decisions, deposit placements, or lending

relationships based on their assessment of the bank's risk profile (Kane, 1989; Demirgüç-Kunt & Huizinga, 2004). The theory emerged as a response to concerns about the effectiveness of regulatory mechanisms in mitigating moral hazard problems in the banking sector, particularly in the context of deposit insurance and implicit government guarantees (Flannery, 1998; Diamond & Dybvig, 1983).

Founded by Edward J. Kane in the late 1980s, market discipline theory addresses the limitations of relying solely on regulatory oversight to ensure financial stability. Kane (1989) argued that the market discipline exerted by informed investors and depositors, who have a vested interest in protecting their investments, can complement regulatory efforts by acting as a check on excessive risk-taking by banks. According to the theory, if market participants have access to accurate information about a bank's risk exposure, they can respond rationally to changes in the bank's risk profile, thereby influencing the bank's behavior and enhancing overall financial stability (Kane, 2000).

Empirical studies applying the market discipline theory often utilize market-based indicators such as bond spreads, stock prices, and credit default swap (CDS) spreads to assess how investors perceive and respond to changes in a bank's risk profile. Demirgüç-Kunt and Huizinga (2004) investigated the impact of market discipline on bank risk-taking behavior using bond yield spreads as a proxy for market assessment. The findings suggested that higher yield spreads, indicating perceived higher risk, were associated with more conservative risk management by banks, supporting the notion that market discipline influences bank behavior.

The application of market discipline theory is evident in research on banking stability determinants. Scholars use market-driven indicators to gauge the effectiveness of market discipline in influencing banks' risk-taking behavior and overall stability. This approach recognizes that the actions of market participants can serve as a complementary mechanism to regulatory interventions, contributing to a more robust and resilient financial system (Demirgüç-Kunt & Huizinga, 2004; Flannery, 1998).

Market discipline theory, pioneered by Edward J. Kane, emphasizes the role of market forces in promoting banking stability. The theory posits that informed market participants can discipline banks by adjusting their financial relationships based on accurate assessments of a bank's risk profile. Empirical studies applying this theory utilize market-based indicators to evaluate the impact of market discipline on banks'

risk-taking behavior, contributing valuable insights into the dynamics of financial stability and the interplay between regulatory mechanisms and market forces in the banking sector.

Liquidity risk management theory

The liquidity risk management theory focuses on the importance of effectively managing liquidity risk in maintaining the stability of commercial banks. This theory emphasizes the significance of ensuring that banks have sufficient liquidity to meet their short-term financial obligations, particularly during periods of stress or disruption in financial markets. Effective liquidity risk management involves maintaining a balance between liquidity assets and liabilities, diversifying funding sources, and implementing robust liquidity risk measurement and monitoring frameworks (Allen & Carletti, 2008). The theory underscores the notion that inadequate liquidity management can pose significant risks to a bank's stability, potentially leading to liquidity crises or even insolvency.

The liquidity risk management theory is instrumental in understanding the determinants of bank stability in the context of commercial banks. Researchers and analysts utilize this theory to assess the extent to which banks manage their liquidity risk and the impact of liquidity risk management practices on overall stability. Studies examining the determinants of bank stability often incorporate measures of liquidity risk management, such as liquidity ratios, funding diversification strategies, and liquidity risk frameworks, as key variables in their analyses (Nguyen & Nguyen, 2021). By examining how effectively banks manage liquidity risk and its implications for stability, researchers can identify areas for improvement in liquidity risk management practices and inform regulatory policies aimed at enhancing overall financial stability.

Recent research has continued to highlight the critical role of liquidity risk management in determining bank stability, particularly in the context of evolving market dynamics and regulatory requirements. Studies have emphasized the importance of adopting advanced liquidity risk measurement techniques, such as stress testing and scenario analysis, to assess banks' resilience to liquidity shocks (Trung et al., 2021). Furthermore, the integration of liquidity risk considerations into broader risk management frameworks has emerged as a key area of focus for promoting bank stability (Gungor, 2023). By incorporating insights from the Liquidity Risk

Management Theory into empirical analyses of bank stability determinants, researchers contribute to a deeper understanding of the complex relationship between liquidity risk management and overall bank stability, thereby informing both academic discourse and practical policymaking efforts.

Agency theory

Agency theory, founded by Jensen and Meckling (1976), focuses on the principal-agent relationship within organizations, where the principal delegates decision-making authority to the agent to act on their behalf. In the context of commercial banks, agency theory explores the potential conflicts of interest between different stakeholders, such as shareholders (principals) and bank management (agents), arising from divergent objectives and incentives. The theory suggests that agents may pursue their own interests, potentially at the expense of shareholders, leading to agency costs and suboptimal outcomes. In the study of determinants of bank stability, Agency Theory is employed to analyze the alignment of incentives between bank management and shareholders and its impact on stability.

Agency theory is used to examine how corporate governance mechanisms, such as board composition, executive compensation structures, and ownership concentration, influence bank stability (Kharabsheh & Gharaibeh, 2022). By assessing the effectiveness of governance mechanisms in mitigating agency problems and aligning the interests of managers with those of shareholders, studies provide insights into the relationship between corporate governance practices and bank stability. Research has highlighted the importance of robust governance frameworks in enhancing bank stability, particularly in the wake of regulatory reforms aimed at strengthening governance standards (Alfadli & Sahraoui, 2024). Additionally, studies have explored the role of regulatory authorities in monitoring and enforcing governance standards to promote stability within the banking sector (Gracia & Abreu, 2023).

Moreover, agency theory is instrumental in understanding the impact of managerial incentives and risk-taking behavior on bank stability. Researchers analyze how compensation structures, such as bonuses and stock options, influence managers' risk preferences and their propensity to engage in excessive risk-taking activities (Pham et al., 2021). By examining the relationship between managerial incentives and bank stability, studies contribute to a better understanding of the mechanisms through which

agency problems affect overall financial stability. Research has emphasized the importance of aligning managerial incentives with long-term stability objectives to mitigate agency conflicts and promote sustainable risk management practices (Gulati et al., 2023). Agency theory provides a theoretical framework for analyzing the principal-agent relationship within commercial banks and its implications for stability.

2.2 Empirical review

International Context

Ngaira and Miroga (2018) examined the determinants of financial stability in Kenya's commercial banking sector, specifically focusing on the influence of operating costs. Adopting a descriptive survey research design, the study surveyed 78 respondents from 11 listed commercial banks in Kenya. Questionnaires were utilized for data collection, and the reliability and validity of the instruments were ensured through Cronbach's Alpha coefficient test, test-retest, and data triangulation technique. The collected data were analyzed using SPSS, employing descriptive statistics and Ordinary Least Square regression analysis. The findings revealed a significant negative influence of operating costs on the financial stability of commercial banks. The study underscores the importance of managing operating costs effectively to maintain financial stability within the banking sector. Implications suggest the necessity for commercial banks to implement strategies aimed at reducing operating costs to ensure long-term financial stability.

Ozili (2018) investigated the determinants of banking stability in Africa by employing four measures: banks' loan loss coverage ratio, insolvency risk, asset quality ratio and level of financial development. Utilizing regression methodology, the research explores the impact of financial structure, institutional factors, and bank-level characteristics on banking stability. The findings reveal that banking efficiency, foreign bank presence, banking concentration, size of the banking sector, government effectiveness, political stability, regulatory quality, investor protection, corruption control, and unemployment levels significantly influence banking stability in Africa. The significance of each determinant varies based on the chosen banking stability proxy and the period of analysis (pre-crisis, during-crisis, or post-crisis). The practical implication suggests that banking supervisors in African countries should take into account the roles of financial structure and institutional quality to enhance banking stability in the region.

Ozil (2019) examined the determinants of banking stability in Nigeria, recognizing its crucial role in economic growth and financial development. The research employs aggregate outcomes, rather than individual bank performance, to analyze the determinants of banking stability, allowing a focus on changes occurring in the banking industry as a whole. Utilizing regression methods, the study identifies bank efficiency, the size of nonperforming loans, regulatory capital ratios, greater financial depth, and banking concentration as significant determinants of banking stability in Nigeria. The implications underscore the need for intensified efforts by bank supervisors to address issues related to nonperforming loans and capital adequacy in the country. Additionally, the study suggests that regulatory authorities should ensure strict compliance with policies designed to enhance the functionality of the financial system. The findings provide valuable insights for policymakers and bank supervisors in Nigeria to strengthen banking stability.

Chand et al. (2020) analyzed the determinants of bank stability in Fiji's banking sector, considering key bank-specific, macro-finance, and structural variables. The research employs a balanced panel of seven banking and financial institutions over the period 2000-2018, focusing on five commercial banks and two credit institutions in Fiji to ensure consistency in data and functions related to deposits and loans. The fixed-effect regression method is utilized to control for bank heterogeneity, with the dependent variable being bank stability measured through the Z-score, risk-adjusted return on assets and risk-adjusted equity to assets ratio. The findings highlight positive associations between bank stability and factors such as bank size, funding risk, credit risk, Herfindahl-Hirschman index, inflation, and economic growth. Conversely, liquidity risk, net interest margin, and remittances inflow exhibit negative associations with bank stability. The study also identifies negative impacts on bank stability stemming from domestically generated political crises in 2000 and 2006, as well as the global financial crisis of 2007–2008. This research contributes by offering a comprehensive examination of stability indicators relevant to analysts, bank managers, regulators, and researchers in Fiji's small island economy, providing valuable insights for understanding and enhancing banking stability in such contexts.

Koskei (2020) investigated the determinants of bank stability in the Kenyan banking sector, focusing on asset quality as a proxy. The study aims to understand the factors influencing banking stability amidst challenges such as bank collapses and customer

withdrawals. Monthly secondary data from January 2015 to December 2019 were collected from the Central Bank of Kenya and Kenya National Bureau of Statistics. Employing a multiple regression model using SPSS, the study finds that liquidity ratio, inflation rate, and lending rate exhibit a negative but statistically significant relationship with banking stability, while loan growth and return on equity show a positive relationship. Exchange rate and public debt are found to have insignificant effects on banking stability. The study emphasizes the importance of adopting policies to mitigate the negative effects of microeconomic and macroeconomic factors on banking stability in Kenya, highlighting the significance of financial stability in minimizing social and economic repercussions.

Mkadmi (2021) explored the factors influencing the stability of Tunisian banks, utilizing a sample comprising seven Tunisian banks listed from 2005 to 2014. The study focuses on key determinants such as the z-score and capitalization ratio to explain banking stability. Through empirical analysis, it uncovers several significant findings: profitability variables, specifically return on assets (ROA), positively impact bank stability, while return on equity (ROE) exhibits a negative and significant effect. Bank-specific variables including net interest margin (NIM), non-interest income (NII), bank age, and size positively affect stability, albeit not significantly. However, the debt ratio (END) negatively and significantly influences banking stability. Additionally, the study finds that gross domestic product (GDP) has a positive but not significant impact on banking stability. Notably, the paper also delves into the relationship between earnings management and corporate social responsibility. These findings underscore the importance of various financial and economic factors in determining banking stability in Tunisia, offering insights for policymakers and stakeholders to strengthen and maintain stability within the banking sector while considering the implications of earnings management on corporate social responsibility.

Nguyen and Nguyen (2021) examined the influence of monetary policy on the stability of commercial banks in Vietnam, an emerging economy. The study aims to explore the impact of monetary policy measures, specifically focusing on the money supply (M2), loan-to-total-assets ratio, operating cost-to-income ratio, and Consumer Price Index (CPI), on bank stability using data from Vietnamese commercial banks spanning from 2008 to 2019. Utilizing SGMM estimations and validating their robustness with a Bayesian approach, the study finds that the State Bank of Vietnam (SBV) has

effectively implemented monetary policy to ensure bank stability. Specifically, the study reveals that an optimal level of money supply M2 positively impacts bank stability, while ratios of loan to total assets and operating cost to income operate negatively affect bank stability. Interestingly, the study does not find any significant impact of bank size or GDP on bank stability during the research period. The findings suggest that the SBV should manage money supply M2 carefully to maintain efficient economic operations and bank stability while avoiding high inflation.

Pham et al. (2021) analyzed the determinants of bank stability in Vietnam, an emerging country, using data from commercial banks listed on Vietnam's Stock Exchanges from 2010 to 2018. The study employs the generalized method of moments (GMM) regression technique to control for sources of endogeneity such as unobserved heterogeneity, simultaneity, and dynamic endogeneity. Results reveal several key findings: banking sector indicators including equity to-asset ratio, bank size, loans-to-assets ratio, and revenue diversification positively affect bank stability. Additionally, macroeconomic factors in the banking sector and the stability of banks in previous years also positively influence current bank stability. Furthermore, the presence of foreign investment, particularly foreign investment based on total assets, correlates positively with bank stability. Conversely, a negative impact is observed from factors such as market share of mobilized capital, loan loss provisions, and market structure on bank stability. These findings have significant implications for policymakers and stakeholders in Vietnam's banking sector, highlighting the importance of various indicators and factors in maintaining and enhancing bank stability, while also indicating areas for improvement and risk management strategies.

