NEXUS BETWEEN BANK CONCENTRATION, COMPETITION AND FINANCIAL STABILITY

A Dissertation submitted to the Office of the Dean, Faculty of Management, in partial 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 **"Nexus Between Bank Concentration, Competition and Financial Stability"**. 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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Report of Research Committee

Binita Shrestha has defended research proposal entitled **"Nexus Between Bank Concentration, Competition and Financial Stability"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per and submit the thesis for evaluation.

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Approval Sheet

We have examined the dissertation entitled **"Nexus Between Bank Concentration, Competition and Financial Stability"** presented by **Binita Shrestha** a candidate for the degree of Master of Business Studies (MBS). We hereby certify that the dissertation is acceptable for the award of degree.

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Abbreviations

BS:	Bank Size
GDP:	Gross Domestic Product
HHI:	Herfindahl–Hirschman Index
INF:	Inflation Rate
MC:	Market Concentration
PRO:	Profitability
ROA:	Return on Assets
SD:	Standard Deviation
SPSS:	Statistical Package for Social Science
TU:	Tribhuvan University

Abstract

This research investigates the complex link that exists between the concentration of banks, the level of competition, and the stability of the financial system in Nepal's banking industry. The study examines data from five commercial banks, focusing on factors such as market concentration, competition, bank size, profitability, GDP growth, inflation, and financial stability. The study's research techniques are a blend of descriptive and causal research designs. According to the data, a greater market concentration has a positive correlation with financial stability. This lends credence to the idea that bigger banks contribute to stability by using risk management strategies that are more conservative. However, while increased competition fosters efficiency and innovation, it also contributes to a decline in financial stability due to potentially riskier practices among banks. Higher competition inevitably leads to increased risk. According to the research findings, there is a pressing need for a regulatory strategy that strikes a healthy balance between fostering healthy competition and preserving adequate concentration to guarantee stability. In the process of navigating the ever-changing dynamics of the financial system, these observations have substantial significance for the policymakers, regulators, and banking institutions in Nepal.

Keywords: *Bank concentration, competition, financial stability, market structure, risk management*

CHAPTER I

INTRODUCTION

1.1 Background of the study

Banking is a critical component of the financial system, providing services such as deposit taking, lending, and facilitating payments (Beck et al., 2006). It is a highly regulated industry, with oversight aimed at ensuring the safety and soundness of financial institutions and protecting consumers (Barth et al., 2013). Financial information on specific banks, industry analyses, and economic trends are essential for understanding the health and performance of the banking sector (Bikker & Haaf, 2002).

Banking concentration refers to the extent to which a small number of large banks dominate the banking industry. Over time, there has been a decline in the number of smaller banks, leading to a more concentrated industry with significant consolidation worldwide (Claessens & Laeven, 2004). Despite this, some indicators suggest that there has been little overall increase in concentration levels (Rhoades, 1993). Large multinational banks are increasingly influential in domestic markets, and the size of the largest global banks has grown (Cetorelli & Gambera, 2001). The importance of banks in the financial sector is not declining and may be increasing (Demsetz & Strahan, 1997).

High levels of bank concentration are often associated with increased financial stability. Concentrated banking sectors typically feature larger banks with diversified portfolios and robust capital buffers, which can absorb economic shocks more effectively than smaller banks. Furthermore, large banks in concentrated markets are better equipped to invest in risk management technologies and practices. Allen and Gale (2004) argued that concentrated banking systems are less prone to competitive pressures that might lead banks to engage in excessively risky behavior. This view is supported by empirical evidence suggesting that countries with higher bank concentration experienced fewer banking crises during the global financial crisis of 2008 (Beck et al., 2013).

Competition in banking can be measured using various indicators, such as the H-statistic, which implies that the market is relatively competitive even with a high degree of concentration (Panzar & Rosse, 1987). Technological progress has enabled

large, multi-market banks to compete more effectively against smaller, single-market banks (Berger, 2003). However, there is evidence that the geographical dispersion of a bank's activities can negatively affect profits (Jayaratne & Strahan, 1996).

Financial stability is the absence of systemic banking crises and the ability of the banking system to function effectively. Large banks can diversify better, earn higher profits, take fewer risks, and are easier to monitor by regulatory agencies, which contributes to stability (Boyd & Runkle, 1993). More competitive banking systems with fewer entry regulations and activity restrictions tend to be more stable (Barth, Caprio, & Levine, 2004). However, the stabilizing effect of bank concentration is weaker at higher levels of concentration, and banking systems characterized by a few large banks are generally more stable than less concentrated markets (Beck et al., 2006).

The nexus between bank concentration, competition, and financial stability is complex and has significant implications for public policy. While academic research provides some insights, it offers limited guidance for policymakers (Carletti & Hartmann, 2002). There is evidence of scale economies in banking, but these are only up to a relatively small scale, and there is little evidence supporting significant economies of scope (Berger & Mester, 1997). Moreover, while there may be diseconomies of scale on the cost side, economies of scale on the revenue side suggest that larger banks can be more profitable (Hughes & Mester, 1993). Additionally, increased scale can reduce risk (Demsetz & Strahan, 1997). Understanding these dynamics is crucial for developing policies that promote a stable, competitive, and efficient banking system. Further research is needed to unravel the complex relationships between bank concentration, competition, and financial stability, and to provide a solid foundation for regulatory decisions (Carletti & Hartmann, 2002).