Singh (2021) analyzed the determinants of bank stability in the Nepalese banking industry, utilizing a panel of bank-level data from 2004 to 2018 and employing the system GMM methodology. The objective is to analyze the impact of bank-specific, industry-specific, macroeconomic, and institutional factors on bank stability. The results indicate an initial improvement in the stability of the Nepalese banking industry during 2004-2007, followed by a declining trend in the subsequent years. The study identifies capital adequacy, asset quality, and earnings as major factors contributing to this deterioration. Banks are categorized into stable, moderately stable, and less stable based on their stability scores, revealing a positive persistence in bank stability in Nepal. Notably, credit growth negatively impacts bank stability, supporting the

concentration-stability hypothesis, while income diversification has a positive effect. Inflation is identified as a crucial factor affecting bank stability, and the study concludes that the Global Financial Crisis (GFC) had no significant impact on the stability of the Nepalese banking industry. The implication is that policymakers and industry stakeholders in Nepal should focus on addressing issues related to capital adequacy, asset quality, and earnings to enhance the stability of the banking sector.

Sifrain (2021) explored the determinants of banking stability in Haiti spanning from 1996 to 2017, utilizing factors related to macroeconomics, government and institutions, the banking system, and economic freedom. These factors encompass GDP growth, exchange rate, political stability index, regulatory quality index, bank lending-deposit interest rate spread, property rights index, and investment freedom index. The analysis involved converting yearly data into quarterly data, resulting in an 88-observation sample, and employing OLS regressions to define six statistical models, with the z-score serving as the measure of banking stability. The outcomes indicate that macroeconomic and economic freedom factors positively impact banking stability, while the banking system factor exerts a negative influence. Conversely, government and institutions do not exhibit a significant impact on Haitian banking stability.

Trung et al. (2021) analyzed the determinants of bank stability in Vietnamese commercial banks from 2008 to 2019, considering both bank-specific characteristics and macroeconomic factors. Recognizing the increasing importance of bank stability in financial stability and national economies, the research utilized a sample of 27 commercial banks and employed Bayesian linear regression for analysis. The major findings reveal that bank size, credit growth, and liquidity ratios positively impact bank stability, while income diversification and the loan to total assets ratio exhibit a negative correlation. Additionally, the inflation rate and GDP growth are found to have a negative and positive influence, respectively, on bank stability. These results align with previous studies, indicating a certain level of consistency in the observed relationships. The implications of this study underscore the significance of considering both internal bank characteristics and external macroeconomic factors in enhancing bank stability in the Vietnamese context.

Chai et al. (2022) explored the relationship between bank-specific risks and financial stability in a panel dataset of 15 scheduled banks in Pakistan over the period from 2009

to 2020. Employing the fixed-effect model, the study reveals that credit risk and liquidity risk are detrimental to bank stability, while funding risk shows no significant impact. Furthermore, the research indicates that larger bank size has a negative influence on stability, while return on assets (ROA) exhibits a positive impact. The findings emphasize the importance of bank management implementing policies to secure loan granting and timely customer reimbursement to minimize credit risk. Additionally, vigilant monitoring of liquidity positions and effective mobilization of customer deposits are recommended to attain financial stability. The implication of the study is that strategic risk management, especially in terms of credit and liquidity, plays a crucial role in ensuring the stability of scheduled banks in Pakistan.

Kharabsheh and Gharaibeh (2022) assessed the determinants of financial stability in Jordanian commercial banks using annual data from 2011 to 2018. Employing the pooled effect model, the study identifies that SME loans and capital adequacy have a positive and statistically significant impact on the stability of Jordanian commercial banks. Conversely, financial inclusion, liquidity risk, and credit risk are found to have negative and statistically significant effects on the stability of these banks. The findings suggest a recommendation to increase the allocation of bank loans to small and medium enterprises, emphasizing the positive influence of capital adequacy on stability. Additionally, the study advises banks experiencing financial stability to focus on enhancing financial inclusion rates, while those with relatively high rates should work on reducing associated operating expenses. Bank managers are further urged to maintain sufficient liquidity and improve credit standards by increasing collateral requirements.

Yitayaw et al. (2022) analyzed the determinants of bank stability in Ethiopia, a least developed country, utilizing commercial banks' data from 2014 to 2020. The study aims to assess the impact of bank-specific and external factors on bank financial stability. Employing the Two-Step System Generalized Method of Moments (GMM) estimation, the research identifies several key findings. Notably, factors such as the bank lending rate, tangibility, GDP growth rate, control of corruption, and rule of law effectiveness are found to stabilize bank financial stability, with a more pronounced effect observed for banks with a high market share of mobilized capital. Conversely, bank concentration and efficiency are found to reduce bank financial stability. Additionally, the study highlights the positive and significant effect of the historical level of bank stability on

the current level of bank financial stability. The implications of these findings are crucial for policymakers, as they emphasize the importance of maintaining bank stability in the present to achieve higher stability in the future.

Gracia and Abreu (2023) evaluated banking stability and its determinants in Portugal from 2010 to 2019. The study constructs an aggregated banking stability index (ABSI) using financial soundness indicators (FSI) on a quarterly basis over the specified period. ABSI is utilized as the dependent variable, while independent variables, classified into macroeconomic and financial categories, are assessed using the ARMA conditional least square method. Findings indicate an improvement in stability since 2017, with significant early warning indicators identified, including the growth rate of the consumer price index ($\% \Delta \text{CPI}$) and the ratio of the second money multiplier (M2) to gross domestic product (GDP). The research marks a novel contribution to the banking stability literature by examining the Portuguese case for the first time, highlighting the predictive utility of both macroeconomic and financial indicators in assessing banking instability. These findings underscore the importance of monitoring such indicators for policymakers and regulators in Portugal to ensure continued stability and resilience in the banking sector.

Gulati et al. (2023) investigated the evolution and determinants of bank stability in India, Nepal, Bangladesh, and Pakistan from 2004 to 2018. Utilizing the stability frameworks of the sampled countries, the study constructs a PCA-weighted composite indicator of bank stability and employs dynamic panel methods for econometric estimation. The empirical findings reveal a disruption in stability levels in the banking systems of India, Nepal, and Bangladesh in 2013–14, with a non-instantaneous recovery to previous levels. Larger banks in India exhibit greater stability, supporting the "too big to fail" hypothesis in Bangladesh and Pakistan. Conversely, the analysis validates the "diversification-stability" hypothesis for Nepal. Inflation exerts a detrimental influence on bank stability across the region, while the quality of institutions positively affects the stability of Indian and Nepalese commercial banks. The consistency of these findings across alternative panel models and aspects of bank stability reinforces their robustness. The implication is that policymakers should focus on addressing inflationary pressures and enhancing institutional quality to ensure and strengthen bank stability in the Indian subcontinent.

Gungor (2023) examined the internal factors influencing the financial stability of participation banks in Turkey, utilizing data from six participation banks spanning the period from 2019Q1 to 2023Q1 and assessing stability using the Z-score. Employing the Driscoll & Kraay robust standard errors estimator, the study reveals several key findings. Firstly, it identifies a negative relationship between risk-weighted and non-risk weighted capital ratios and bank stability. Secondly, it notes a negative association between bank size and stability, while finding positive relationships between cost-to-income ratio, loan ratio, and collected funds ratio with stability. Additionally, the study indicates a negative relationship between asset and fund diversifications and stability, contrasting with a positive correlation between income diversification and stability. The research underscores the importance of enhancing management efficiency, credit quality, and diversification levels to bolster sustainable financial stability and soundness in participation banks. These findings have significant implications for participation banks in Turkey, suggesting a need for strategic improvements in various operational aspects to ensure long-term stability and viability.

Alfadli and Sahraoui (2024) identified factors contributing to enhancing the financial stability of commercial banks in MENA-States by analyzing a balanced panel dataset spanning from 2011 to 2020, comprising 132 commercial banks. Employing empirical analysis, the study finds that various financial indicators significantly influence banking industry stability within the studied countries. Specifically, banking competition, efficiency, financial inclusion, and commercial banks' performance are positively associated with stability levels. Conversely, the study reveals a negative impact of financial development, measured by stock market capitalization, on banking stability. These findings emphasize the importance of considering multiple determinants in assessing and predicting the financial stability of commercial banks in MENA-States. Policymakers and stakeholders should prioritize promoting banking competition, efficiency, and financial inclusion while carefully monitoring the influence of financial development on banking stability to ensure the resilience and robustness of the banking sector in the region.

Jungo et al. (2024) explored the impact of financial inclusion and institutional factors, including corruption and the rule of law (RL), on the credit risk and stability of banks across 61 developing countries. Employing robust estimation techniques such as instrumental variables method in two-stage least squares (IV-2SLS), instrumental

variables generalized method of moments (IV-GMM), and system of generalized methods of moments in two stages (Sys-2GMM), the study meticulously controls for endogeneity, heteroskedasticity, and serial correlation. Findings reveal that financial inclusion and a stronger rule of law are associated with reduced credit risk and enhanced financial stability, while weak control of corruption exacerbates credit risk. Additionally, greater competitiveness in the banking sector is found to increase credit risk. The study underscores the importance of promoting financial inclusion and bolstering institutional factors to foster stability within the banking sector and promote overall economic well-being.

Trabelsi and Mansour (2024) investigated the correlation between credit risk and bank stability in the Tunisian banking sector, with a particular focus on the moderating impact of the COVID-19 pandemic. Employing various econometric techniques including panel unit root and cointegration tests, panel Vector Error Correction Model (VECM), Fully Modified Ordinary Least Squares (FMOLS), and Dynamic Ordinary Least Squares (DOLS), the study analyzes a panel dataset covering 8 Tunisian banks from 2000 to 2020. Results reveal a significant negative relationship between credit risk and bank stability, indicating that higher levels of credit risk adversely affect the stability of Tunisian banks. Furthermore, the study highlights that the adverse impact of credit risk is exacerbated during the COVID-19 pandemic, acting as a moderator. The findings underscore the importance of robust risk management practices for mitigating credit risk and enhancing bank stability, emphasizing the need for policymakers, regulators, and bank managers in Tunisia to consider the unique challenges introduced by external shocks such as the COVID-19 pandemic when evaluating overall banking system stability.

Table 1

Summary of Empirical Review in International Context

S.N.	Author(s) and Year	Methodology	Variables	Major Findings
1	Ozili (2018)	Regression analysis	Banking efficiency, foreign bank presence,	Significant influences on banking stability in Africa include banking efficiency, foreign

			banking concentration, size of banking sector, government effectiveness, political stability, regulatory quality, investor protection, corruption control, unemployment levels	bank presence, banking concentration, size of banking sector, government effectiveness, political stability, regulatory quality, investor protection, corruption and unemployment levels
2	Ozil (2019)	Regression analysis	Bank efficiency, nonperforming loans, regulatory capital ratios, financial depth, banking concentration	Bank efficiency, nonperforming loans, regulatory capital ratios, financial depth, and banking concentration identified as significant determinants of banking stability in Nigeria
3	Chand, Kumar, and Stauvermann (2020)	Fixed-effect regression	Z-score, risk-adjusted return on assets, risk-adjusted equity to assets ratio, bank size, funding risk, credit risk, Herfindahl-Hirschman index,	Bank size, funding risk, credit risk, Herfindahl-Hirschman index, inflation, and economic growth positively associated with bank stability in Fiji; Negative impact observed from

			inflation, economic growth, liquidity risk, net interest margin, remittances inflow, domestic political crises, global financial crisis	liquidity risk, net interest margin, and remittances inflow; Domestic political crises and global financial crisis negatively affect stability
4	Mkadmi (2021)	Regression analysis	Z-score, capitalization ratio, profitability variables (ROA), net interest margin, non-interest income, bank age, and size positively affect stability; Debt ratio negatively impacts stability; GDP has a positive but not significant impact; Income diversification positively correlated with stability	Profitability variables (ROA), net interest margin, non-interest income, bank age, and size positively affect stability; Debt ratio negatively impacts stability; GDP has a positive but not significant impact; Income diversification positively correlated with stability
5	Pham et al. (2021)	GMM regression technique	Equity-to-asset ratio, bank size, loans-to-assets ratio, revenue diversification, macroeconomic factors, previous stability levels, foreign investment,	Banking sector indicators (equity-to-asset ratio, bank size, loans-to-assets ratio, revenue diversification) positively impact stability; Macroeconomic factors and previous

			market share of mobilized capital, loan loss provisions, market structure	stability levels also influence stability; Presence of foreign investment correlates positively with stability; Negative impacts observed from market share of mobilized capital, loan loss provisions, and market structure
6	Singh (2021)	System GMM methodology	Capital adequacy, asset quality, earnings, credit growth, income diversification, inflation, GFC, concentration-stability hypothesis	Initial improvement in stability during 2004-2007, followed by a decline; Capital adequacy, asset quality, and earnings are major contributors to deterioration; Credit growth negatively impacts stability; Income diversification positively affects stability; Inflation is a crucial factor; GFC has no significant impact; Concentration-stability hypothesis supported; Persistence in bank stability observed; Importance of maintaining capital adequacy, asset

				quality, and earnings emphasized
7	Sifrain (2021)	OLS regression models	Z-score, macroeconomic factors, economic freedom factors, banking system factors, government factors, institutional factors	Macroeconomic and economic factors positively impact stability; Banking system factors negatively influence stability; Government and institutional factors show no significant impact
8	Trung et al. (2021)	Bayesian linear regression	Bank-specific factors, macroeconomic factors, bank size, credit growth, liquidity ratios, income diversification, loan to total assets ratio, inflation, GDP growth	Bank size, credit growth, liquidity ratios positively impact stability; Income diversification, loan to total assets ratio negatively correlate with stability; Inflation, GDP growth affect stability; Importance of considering internal bank characteristics and external macroeconomic factors highlighted
9	Chai et al. (2022)	Fixed-effect model	Credit risk, liquidity risk, funding risk, bank size, return on assets	Credit risk and liquidity risk detrimental to stability; Larger bank size negatively influences

				stability; Return on assets positively impacts stability; Importance of securing loan granting and timely customer reimbursement emphasized
10	Kharabsheh and Gharaibeh (2022)	Pooled effect model	SME loans, capital adequacy, financial inclusion, liquidity risk, credit risk	SME loans and capital adequacy positively impact stability; Financial inclusion, liquidity risk, credit risk negatively affect stability; Recommendations include increasing SME loans, enhancing financial inclusion, maintaining sufficient liquidity, improving credit standards
11	Yitayaw et al. (2022)	Two-Step System GMM estimation	Bank lending rate, tangibility, GDP growth rate, control of corruption, rule of law effectiveness, bank concentration, efficiency,	Bank lending rate, tangibility, GDP growth rate, control of corruption, and rule of law effectiveness stabilize bank financial stability; Bank concentration and efficiency reduce stability; Historical level of stability

			historical stability levels	positively impacts current stability
12	Garcia and Abreu (2023)	ARMA conditional least square method	Financial soundness indicators, macroeconomic and financial indicators, early warning indicators	Improvement in stability since 2017; Significant early warning indicators identified; Predictive utility of macroeconomic and financial indicators highlighted
13	Gulati et al. (2023)	Dynamic panel methods	Inflation, institutional quality, bank size, nonperforming loans, disruption in stability	Disruption in stability in India, Nepal, Bangladesh in 2013–14, with gradual recovery; Larger banks exhibit greater stability in India; Quality of institutions positively affects stability in India, Nepal; Inflation negatively affects stability across the region; Implications for policymakers to address inflation, enhance institutional quality highlighted
14	Gungor (2023)	Driscoll & Kraay robust standard errors estimator	Risk-weighted capital ratios, bank size, cost-to-income ratio, loan ratio,	Negative relationship found between risk-weighted and non-risk-weighted capital ratios and stability; Positive

			collected funds ratio, asset and fund diversifications	relationships observed with cost-to-income ratio, loan ratio, collected funds ratio; Negative impact from asset and fund diversifications; Importance of improving management efficiency, credit quality, diversification levels emphasized
15	Alfadli and Sahraoui (2024)	Empirical analysis on a balanced panel dataset	Banking competition, efficiency, financial inclusion, stock market capitalization	Banking competition, efficiency, financial inclusion, and performance positively affect stability; Stock market capitalization negatively impacts stability
16	Jungo et al. (2024)	Robust estimation techniques (IV-2SLS, IV-GMM, Sys-2GMM)	Financial inclusion, corruption, rule of law, competitiveness in the banking sector	Financial inclusion, stronger rule of law associated with reduced credit risk, enhanced stability; Weak control of corruption exacerbates credit risk; Greater competitiveness increases credit risk; Importance of promoting financial

				inclusion, strengthening institutional factors emphasized
17	Trabelsi and Mansour	Panel unit root, cointegration tests, panel VECM, FMOLS, DOLS	Macroeconomic factors, banking factors, institutional factors, credit risk, COVID-19 pandemic	Significant negative relationship found between credit risk and bank stability; Adverse impact exacerbated during COVID-19 pandemic; Importance of robust risk management highlighted

National Context

G.C. (2020) investigated the relationship between competition and financial stability in the Nepalese banking system from 1999 to 2012, a period marked by rapid financial institution growth. Employing a fixed effects panel data model, the study employs the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratios to measure competition, while using the Z-index and nonperforming loans ratio as proxies for financial stability. The analysis incorporates macroeconomic factors and bank-specific indicators. Results indicate a positive association between increased banking competition and financial stability, aligning with the "competition-stability" view. Higher competition correlates with decreased credit risk, contributing to stability, although mixed outcomes are observed concerning overall stability. The findings suggest that both excessive consolidation and high competition levels can be detrimental. The study underscores the nuanced relationship between competition and stability in banking, advocating for balanced regulatory measures to foster a competitive yet stable financial environment in Nepal, with implications for policymakers to carefully navigate consolidation and competition dynamics while considering macroeconomic conditions.

Singh (2021) assessed bank stability and its determinants in the Nepalese banking industry from 2004 to 2018 using system GMM on a panel of bank-level data. The

study aims to identify bank-specific, industry-specific, macroeconomic, and institutional factors influencing stability. Results indicate an initial improvement in stability during 2004-2007 followed by a declining trend. Capital adequacy, asset quality, and earnings emerge as key factors contributing to this deterioration. Banks are categorized into stable, moderately stable, and less stable groups, with positive stability persistence observed. Credit growth negatively affects stability, supporting the concentration-stability hypothesis, while income diversification positively impacts stability. Inflation is identified as a significant factor influencing stability, while the Global Financial Crisis (GFC) had no notable impact. The study underscores the importance of monitoring capital adequacy, asset quality, and earnings for ensuring bank stability in Nepal, with implications for regulatory policies to mitigate risks associated with credit growth and inflation while promoting income diversification strategies.

Neupane (2023) identified key factors influencing the financial stability of Nepalese commercial banks. Utilizing financial data from selected banks, a Fixed Effect Model in a panel data regression is employed for analysis. The findings highlight the significance of bank efficiency, profitability, and capital base as crucial internal variables impacting financial stability. External determinants such as banking sector development, GDP growth, inflation, and exchange rate are also identified as influential factors. On the other hand, the size of the bank, loan loss provision, and bank concentration are revealed to have a minor influence on the financial stability of Nepalese commercial banks. The implication of these results is that policymakers and bank management in Nepal should prioritize enhancing internal factors like efficiency, profitability, and capital base, while also considering external factors to ensure and strengthen the financial stability of commercial banks in the country.

Gwachha (2023) investigated the determinants of bank stability in Nepal's banking industry using data from commercial banks spanning from 2001 to 2023, employing the autoregressive distributed lag (ARDL) model. The primary objective is to identify factors influencing bank stability, with a focus on bank size, funding risk, liquidity risk, GDP growth, and credit risk. Results indicate that bank size, funding risk, liquidity risk, and GDP growth positively affect bank stability, while credit risk exerts a negative impact. These findings underscore the importance of effective risk management practices, capitalization, diversified funding sources, and a supportive economic

environment for maintaining a stable banking sector. Policymakers, regulators, and banks are urged to prioritize these factors to enhance overall stability and fortify the financial system in Nepal. The study emphasizes the critical role of preserving current bank stability to achieve greater stability in the future, highlighting implications for policymakers in fostering a resilient banking sector.

Khanal (2024) explored the causal relationship between bank competition and financial stability in Nepal, considering the "competition-fragility" and "competition-stability" hypotheses. Utilizing a descriptive and causal research design, the study employs random effect panel data from six commercial banks in Nepal spanning 2014-2019. Bank competition is measured using the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratio, while financial stability proxies include the Z-Index and non-performing loan ratio. Findings support the "competition-fragility" theory, revealing a negative association between bank competition and financial stability. Increased competition correlates with higher credit risk and reduced capital levels, leading to excessive risk-taking behaviors and heightened fragility within the banking sector. Less concentrated banking systems are found to be more susceptible to crises. The study underscores the importance of balancing competition and stability in banking regulation to mitigate risks associated with excessive competition.

Table 2

Summary of Empirical Review in Nepalese Context

S.N.	Author(s) and Year	Methodology	Variables	Major Findings
1	G.C. (2020)	Utilized a fixed effects panel data	Z-index, nonperforming loans ratio	Positive association between increased banking competition and financial stability observed; However, excessive consolidation and high competition levels can be detrimental; Nuanced relationship between competition and stability emphasized

2	Singh (2021)	Employed System GMM on a panel of bank-level data;	Capital adequacy, asset quality, earnings, credit growth, income diversification	Initial improvement in stability during 2004-2007, followed by decline; Capital adequacy, asset quality, and earnings identified as key factors contributing to deterioration; Credit growth negatively affects stability; Income diversification positively impacts stability
3	Neupane (2023)	Utilized a Fixed Effect Model in panel data regression	Bank efficiency, profitability, capital base, banking sector development, GDP growth, inflation, exchange rate	Bank efficiency, profitability, and capital base identified as crucial internal variables impacting financial stability; External determinants such as banking sector development, GDP growth, inflation, and exchange rate also influential; Implication for policymakers and bank management to prioritize enhancing internal factors and considering external factors to ensure and strengthen financial stability
4	Gwachha (2023)	Employed the autoregressive distributed lag (ARDL) model	Bank size, funding risk, liquidity risk, GDP growth, credit risk	Bank size, funding risk, liquidity risk, and GDP growth positively affect bank stability; Credit risk negatively impacts stability; Importance of effective risk management practices, capitalization, diversified funding sources, and

			supportive environment	economic emphasized
5	Khanal (2024)	Employed a descriptive and causal research design; Utilized random effect panel Measured bank competition using the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratio	Herfindahl-Hirschman Index (HHI), n-bank concentration ratio	Negative association between bank competition and financial stability observed; Increased competition correlates with higher credit risk and reduced capital levels, leading to excessive risk-taking behaviors and heightened fragility; Importance of balancing competition and stability in banking regulation emphasized to mitigate risks associated with excessive competition

2.3 Research gap

The existing literature on the determinants of bank stability within the context of commercial banks has made significant strides in identifying various factors that influence stability, including liquidity risk management, corporate governance practices, and macroeconomic indicators. Research on the determinants of bank stability in Nepalese commercial banks has extensively examined internal and external factors such as capital ratio, credit risk, bank size, liquidity risk, GDP growth, and inflation (Gwachha, 2023; Khanal, 2024; Neupane, 2023). However, despite these advancements, there remains a notable research gap in understanding the nuanced interplay between different determinants and their collective impact on bank stability, particularly in the specific context such as Nepal within an updated data up to fiscal year 2022/23.

One potential research gap lies in the limited focus on the integration of multiple determinants of bank stability into a comprehensive analytical framework. While individual studies have examined factors such as liquidity risk management or

corporate governance in isolation, there is a need for research that explores how these factors interact and jointly influence bank stability. While agency theory sheds light on the role of corporate governance mechanisms in mitigating agency conflicts, further research is needed to examine how the effectiveness of these mechanisms may vary under different liquidity risk management strategies.

Overall, the research gap in the study of determinants of bank stability in Nepal underscores the need for interdisciplinary and longitudinal approaches that integrate multiple determinants, consider dynamic changes over time, and account for specific institutional and market contexts. Addressing this research gap would not only contribute to theoretical advancements in the field but also provide actionable insights within the banking sector.

CHAPTER III

RESEARCH METHODOLOGY

The methodology chapter consist research design, population and sample and sampling design, nature and sources of data, data collection procedures, research framework and definition of variables and method of analysis.

3.1 Research design

The research employs a descriptive and causal comparative design to examine the determinants of banking stability in Nepalese commercial banks. A panel data analysis is conducted to capture variations over time and across banks. The study utilizes both bank-specific variables (capital ratio, credit risk, bank size, and liquidity risk) and macroeconomic indicators (GDP growth and inflation) as independent variables. The dependent variable is the banking stability of Nepalese commercial banks. The study adopts a descriptive and causal comparative research design, analyzing data over an extended period (years) to observe trends and changes in the determinants of banking stability. A panel data structure is employed, incorporating both cross-sectional and time-series dimensions.

3.2 Population and sample and sampling design

The population for this study comprises all commercial banks operating in Nepal which are twenty in numbers as on December, 2023 (NRB, 2023). The sample are drawn from this population, focusing on an all-joint venture commercial banks numbering six with available and reliable data for the variables under investigation. The selected sample banks are Standard Chartered Bank Nepal Limited (SCB) with 70.21% foreign ownership, Nepal SBI Bank Limited (NSBL) with 55.0% foreign ownership, Nabil Bank Limited (NABIL) with 47.65% foreign ownership, Everest Bank Limited (EBL) with 20.02% foreign ownership and NMB Bank Limited (NMB) with 17.91% foreign ownership (Annual Reports, 2022/23). However, one bank Himalayan Bank Limited (HBL) is excluded due to lower relevance to the study's objectives based on their foreign ownership structure. Ensuring data completeness and relevance aligns with the study's aim of assessing the impact of foreign ownership on banking stability. This purposive sampling enhances the accuracy and reliability of the findings. The selection criteria involve banks that have a foreign ordinary share ownership in fiscal year 2022/23. A purposive sampling method is applied, selecting banks based on their

relevance to the study objectives and the availability of complete data. The sample size is determined by practical considerations, ensuring an adequate representation of the banking sector in Nepal.

3.3 Nature and sources of data

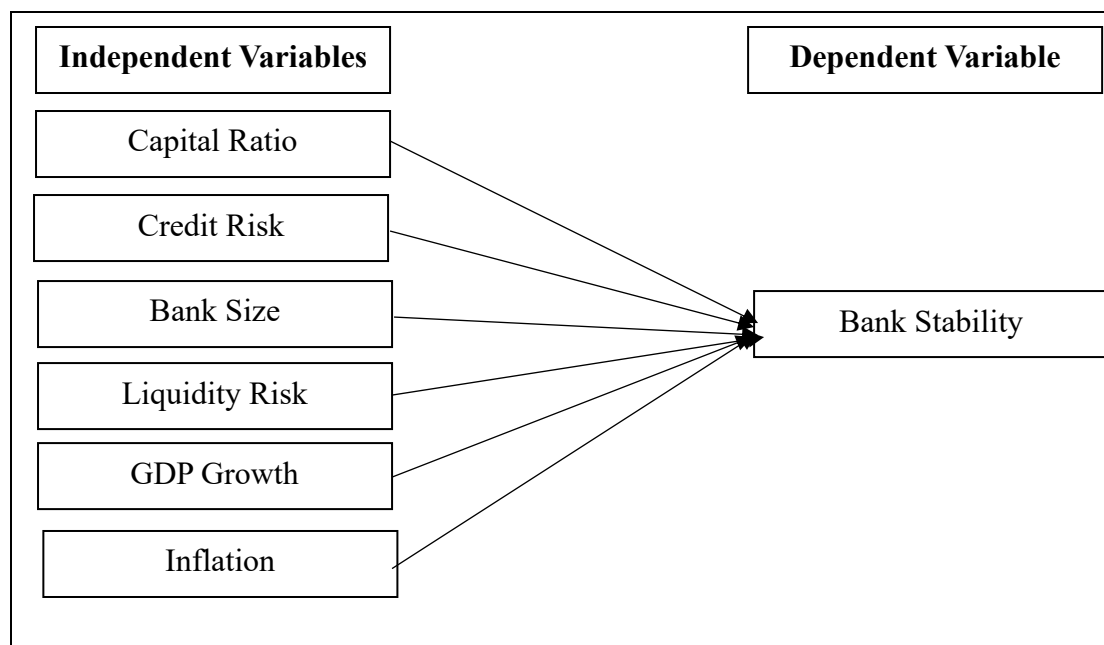
The study relies exclusively on secondary data sources to investigate the determinants of banking stability in Nepalese commercial banks. Financial reports, regulatory publications, and economic databases is served as key sources of information. Financial statements from selected commercial banks provide historical data on capital ratios, credit risk, bank size and liquidity risk. Macroeconomic indicators, such as GDP growth and inflation, are extracted from reputable sources including the Nepal Rastra Bank.

3.4 Data collection procedures

The data collection procedures involve obtaining the data from their financial reports and NRB reposts and another database if required. The collected secondary data is undergoing systematic organization and rigorous validation processes to ensure accuracy and reliability, aligning with established methodological practices in similar studies.

3.5 Research framework and definition of variables

The framework for this study draws upon a analysis of determinants of banking stability, incorporating key variables such as capital ratio, credit risk, bank size, liquidity risk, GDP growth and inflation. Building on the empirical studies by Singh, (2021); Trung et al. (2021), Gulati et al. (2023) and Neupane (2023), the selected variables are essential components in understanding the dynamics of bank stability.

Figure 1 *Research Framework*

Source: Singh, (2021); Trung et al. (2021), Gulati et al. (2023) and Neupane (2023)

Bank stability (Measured by Z score):

Bank Stability, as measured by the Z score, is a crucial indicator of the financial health and resilience of commercial banks. The Z score is a composite index developed to assess a bank's ability to weather financial distress and the likelihood of bankruptcy. It incorporates various financial ratios such as profitability, leverage, liquidity, and asset quality into a single measure, providing an overall assessment of a bank's stability. A higher Z score typically indicates a lower risk of insolvency and greater financial stability. Monitoring Z scores is essential for regulators, investors, and bank management to gauge the health and soundness of the banking sector (Gracia & Abreu, 2023).

Capital ratio

The capital ratio, also known as the capital adequacy ratio (CAR), is a fundamental measure of a bank's financial strength and resilience. It represents the proportion of a bank's capital, including both equity and reserves, to its risk-weighted assets. The ratio serves as a buffer against potential losses and reflects the bank's ability to absorb unexpected shocks or downturns in the economy. Regulatory authorities set minimum capital ratio requirements to ensure banks maintain sufficient capital to support their operations and protect depositors. A higher capital ratio indicates a more robust

financial position and reduces the likelihood of bank failure, contributing to overall stability within the banking system (Khanal, 2024).

Credit risk

Credit risk refers to the possibility of incurring monetary loss as a result of the inability of borrowers to fulfill their financial commitments or satisfy their debts. It is inherent in all lending activities and arises from factors such as borrower default, economic downturns, and changes in market conditions. In order to mitigate credit risk, financial institutions implement stringent underwriting criteria, mandate the use of collateral, and use loan diversification techniques. Effective credit risk management is essential for maintaining the quality of loan portfolios, preserving capital adequacy, and safeguarding the stability of the banking sector. Failure to adequately manage credit risk can lead to loan defaults, write-offs, and ultimately, financial instability (Trabelsi & Mansour, 2024).

Bank size

Bank Size refers to the scale and magnitude of a financial institution's operations, typically measured by total assets, deposits, or market capitalization. Large banks often enjoy economies of scale, greater diversification, and enhanced market access. However, they may also pose systemic risks if their failure could significantly impact the broader financial system. Small banks, on the other hand, may be more susceptible to local economic conditions but may pose less systemic risk. Understanding the impact of bank size is essential for assessing systemic risk, regulatory oversight, and overall stability within the banking industry (Gwachha, 2023).

Liquidity risk

Liquidity Risk refers to the potential for a bank to be unable to meet its short-term financial obligations due to a shortage of liquid assets. It arises from a mismatch between a bank's assets and liabilities, where liabilities become due before corresponding assets can be converted into cash. Banks manage liquidity risk by maintaining adequate reserves, diversifying funding sources, and establishing lines of credit with other financial institutions. Failure to manage liquidity risk effectively can lead to funding crises, loss of depositor confidence, and ultimately, bank failure. Monitoring liquidity risk is critical for ensuring the stability and solvency of banks (Khanal, 2024).

GDP growth

GDP Growth refers to the rate of expansion or contraction in a country's Gross Domestic Product (GDP) over a specific period, typically measured on an annual basis. GDP growth is a key indicator of economic health and prosperity, reflecting increases in the production of goods and services within an economy. Positive GDP growth signifies a growing economy with increased consumer spending, investment, and job creation. Strong GDP growth is generally associated with higher levels of business activity, improved asset quality, and enhanced stability within the banking sector. Conversely, negative GDP growth may indicate economic downturns, recessions, and heightened risks for banks (Gwachha, 2023).

Inflation

Inflation is the rate at which the general price level of goods and services rises over time, resulting in a decrease in the purchasing power of money. It is typically measured as a percentage change in the Consumer Price Index (CPI) or other price indices. Inflation impacts the economy and banking sector in various ways, influencing interest rates, loan performance, consumer spending, and investment decisions. Moderate inflation is generally considered beneficial for economic growth, as it encourages consumption and investment. However, high or volatile inflation can erode savings, distort market signals, and undermine financial stability. Central banks employ monetary policy tools such as interest rate adjustments to control inflation and maintain price stability, which is essential for sustainable economic growth and banking sector stability (Neupane, 2023).

3.6 Method of analysis

Different statistical tools are used in this study to analyze and interpret the data. SPSS software is used to convert a raw data into a systematic data. Mainly, the following tools are used to interpret the data to meet the objectives of the study:

3.6.1 Descriptive statistics

In this study, descriptive statistics serve as a crucial analytical tool to provide a comprehensive overview and summary of the main variables under investigation capital ratio, credit risk, bank size, liquidity risk, GDP growth, inflation, and banking stability. Descriptive statistics offer a snapshot of the central tendencies, distributions, and variability of the data, facilitating a preliminary understanding of the key features of

the variables involved. Mean values and standard deviations provide insights into the average levels, central tendencies, and dispersion of each variable, aiding in the identification of potential patterns or outliers.

3.6.2 Correlation analysis

Correlation analysis is a fundamental statistical technique employed in this study to assess the strength and direction of relationships among the key variable's capital ratio, credit risk, bank size, liquidity risk, GDP growth, inflation, and banking stability. By calculating correlation coefficients, the study will aim to quantify the degree of linear association between pairs of variables. Positive or negative correlations indicate the direction of the relationship, while the magnitude of the correlation coefficient reveals the strength of the association. The correlation analysis provides a preliminary insight into potential interdependencies among the variables, guiding further investigations into causal relationships during subsequent inferential analyses.

3.6.3 Regression analysis

Regression analysis is employed as a robust statistical method in this study to explore and quantify the relationships between the dependent variable, banking stability, and the independent variables capital ratio, credit risk, bank size, liquidity risk, GDP growth and inflation. Multiple regression models are constructed to assess the simultaneous impact of these variables on banking stability. The selection of the appropriate regression model is depended on the distributional characteristics of the data and the nature of relationships observed during preliminary analyses. For this study multiple regression analysis is applied and the regression equation is as follows:

$$BS = \beta_0 + \beta_1 CAR + \beta_2 CR + \beta_3 SIZE + \beta_4 LIQ + \beta_5 GDP + \beta_4 INF + e$$

Where,

BS= Bank Stability measured by Z score

CAR = Capital Ratio measured by Capital Adequacy Ratio

CR = Credit Risk measured by NPL Ratio

SIZE = Size of the bank measured by Natural log of total assets

LIQ = Liquidity Risk measured by liquidity ratio

GDP= Gross Domestic Product measured by GDP growth

INF = Inflation Rate

e = error terms

CHAPTER IV

RESULTS AND DISCUSSION

The results and their interpretations are presented in this chapter, which goes into the main core of the research. Here, the numbers show how the many factors that affect bank stability interact with one another. The discussion provides a comprehensive overview of the results, highlighting their relevance to Nepal's banking system and its complex policy and practice implications. The purpose of this chapter is to provide a thorough explanation of the findings and their relevance by connecting numerical data with narrative descriptions.

4.1 Results

The findings serve as a foundation for the extensive analysis that follows. It prepares the reader by detailing the methodological rigor of data collection and the analytical tools used to assure the validity of the results. This part also gives a quick review of the predicted outcomes, preparing the reader for a more in-depth examination of the findings that verify or question these preliminary predictions. The results section primarily presents the research variable trend, descriptive statistics, correlation between study variables and regression analysis.

4.1.1 Trend of study variables

This section focuses on identifying trends and movements in factors important to bank stability, such as capital ratio, credit risk, bank size, liquidity risk, GDP growth, and inflation. It examines the ebb and flow of these elements, providing insights into their development and possible drivers of trends in Nepal's economic environment. The trend for each variable is shown across 10 fiscal years, from 2013/14 to 2022/23.

Bank stability (Z-score)

Bank stability is an essential indicator of the financial health and resilience of a commercial bank which was measured using Z-score commonly. The evaluation of bank insolvency risk is accomplished through the utilization of the Z-score, which compares the capitalization and returns of a bank with the volatility of its returns. A greater Z-score signifies a diminished likelihood of default, which signifies the capacity of a bank to endure financial distress and sustain losses. The Z-score, which defines the buffer capacity of a bank to potential systemic disruptions, fundamental to a regulatory

evaluations and financial analysis. During the ten-year study period, the Z score trend of a representative sample of commercial banks is depicted in Figure 2.

Figure 2 *Bank Stability (Z-score)*

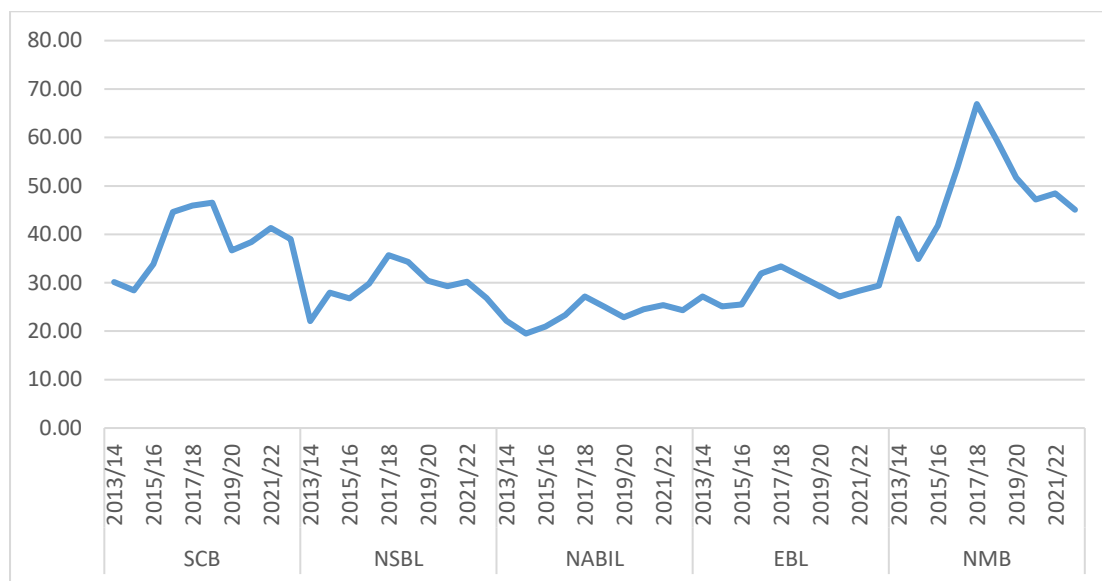


Figure 2 shows the trend of Z scores of the five banks over the ten-year study period which reflect their financial stability trends. SCB's Z score shows an upward trend until 2018/19, indicating increasing stability, followed by a decline and subsequent stabilization. NSBL's peak in 2017/18 and subsequent decline suggest a period of high stability that has since decreased. NABIL's scores are relatively stable with a slight increase until 2017/18, after which they level off, indicating consistent stability with minor fluctuations. EBL's scores rise until 2017/18, then fall, and show a slight recovery, suggesting a challenge to stability that is being addressed. NMB displays the most volatility, with a sharp peak in 2017/18, followed by a decline, yet it maintains higher stability levels than others. Overall, the banks' Z scores suggest varied patterns of financial stability, with most showing a peak around 2017/18, followed by different degrees of decline or stabilization.

Trend of capital ratio

Capital ratio is a key measure of a bank's financial strength and stability, which is an important determinant in assessing the resilience of commercial banks. It represents the proportion of a bank's capital to its risk-weighted assets, serving as a buffer against potential losses. In the context of this study on bank stability, the capital ratio is crucial as it directly impacts a bank's ability to absorb shocks and maintain solvency during economic downturns. A stable or increasing capital ratio trend is indicative of a healthy

banking sector, capable of withstanding financial stress and contributing to overall economic stability. Conversely, a declining trend could signal vulnerabilities within the banking system, necessitating regulatory attention and corrective measures to safeguard the sector's stability. The capital ratio's significance in this study lies in its direct correlation with the Z-score, a widely recognized metric for evaluating bank stability, making it a focal point for analysis and policy formulation. The trend of capital ratio during the ten years of the study period is presented in Figure 3.

Figure 3 *Capital Ratio*

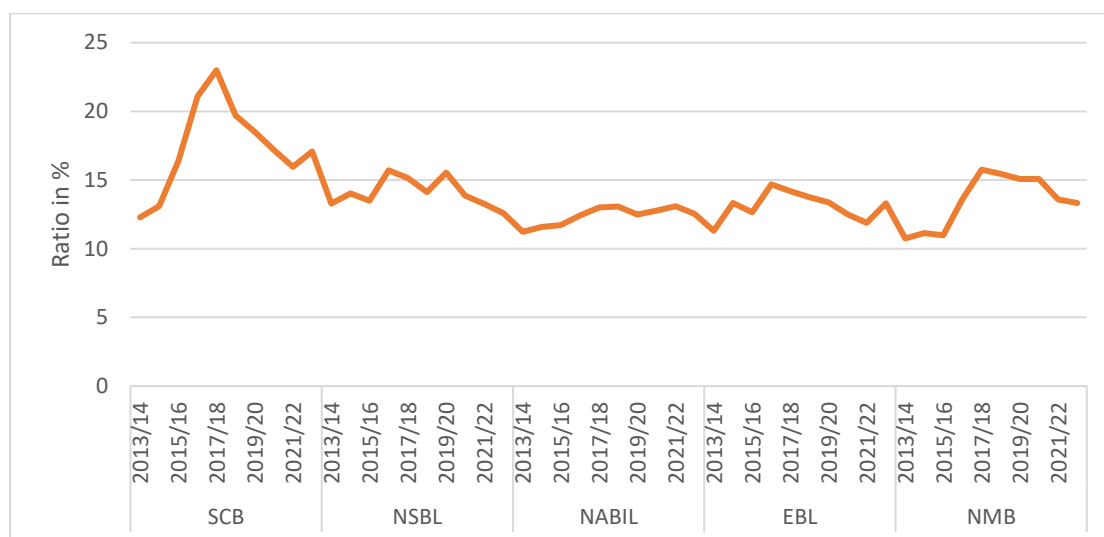


Figure 3 illustrates the capital ratio patterns of the five banks over a ten-year period, providing a nuanced depiction of their capital sufficiency and, therefore, their financial stability. SCB's capital ratio shown a consistent increase until 2017/18, indicating a time of strengthening financial position. However, it has since seen a fall, signaling the presence of possible weaknesses. The capital ratio of NSBL reached its highest point in the fiscal years 2016/17 and 2019/20, but has typically been declining, which has raised worries about its ability to withstand financial shocks. The capital ratio of NABIL remained largely constant, with little variations, indicating a continuous level of stability. EBL saw a growth in its capital ratio until the fiscal year 2016/17, followed by a decrease. However, in 2022/23, there were indications of a rebound, which suggests a possible improvement in its financial position. NMB's capital ratio showed an upward trend until 2018/19, after which it witnessed a decrease. However, it still maintains a very robust capital position compared to previous years. A higher capital ratio indicates the strength of a bank, since it signifies that the bank has a larger cushion to absorb losses without putting depositor money at risk. On the other hand, a

decreasing capital ratio might indicate a deterioration in the bank's financial health and a higher risk to investors and depositors.

Trend of credit risk

Credit risk is a measure of a bank's exposure to possible losses and the quality of its loan portfolio, reflecting the percentage of loans that are in default or near default. Within the framework of this research on the factors that influence bank stability, an upward trend in the nonperforming loan ratio may indicate heightened credit risk, which might threaten bank stability and call for preventative actions to mitigate risk. A weakening trend, on the other hand, would point to better credit quality and a more robust and stable banking system. Because it has such a direct impact on strategic decision-making and the financial system's health, understanding the trajectory of credit risk is crucial for regulators and bank management alike. The trend of credit risk during the ten years of the study period is presented in Figure 4.

Figure 4 *Credit Risk*

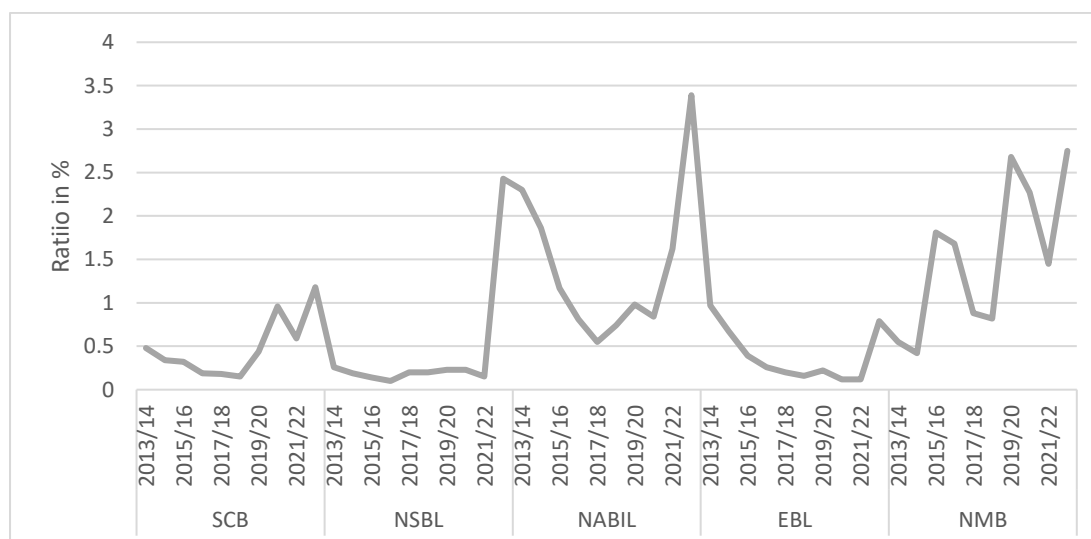


Figure 4 shows the credit risk i.e., non-performing loan (NPL) rates for the five banks which show important information about their financial health and security over the past ten years. Up until 2018/19, SCB's credit risk was going down, which means that loans were doing better and there was less danger. But the later rise, especially in 2022 and 2023, suggests that asset quality may be getting worse and risk exposure may be rising. NSBL's credit risk profile stayed low and steady until it went through a big jump in 2022/23. Such a quick rise could mean that the quality of the assets is suddenly going down, which could make the bank's finances less stable. NABIL's credit risk steadily went down until 2017/18, which shows that loan health is getting better. After that, the

NPL ratio went up, especially around the peak in 2022–2023. This could mean that the chance of failure rose, which is not good. Over the years, EBL's credit risk has steadily gone down, with only a small rise in 2022/23. This points to a loan balance that is mostly solid, with a small rise in risk recently. Credit risk for NMB went up and down a lot, with big high points in 2015/16, 2019/20, and 2022/23. This kind of change in the NPL number shows that loans aren't being paid back consistently, which is bad for the bank's security. Some banks have been better at managing credit risk in the past, but recent rises in NPL rates for a number of banks could make them less stable by making it more likely that they will go bankrupt and lowering investor and depositor trust.

Trend of size of the banks

The size of a bank, measured by the natural logarithm of its total assets, is an important indicator for evaluating the stability of commercial banks. The size and extent of a bank's activities are reflected in its scale and scope, with bigger banks often having a greater variety of risks and resources to withstand unexpected events. Within the scope of this research on factors that determine the stability of banks, the magnitude of banks plays a vital role as it may impact a bank's capacity to use economies of scale, handle operational risks, and sustain a competitive edge. Nevertheless, the increased magnitude may also introduce intricacy and possible systemic hazards, hence emphasizing the need of analyzing the evolution of bank size in order to comprehend the general well-being and stability of the banking industry. Figure 5 illustrates the evolution of bank size during the ten-year research period.

Figure 5 *Bank Size (Natural Log of Total Assets)*

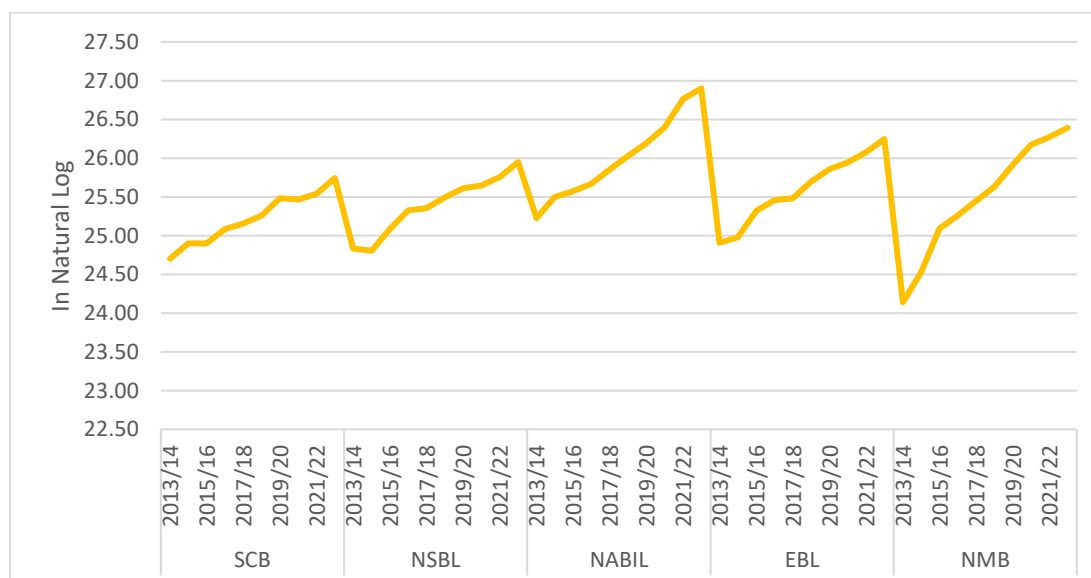


Figure 5 depicts the trend of bank size, represented by the natural log of total assets, over the ten-year period for the banks SCB, NSBL, NABIL, EBL, and NMB, shows a consistent increase across all banks. SCB exhibited steady growth with a slight acceleration in asset size, indicating a solid expansion strategy. NSBL also showed consistent growth, with a slightly more pronounced increase towards the end of the period. NABIL demonstrated the most significant growth, suggesting aggressive expansion and possibly greater market share acquisition. EBL maintained a steady increase, reflecting a stable growth strategy. NMB although starting with the smallest asset size, it showed a healthy increase, indicating robust growth relative to its size. The increase in bank size is generally associated with enhanced stability, as larger banks can benefit from economies of scale, more diversified portfolios, and a broader customer base, which can lead to a more stable financial position. However, it's important to note that larger size also brings complexity and the need for robust risk management practices to ensure continued stability. The consistent growth in assets for these banks suggests they are likely becoming more resilient to economic fluctuations, provided they manage the accompanying risks effectively.

Trend of liquidity risk

Liquidity risk i.e., loans and advances to total deposits is an important indicator of commercial bank stability. Crucial for comprehending a financial institution's capability to fulfill immediate obligations, it signifies the ratio of the proportion of liquid assets held in deposits to the proportion of assets held in loans. Monitoring the liquidity risk trend is crucial within the framework of this research on the determinants of bank stability, as it provides insight into the operational fluidity and risk exposure of the bank. A higher ratio may indicate increased profitability; however, it also signifies heightened risk, as the bank might lack sufficient liquid assets to accommodate unforeseen withdrawals. On the contrary, a reduced ratio signifies a more cautious approach to managing liquidity, which may result in increased stability albeit potentially at the expense of diminished returns. To ensure the resilience and dependability of a bank in the face of financial fluctuations, it is critical to comprehend this balance. Throughout the ten-year research period, the evolution of liquidity risk is depicted in Figure 6.

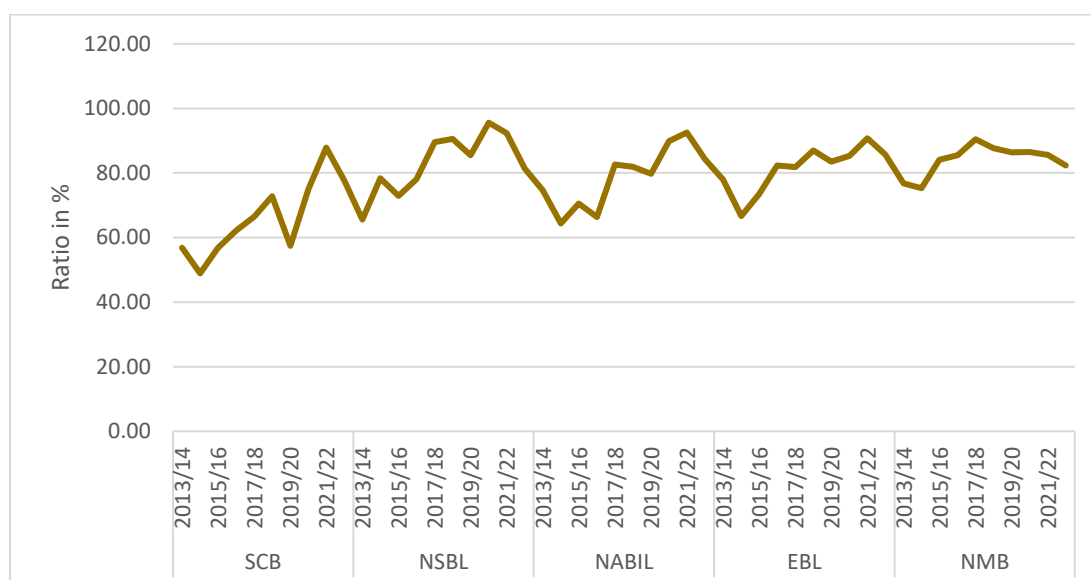
Figure 6 *Liquidity Risk*

Figure 6 illustrates that SCB, NSBL, NABIL, EBL, and NMB have distinct loan and advance to total deposit ratios throughout ten years. This displays their liquidity risk evolution. The SCB trend indicates overall liquidity risk rising, peaking in 2021/22. This suggests that SCB may have been paying away more of its deposits, which might generate liquidity issues if many people withdraw their money at once. NSBL reached its peak in 2020/21 after various ups and downs. High liquidity risk may indicate that NSBL has more loans than savings. This may make it tougher for the bank to satisfy short-term obligations without raising funds or selling assets. NABIL's financial risk peaked in 2021/22. This suggests an active borrowing strategy that may earn the firm more money but also make it less likely to have adequate cash. EBL fluctuated but rose with time, peaking in 2021/22. This pattern suggests EBL is taking on greater liquidity risk, which might weaken its finances during economic downturns. NMB started off strong, then stabilized, then dropped little. This may indicate that NMB is managing financial risk by balancing deposit growth with loan issuance. A bank with high liquidity risk may struggle to manage rapid deposit withdrawals or loan defaults, compromising its security. The bank must be properly managed to be healthy and satisfy its obligations without taking emergency measures that might damage its reputation and finances. Some banks may be taking more risk to generate more money, while others are minimizing risk to avoid financial issues, according to trends.

Trend of GDP growth

The pattern of GDP growth shows when a country's economy has been growing or shrinking over the long run. Global GDP growth picked up speed in 2021, reaching 6%, before leveling out at 3.5% in 2022 and is predicted to increase by 3% this year, after the initial shock of the COVID-19 epidemic. Because it affects their stability, this indicator is critical for banks. Strong banking sectors are usually associated with expanding economies, which means more lending possibilities and fewer default rates. On the other side, a shrinking GDP may be an indication of financial instability inside banks, as borrowers may find it difficult to repay loans, which might result in increased default rates and stressed financial circumstances. Consequently, policy choices and strategic planning within financial institutions are impacted by GDP growth, which is a measure of the health of the banking industry. The trend of Nepal's GDP during the ten years of the study period is presented in Figure 7.

Figure 7 *GDP Growth*



Figure 7 shows the GDP growth trend over the ten-year period shows significant fluctuations, reflecting the dynamic nature of economic activity. The period began with a strong growth rate in 2013/14, but this was followed by a decline over the next two years, reaching a low of 2015/16. A sharp rebound occurred in 2016/17 with the highest growth rate suggesting a period of robust economic recovery or expansion. Subsequent years saw a gradual decline in growth rates, with a notable contraction in 2019/20, likely due to economic shocks such as the COVID-19 pandemic. The economy showed resilience with a bounce back to positive growth in the following years, although it did

not reach the peak levels seen earlier in the decade. For banks, these GDP growth trends can have profound implications for stability. Periods of high growth typically lead to increased lending and investment opportunities, along with higher profitability. Conversely, during economic downturns, banks may face higher default rates, reduced lending activity, and pressure on profitability. The negative growth in 2019/20, in particular, would likely have posed significant challenges for banks, testing their resilience and risk management strategies. The trend suggests that banks need to be prepared for cyclical economic changes and ensure they have robust strategies in place to manage the varying levels of risk associated with GDP growth fluctuations.

Trend of inflation rate

Inflation rates reflect currency buying power and living costs, making them important bank stability indicators. Banks use this statistic to determine interest rates, loan repayment capabilities, and investment returns. As inflation rises, interest rates rise to reduce spending, which raises borrowing costs and threatens bank profitability and stability. Low inflation may indicate poor demand and lower interest rates, lowering banks' interest margins. Thus, recognizing inflation patterns helps banks control price level risks and stay steady in changing economic situations. The ten-year inflation trend in Nepal is shown in Figure 8.

Figure 8 *Inflation Rate*

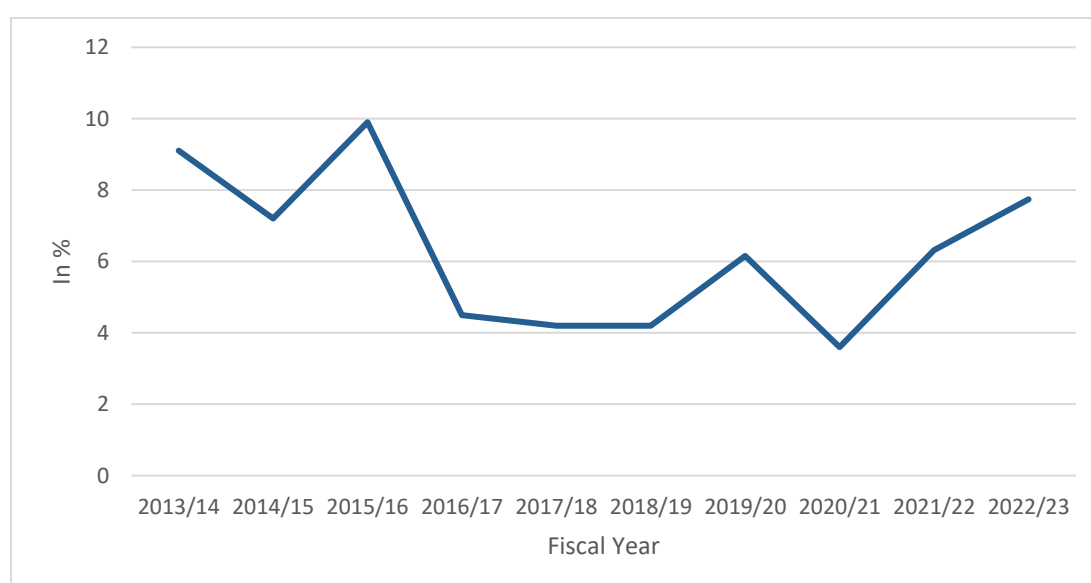


Figure 8 the inflation rate over the ten-year period shows a pattern of fluctuation, starting at a high in FY 2013/14, decreasing by FY 2017/18, and then experiencing a mix of rises and falls, in FY 2022/23. Such variability in inflation can significantly

impact bank stability. Periods of high inflation, like in FY 2013/14 and 2015/16, can erode the value of money, leading to higher interest rates. This can reduce the demand for loans as borrowing costs rise, potentially decreasing a bank's profitability. Conversely, lower inflation rates, as seen in FY 2016/17 to 2018/19, can lead to lower interest rates, which may boost loan demand but also compress banks' interest margins, affecting their earnings. Frequent changes in inflation rates can lead to uncertainty in economic conditions, making it challenging for banks to plan and manage interest rate risks, which is crucial for maintaining profitability and stability. Consistent and moderate inflation is generally favorable for bank stability, as it allows for predictable interest rate movements and manageable loan demand. However, high or volatile inflation can pose risks to a bank's financial health, requiring careful risk management strategies to maintain stability.

4.1.2 Descriptive statistics of study variables

Descriptive statistics serve as a foundational tool to summarize and describe the main features of a collection of data quantitatively. This is achieved through key metrics such as mean, which provides the average value; standard deviation, which measures the amount of variation or dispersion from the mean; and the range, indicated by the minimum and maximum values that define the spread of the data. Z Score is used as dependent variable in this study while capital ratio, credit risk, size of the bank, liquidity risk, GDP growth and inflation are used as independent variables in this study. Descriptive statistics thus provide a snapshot of the data, which can be used for further analysis or decision-making processes like correlation analysis and regression analysis. The result of descriptive statistics is presented in Table 3 which include total fifty observations which are from five sample commercial banks with ten years data.

Table 3

Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Z-Score	50	19.51	66.90	33.89	10.57
Capital Ratio	50	10.75	22.99	14.09	2.51
Credit Risk	50	.10	3.39	.85	.83
Bank Size	50	24.14	26.90	25.54	.56
Liquidity Risk	50	48.92	95.58	78.68	10.76
GDP Growth	50	-2.37	8.98	4.36	3.32
Inflation	50	3.60	9.90	6.29	2.09

Source: Annual Reports of Respective Banks and SPSS 25.0 Output

Table 3 presents an overview of various financial metrics for a sample of 5 banks and ten years data totaling 50 observations, providing insights into their stability and performance. The Z-Score, a measure of financial health, has a wide range with a minimum of 19.51 and a maximum of 66.90, indicating significant variability among the banks' stability. The mean Z-Score is 33.89, with a standard deviation of 10.57, suggesting that while some banks are well above the average in stability, others fall below. The capital ratio, which indicates the banks' ability to withstand financial distress, has less variability, as shown by a lower standard deviation of 2.51, with values ranging from 10.75 to 22.99. Credit risk, measured by the NPL ratio, has a mean of 0.85 and a standard deviation of 0.83, pointing to a moderate risk level with some banks experiencing higher levels of non-performing loans. Bank size, indicated by the natural log of total assets, shows a narrow range (24.14 to 26.90) and a small standard deviation (0.56), suggesting that the banks are relatively similar in size. Liquidity risk, which assesses the banks' ability to cover short-term obligations, has a high mean of 78.68 and a wide range (48.92 to 95.58), indicating varied levels of liquid assets among the banks. Economic indicators like GDP growth and inflation also show fluctuations over the period. GDP Growth has a mean of 4.36 with a significant range (-2.37 to 8.98), reflecting the economic cycles affecting the banks' operating environments. Inflation has a mean of 6.29 and a range of 3.60 to 9.90, which can influence interest rates and, consequently, the banks' profitability.

4.1.3 Correlation analysis

In this study, correlation analysis is employed to examine the relationships between different financial and economic variables to understand how they move in relation to each other. By calculating correlation coefficients, the study can identify whether a positive or negative relationship exists between pairs of variables, such as Z-Score and capital ratio, credit risk and bank size, liquidity risk, GDP growth and inflation. A positive correlation would indicate that as one variable increases, the other tends to increase as well, while a negative correlation suggests that as one variable increases, the other tends to decrease. Correlation analysis is crucial for risk management and strategic planning, as it provides insights into the factors that may affect the banks' performance and stability. It helps stakeholders to anticipate changes in the banking environment and to make informed decisions based on the interplay of various indicators. However, it's important to note that correlation does not imply causation,

and further analysis would be required to understand the causal relationships between these variables which is calculated in next step as regression analysis. Table 4 shows the relationship between dependent and independent variables in the study.

Table 4

Relationship Analysis

	Z-Score	CapRatio	CreRisk	BanSize	LiqRisk	GDPG	INF
Z-Score	1	.484**	.120	-.085	.207	.184	-.312*
		.000	.406	.556	.149	.201	.028
CapRatio		1	-.265	-.066	-.199	.130	-.427**
			.063	.650	.166	.369	.002
CreRisk			1	.464**	.157	-.235	.220
				.001	.275	.100	.125
BanSize				1	.549**	-.175	-.320*
					.000	.224	.024
LiqRisk					1	.097	-.394**
						.502	.005
GDPG						1	-.465**
							.001
INF							1

Source: SPSS 25.0 Output

Where,

CapRatio =Capital Ratio, CreRisk =Credit Risk, BanSize =Bank Size, LiqRisk =Liquidity Risk, GDPG =GDP Growth and INF =Inflation

Table 4 the correlation analysis table shows how different financial variables are related to Z-Score, a measure of bank stability. There is a moderate positive correlation between capital ratio and Z-Score ($r = .484$), which is statistically significant ($p < .001$). This suggests that as the capital ratio increases, Z-Score tends to increase as well, indicating that higher capital adequacy is associated with greater bank stability. There is a moderate negative relationship exist between inflation with Z-Score $r = -.312$ which is statistically significant $p = .028$. This indicates that higher inflation rates are associated with lower Z-Score values, suggesting that inflation may adversely affect bank stability.

The correlation between credit risk and Z-Score is positive but weak i.e., $r = .120$ and not statistically significant $p = .406$, implying that there is no strong relationship between credit risk and bank stability within this dataset. The correlation between banks size

and Z-Score is slightly negative $r = -.085$ but not statistically significant $p = .556$ indicating that bank size does not have a meaningful impact on Z-Score in this analysis. There is a weak positive correlation with Z-Score $r = .207$ which is not statistically significant $p = .149$. This suggests that liquidity risk has a limited association with bank stability. The correlation between GDP growth and Z-Score is positive $r = .184$ but not statistically significant $p = .201$ indicating that GDP growth does not have a strong relationship with Z-Score in this sample commercial banks.

The correlations results provide a snapshot of the relationships between various financial indicators and bank stability, with capital ratio and inflation showing the most significant associations in this sample commercial banks while credit risk, size of the bank, liquidity risk and GDP growth have no strong relationship with bank stability i.e., Z-Score.

4.1.4 Regression analysis

In this study, regression analysis is utilized to identify and quantify the effect of independent variables on a dependent variable, while controlling for other variables. It also allows for the testing of hypotheses about the factors that influence bank stability, providing a deeper understanding of the dynamics within the financial sector. Regression analysis is a powerful statistical tool for uncovering causal relationships and guiding strategic planning and policy development. Table 5 to Table 7 presents the regression results between dependent and independent variables used in this study.

Table 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 ^a	.578	.519	7.33276

a. Predictors: (Constant), INF, CreRisk, CapRatio, GDPG, LiqRisk, BanSize

Table 5 the model summary presents the results of a multiple regression analysis, where the predictors include inflation (INF), capital ratio (CapRatio), credit risk (CreRisk), bank size (BanSize), liquidity risk (LiqRisk), GDP growth (GDPG) and inflation (INF). The R value of .760 indicates a strong positive correlation between the predictors and the dependent variable. The R Square value of .578 suggests that approximately 57.8% of the variance in the dependent variable is explained by the model. The Adjusted R Square of .519 adjusts this figure for the number of predictors in the model, indicating

that after accounting for the number of variables, the model still explains 51.9% of the variance. The model appears to be a good fit for the data, explaining a significant portion of the variance in the dependent variable with a relatively low prediction error.

Table 6

Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3162.696	6	527.116	9.803	.000 ^b
	Residual	2312.080	43	53.769		
	Total	5474.776	49			

a. Dependent Variable: Z-Score

b. Predictors: (Constant), INF, CreRisk, CapRatio, GDPG, LiqRisk, BanSize

Table 6 the ANOVA for the regression model, with Z-Score as the dependent variable, indicates that the independent variables (capital ratio, credit risk, bank size, liquidity risk, GDP growth and inflation) collectively have a statistically significant effect on the Z-Score. This is evidenced by the F-statistic of 9.803 and a significance level (Sig.) of .000, which is less than the conventional alpha level of 0.05, suggesting that the regression model is a good fit for the data. The model's predictive power is confirmed by these results, demonstrating its effectiveness in explaining the variation in the banks' Z-Score.

Table 7

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	262.321	74.155		3.537	.001		
	CapRatio	2.609	.522	.621	4.994	.000	.636	1.572
	CreRisk	6.779	1.605	.530	4.224	.000	.624	1.602
	BanSize	-12.019	2.874	-.638	-4.183	.000	.422	2.368
	LiqRisk	.525	.132	.534	3.994	.000	.549	1.823
	GDPG	-.036	.396	-.011	-.090	.929	.637	1.570
	INF	-.819	.821	-.162	-.997	.324	.370	2.700

a. Dependent Variable: Z-Score

Table 7 the regression coefficients shows a detailed insights into the relationship between each independent variable and the dependent variable, Z-Score. The model's

constant term is 262.321, with a standard error of 74.155. The t-value of 3.537 and a significance level of .001 indicate that the constant is statistically significant.

The unstandardized coefficient for capital ratio is 2.609, meaning for each unit increase in capital ratio, Z-Score is expected to increase by 2.609 units, holding other variables constant. The t-value of 4.994 and a significance level of .000 suggest that capital ratio is a highly significant predictor of Z-Score. The Tolerance of .636 and VIF of 1.572 indicate that there is no concerning level of multicollinearity with this variable.

Credit risk has an unstandardized coefficient of 6.779, a t-value of 4.224, and is significant at the .000 level, indicating a strong positive impact on Z-Score. This indicates for each unit increase in credit risk, Z-Score is expected to increase by 2.609 units. The Tolerance of .624 and VIF of 1.602 suggest a low risk of multicollinearity.

Bank size has a negative unstandardized coefficient of -12.019, implying that an increase in bank size is associated with a decrease in Z-Score by 12.019 units. The t-value of -4.183 and a significance level of .000 confirm its significant impact. The Tolerance of .422 and VIF of 2.368 suggest a moderate level of multicollinearity, which should be monitored.

Liquidity risk has an unstandardized coefficient of .525, with a t-value of 3.994 and a significance level of .000, indicating a significant positive relationship with Z-Score. The Tolerance of .549 and VIF of 1.823 show acceptable multicollinearity levels.

GDP growth has an unstandardized coefficient of -.036, which is not statistically significant, as indicated by the t-value of -.090 and a significance level of .929. The Tolerance of .637 and VIF of 1.570 indicate no multicollinearity concerns.

Inflation has an unstandardized coefficient of -.819, with a t-value of -.997 and a significance level of .324, suggesting that it is not a significant predictor of Z-Score in this model. The Tolerance of .370 and VIF of 2.700 are on the higher side, indicating potential multicollinearity issues that may need further investigation.

External determinants such as GDP growth and inflation have low values since bank stability is more directly impacted by internal management practices and financial health, as measured by capital ratio, credit risk, bank size, and liquidity risk. These internal issues are within the banks' control and have a direct and major influence on

their stability. External economic circumstances, although crucial, have a more indirect and dispersed effect, hence their statistical impact is less significant in our study.

Each variable's impact on Z-Score is quantified by its unstandardized coefficient, while the t and significance values indicate the reliability of these estimates. The collinearity statistics provide insight into the independence of the variables, with Tolerance values close to 1 and VIF values close to or below 5 generally indicating no serious multicollinearity concerns.

4.2 Discussions

The main aim of this study is to examine the bank stability determinants in Nepalese commercial banks. The study's discussion would revolve around the relationships between various banking metrics and their collective impact on the financial stability and performance of banks. The discussion would conclude by underscoring the necessity for banks to balance growth with risk management and to adapt to the ever-changing economic landscape to ensure enduring stability and profitability. It would advocate for a proactive approach to risk assessment and strategic planning to navigate the complexities of the financial sector. This holistic view, derived from the study's findings, would provide valuable insights for stakeholders in the banking industry.

The study's findings indicate that certain variables have a significant effect on the dependent variable, suggesting they play a crucial role in influencing bank stability. Capital ratio emerged as significantly impacting the dependent variable, implying that the financial buffer a bank holds against potential losses is a strong indicator of its stability. A higher capital ratio is typically associated with a more robust and resilient financial institution. This finding is consistent with studies in Kenya (Ngaira & Miroga, 2018), Nigeria (Ozil, 2019), and Turkey (Gungor, 2023), where maintaining adequate capital levels was crucial for ensuring resilience against financial shocks.

Credit risk analysis suggests that credit risk has a significant effect on the dependent variable. This indicates that the quality of a bank's loan portfolio, and its management of non-performing loans, is a critical factor in determining its overall stability. This finding aligns with studies in Kenya (Ngaira & Miroga, 2018), Nigeria (Ozil, 2019), and Tunisia (Mkadmi, 2021), where effective credit risk management was identified as a key factor in maintaining stability within the banking sector. Bank size contrary to expectations, bank size was found to have a significant but negative effect on the

dependent variable. This suggests that larger banks, despite their resources, may face challenges that impact their stability, such as complexity in operations and risk management. This contrasts with findings from Fiji (Chand et al., 2020) and Vietnam (Trung et al., 2021), where bank size was positively associated with stability. However, the finding regarding bank size aligns with the study in Jordan (Kharabsheh & Gharaibeh, 2022), which also found a negative impact of bank size on stability. Liquidity risk also showed a significant relationship with the dependent variable. This underscores the importance of a bank's ability to meet short-term obligations and the potential impact on stability if liquidity is not adequately managed. This finding is consistent with studies in Fiji (Chand et al., 2020) and Vietnam (Trung et al., 2021), where liquidity risk was also found to impact bank stability significantly.

On the other hand, some variables were found to have an insignificant effect on the dependent variable. Surprisingly, GDP growth did not show a significant correlation with the dependent variable in this study. This suggests that while economic growth can influence banking operations, it may not be a direct predictor of individual bank stability. Similarly, inflation was found to have an insignificant effect on the dependent variable. This could indicate that banks have strategies in place to mitigate the impact of inflation on their operations and stability. This finding contrasts with studies in Vietnam (Nguyen and Nguyen, 2021) and Tunisia (Mkadmi, 2021), where GDP growth was found to positively impact stability. Additionally, while inflation was insignificant in this study, its impact varied across other studies.

While there are consistencies between this study and other empirical studies regarding the impact of capital ratio, credit risk, and liquidity risk on bank stability, there are also differences, particularly concerning the significance of bank size and macroeconomic variables. These variations underscore the importance of context-specific analysis when examining the determinants of bank stability. These findings highlight the multifaceted nature of factors affecting bank stability and the need for a nuanced approach to risk management that prioritizes significant variables while not overlooking the potential latent effects of those deemed insignificant. The study provides a valuable framework for understanding the key drivers of bank stability and for guiding policy and decision-making in the banking sector.

CHAPTER V

SUMMARY AND CONCLUSION

The detailed analysis is summarized in this chapter to reinforce the study's goals and emphasize its important conclusions. It concludes from the facts and considers Nepal's banking industry and beyond. This chapter synthesizes study results and predicts their wider significance, recommending future research and policy-making and strategic banking applications.

5.1 Summary

As a measure of a country's capacity to weather economic storms and keep the wheels of commerce turning, bank stability is an important indicator of national fiscal health. Its preservation of depositors' funds, the credibility of the banking system, and the expansion of the economy all depend on it. Internal management procedures, financial health, and the overall economic climate are the three main factors that affect a bank's stability. Many factors influence the stability of banks. A bank's internal strength is determined by its capital sufficiency, asset quality, managerial quality, profitability, and liquidity. Bank performance may be affected by macroeconomic variables such as GDP growth and inflation. Strategies to strengthen the banking industry must be based on a thorough understanding of these factors.

For a better understanding of bank stability in Nepal's particular economic setting, this study is essential. Among the goals is to determine how external economic variables affect stability, how bank-specific factors affect stability, and how these elements interact with one another. In order to make informed policy choices, improve bank management practices, and make sure the sector can withstand financial shocks, this kind of study is crucial.

The study takes a quantitative approach, using panel data analysis to investigate the factors of banking stability in Nepalese commercial banks. A longitudinal study approach is used, which involves evaluating data over time to identify trends and changes in stability drivers. The population includes all commercial banks in Nepal, with a selective sample of five banks chosen based on their relevance to the research aims and data availability. Secondary data from financial reports and economic databases are employed, resulting in methodical arrangement and rigorous validation

for correctness and dependability. The study approach incorporates critical factors such as capital ratio, credit risk, bank size, liquidity risk, GDP growth, and inflation, based on prior empirical research. Descriptive statistics offer an overview of variables, correlation analysis evaluates associations, and regression analysis quantifies the influence of independent factors on financial stability using a multiple regression model.

The findings of the study showed that Z-Score values with minimum 19.51 and maximum 66.90. The mean Z-Score is 33.89, suggesting varying degrees of financial health among the banks. Correlation analysis indicates a significant positive relationship between capital ratio and Z-Score, with a correlation coefficient of .484 and a p-value below .001, while inflation shows a moderate negative correlation with Z-Score, with a correlation coefficient of -.312 and a p-value of .028. However, credit risk (correlation coefficient = .120, $p = .406$), bank size (correlation coefficient = -.085, $p = .556$), liquidity risk (correlation coefficient = .207, $p = .149$), and GDP growth (correlation coefficient = .184, $p = .201$) exhibit weak or insignificant correlations with Z-Score. Multiple regression analysis demonstrates a strong positive correlation between predictors and Z-Score ($R = .760$), explaining 57.8% of its variance ($R^2 = .578$). The regression model, validated by ANOVA ($F = 9.803$, $p = .000$), confirms the collective significant effect of independent variables on Z-Score. Regression coefficients show that capital ratio ($B = 2.609$, $p < .001$), credit risk ($B = 6.779$, $p < .001$), and liquidity risk ($B = .525$, $p < .001$) significantly influence Z-Score. Bank size ($B = -12.019$, $p < .001$) also impacts Z-Score negatively. However, GDP growth ($B = -.036$, $p = .929$) and inflation ($B = -.819$, $p = .324$) do not significantly predict Z-Score. Tolerance and VIF values indicate acceptable levels of multicollinearity, except for inflation, which may require further investigation due to relatively high VIF. These findings suggest that capital adequacy, credit risk, bank size, and liquidity management are critical determinants of banking stability in Nepal.

There are several advantages to this research. Policymakers and financial institutions may use the findings to strengthen their strategy, since they throw light on the essential aspects supporting bank stability in Nepal. The results may aid in improving risk management techniques, developing more specific regulatory frameworks, and strengthening Nepal's financial industry. More sophisticated methods of banking regulation and supervision may emerge from the studies that follow this one.

5.2 Conclusion

The study conducted within the context of Nepal's banking sector provides a comprehensive analysis of the factors influencing bank stability. It concludes that bank-specific factors such as capital ratio, credit risk, bank size, and liquidity risk have varying degrees of impact on bank stability. Capital ratio and credit risk are particularly significant, with their management being crucial for the robustness of financial institutions. Bank size and liquidity risk also play roles, albeit with different implications for large and small banks.

External factors like GDP growth and inflation were examined for their influence on bank stability. While these factors are integral to the economic environment in which banks operate, their direct impact on bank stability was not as pronounced as that of the bank-specific factors. This suggests that internal management practices and the inherent financial health of banks are more critical determinants of stability than broader economic conditions.

In conclusion, the study underscores the importance of strong capital buffers, prudent risk management, and effective liquidity strategies in ensuring bank stability. It also highlights the need for banks to remain vigilant to external economic shifts while focusing on their internal practices to navigate the complexities of the financial landscape. The findings serve as a guide for policymakers and banking institutions in Nepal to bolster the resilience and stability of the banking sector.

5.3 Implications

Based on the study findings, discussion and conclusion of the study, the following implications are made:

- i The significance of capital ratio and credit risk in predicting bank stability underscores the need for stringent risk management practices.
- ii Banks should maintain robust capital buffers to enhance their resilience against financial shocks.
- iii Regular assessment of loan portfolios is crucial to minimize credit risk and ensure bank stability.
- iv The impact of bank size on stability suggests that both large and small banks need tailored strategies to manage their unique challenges.

- v Effective liquidity management is essential for meeting short-term obligations and maintaining stability.
- vi Banks should remain alert to changes in GDP growth and inflation, despite their indirect impact on stability.
- vii Policymakers should consider these findings when developing regulations to ensure a stable banking environment.
- viii Banks need to focus on internal practices and health to navigate economic conditions successfully.
- ix Additional studies could explore the causal relationships between the variables and bank stability to provide deeper insights.
- x Comparative studies in different economic contexts could help understand the universality of these findings and adapt strategies accordingly.

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Appendices

Raw Data of Commercial Banks and Economic Indicators

BANKS	FY	Z Score	Capital Ratio	Credit Risk	Bank Size	Liquidity Risk	GDP Growth	Inflation
SCB	2013/14	30.14	12.27	0.48	24.70	56.87	6.01	9.1
	2014/15	28.44	13.1	0.34	24.90	48.92	3.98	7.2
	2015/16	33.82	16.38	0.32	24.90	56.88	0.43	9.9
	2016/17	44.59	21.08	0.19	25.08	62.20	8.98	4.5
	2017/18	45.93	22.99	0.18	25.15	66.45	7.62	4.2
	2018/19	46.55	19.69	0.15	25.26	72.81	6.66	4.2
	2019/20	36.71	18.51	0.44	25.48	57.45	-2.37	6.15
	2020/21	38.41	17.17	0.96	25.47	74.91	4.25	3.6
	2021/22	41.34	15.95	0.59	25.54	87.91	5.84	6.32
	2022/23	39.00	17.09	1.18	25.74	77.61	2.2	7.74
NSBL	2013/14	22.05	13.28	0.26	24.84	65.54	6.01	9.1
	2014/15	27.94	14.03	0.19	24.81	78.39	3.98	7.2
	2015/16	26.76	13.49	0.14	25.09	72.90	0.43	9.9
	2016/17	29.81	15.71	0.1	25.33	78.07	8.98	4.5
	2017/18	35.66	15.15	0.2	25.35	89.60	7.62	4.2
	2018/19	34.30	14.12	0.2	25.50	90.52	6.66	4.2
	2019/20	30.43	15.55	0.23	25.61	85.50	-2.37	6.15
	2020/21	29.30	13.86	0.23	25.65	95.58	4.25	3.6
	2021/22	30.22	13.25	0.15	25.75	92.37	5.84	6.32
	2022/23	26.85	12.58	2.43	25.95	81.42	2.2	7.74
NABIL	2013/14	22.12	11.24	2.3	25.23	74.55	6.01	9.1
	2014/15	19.51	11.57	1.86	25.50	64.43	3.98	7.2
	2015/16	20.96	11.73	1.17	25.57	70.49	0.43	9.9
	2016/17	23.36	12.42	0.81	25.67	66.38	8.98	4.5
	2017/18	27.17	13	0.55	25.85	82.66	7.62	4.2
	2018/19	25.07	13.07	0.74	26.03	81.96	6.66	4.2
	2019/20	22.90	12.5	0.98	26.19	79.72	-2.37	6.15
	2020/21	24.52	12.77	0.84	26.40	89.84	4.25	3.6
	2021/22	25.40	13.09	1.62	26.76	92.49	5.84	6.32
	2022/23	24.35	12.54	3.39	26.90	84.19	2.2	7.74
EBL	2013/14	27.15	11.31	0.97	24.91	78.01	6.01	9.1
	2014/15	25.15	13.33	0.67	24.98	66.63	3.98	7.2
	2015/16	25.53	12.66	0.39	25.32	73.52	0.43	9.9
	2016/17	31.95	14.69	0.26	25.46	82.32	8.98	4.5
	2017/18	33.39	14.2	0.2	25.48	81.86	7.62	4.2
	2018/19	31.33	13.74	0.16	25.70	87.01	6.66	4.2
	2019/20	29.27	13.38	0.22	25.86	83.52	-2.37	6.15
	2020/21	27.15	12.48	0.12	25.94	85.30	4.25	3.6
	2021/22	28.37	11.89	0.12	26.08	90.77	5.84	6.32
	2022/23	29.43	13.3	0.79	26.25	85.70	2.2	7.74
	2013/14	43.25	10.75	0.55	24.14	76.73	6.01	9.1

	2014/15	34.87	11.13	0.42	24.53	75.32	3.98	7.2
	2015/16	41.77	10.98	1.81	25.09	84.07	0.43	9.9
	2016/17	53.73	13.61	1.68	25.26	85.50	8.98	4.5
	2017/18	66.90	15.75	0.88	25.45	90.46	7.62	4.2
	2018/19	59.50	15.45	0.82	25.63	87.71	6.66	4.2
	2019/20	51.71	15.08	2.68	25.91	86.39	-2.37	6.15
	2020/21	47.18	15.08	2.27	26.17	86.51	4.25	3.6
NMB	2021/22	48.45	13.59	1.45	26.27	85.55	5.84	6.32
	2022/23	45.09	13.33	2.75	26.39	82.36	2.2	7.74

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Abstract The main aim of this study is to investigate the factors that determine the stability of commercial banks in Nepal. More specifically, the study focuses on the correlations that exist between different banking measures and the collective influence that these metrics have on financial stability and performance. In this research, panel data analysis is used to evaluate the impact that several variables, including capital ratio, credit risk, bank size, liquidity risk, GDP growth and inflation, have on the stability of banks. The findings indicate that the stability of a bank is highly influenced by factors such as capital ratio, credit risk and liquidity requirements. It is surprising to learn that the size of a bank has a negative influence on stability, which suggests that bigger banks may have more difficulties in their operations. There is a modest association between bank stability and external economic indicators like GDP growth and inflation, which suggests that internal management practices have a more significant influence in

the stability of the economic **system** . When it comes **to** safeguarding **the stability of** banks, **the**