The nexus between bank concentration, competition, and financial stability is multifaceted and requires careful consideration by regulators and policymakers. While concentration can provide stability by creating robust financial institutions, it also poses risks related to moral hazard and TBTF issues. Conversely, competition fosters efficiency and innovation but can lead to riskier banking practices. An optimal balance, supported by strong regulatory frameworks, is crucial for ensuring a resilient and stable banking sector. In Nepal, this balance is particularly important as the

country continues to develop its financial infrastructure and integrate into the global economy. Future research and policy development should continue to explore and address the dynamic interactions between these critical components of the financial system.

1.2 Problem statement

The banking sector in Nepal has experienced significant transformation over the past few decades, transitioning from a system to a more liberalized and competitive market structure. This shift has brought about a proliferation of banking institutions, ranging from large commercial banks to smaller microfinance entities, which has altered the dynamics of bank concentration and competition within the country. Despite these changes, there remains a lack of comprehensive understanding of how these factors interact and influence the overall financial stability of Nepal's banking sector.

The problem is that while increased competition among banks can lead to more favorable conditions for consumers, such as better interest rates and innovative financial products, it may also drive banks to engage in riskier behaviors to maintain profit margins, potentially compromising financial stability. Conversely, high levels of bank concentration can lead to market power abuses and inefficiencies, but may also result in economies of scale and more stable banking institutions. The delicate balance between these dynamics is crucial for the health of the financial system, yet empirical evidence on the optimal level of bank concentration and competition for ensuring financial stability in Nepal is scarce.

Various studies are conducted on bank concentration, bank competition and financial stability on Nepalese and international banking sectors. Firstly, in the Nepalese context, Gajurel and Pradhan (2012) found a decreasing trend in market concentration over time, indicating lower levels of monopolistic power among banks. However, there exists a nuanced relationship between competition and stability. While G.C. and Sharma (2016) suggested a positive association between greater competition and financial stability, others like Neupane (2016) indicated a negative impact, particularly when competition leads to heightened risk-taking behavior among banks. Moreover, Ali et al. (2018) highlighted the influence of bank size and capitalization

on revenue generation and stability, with larger banks facing increased risks amidst competition and stricter capital norms under Basel III shown to mitigate these effects.

Furthermore, across various countries, including those within the East African Community as shown by Nyangu et al. (2022) and the SAARC region as demonstrated by Khan and Akhtar (2024), higher concentration tends to foster stability, whereas heightened competition may lead to increased fragility and risk-taking behavior among banks. Policymakers are advised to balance regulatory interventions to foster competition while ensuring stability, considering the nuanced interplay of various moderating factors and the differing impacts across countries and periods. Ultimately, these findings underscore the complexity of the banking landscape and emphasize the need for tailored regulatory measures to promote stability and resilience in banking systems globally.

The absence of a clear understanding of the nexus between bank concentration, competition, and financial stability in Nepal's context presents a critical gap in knowledge that hinders the ability of policymakers and financial institutions to make informed decisions. This gap also limits the capacity to anticipate and manage potential financial crises, which could have far-reaching consequences for the country's economic development and the well-being of its population.

Therefore, the problem statement for the study is there is a critical need to investigate the relationship between bank concentration, competition, and financial stability in Nepal, to determine the optimal market structure that promotes a robust, efficient, and stable banking sector capable of supporting the country's economic development objectives while safeguarding against systemic risks. Mainly the following questions are raised:

- What is the level of competition within the Nepalese banking sector, and how does it vary across different bank categories?
- To what extent does market concentration influence the financial stability?
- How does competition among Nepalese banks affect the overall stability of the banking sector?

1.3 Objectives of the study

The main aim of this study is to examine and find out the link of concentration, competition and financial stability of commercial banks in Nepal. However, the specific objectives of the study are as follows:

- To assess the level of competition in the Nepalese banking sector.
- To examine the impact of market concentration on financial stability in Nepal, utilizing concentration ratios.
- To analyze the relationship between concentration, competition and financial stability in Nepal's banking sector.

1.4 Rationale of the study

Nepal has undergone significant transformations in its banking industry, transitioning from a system to a more liberalized and competitive market structure. This shift has led to the proliferation of banking institutions, ranging from large commercial banks to smaller microfinance entities. However, there is a lack of comprehensive understanding of how these changes in bank concentration and competition interact and influence the overall financial stability of Nepal's banking sector.

Firstly, it aims to address the potential risks associated with increased competition among banks. While competition can lead to favorable conditions for consumers, such as better interest rates and innovative financial products, it may also drive banks to engage in riskier behaviors to maintain profit margins. Understanding the impact of competition on financial stability is crucial for policymakers and regulators to ensure a healthy and resilient banking sector.

Secondly, the study seeks to examine the implications of bank concentration on financial stability. High levels of bank concentration can lead to market power abuses and inefficiencies. However, they may also result in economies of scale and more stable banking institutions. It is essential to determine the optimal level of bank concentration that promotes a robust and efficient banking sector while safeguarding against systemic risks.

The rationale of this study is further supported by the evolving regulatory framework and oversight mechanisms in Nepal. As the banking sector continues to evolve, it is crucial to assess whether current regulations effectively mitigate risks associated with bank concentration and competition or inadvertently stifle healthy market dynamics.

1.5 Limitations of the study

The main limitations of the study are as follows:

- The study's sample is limited to only five commercial banks out of the total population of 20 in Nepal. This smaller sample may not fully capture the diversity and variation present in the entire banking sector.
- The study relied on a ten-year data period, specifically from 2013/14 to 2022/23.
- The study primarily employed descriptive statistics, correlation analysis, and regression analysis to examine the relationships between bank concentration, competition, and financial stability. While these methods provide valuable insights, they may not capture the full complexity of the relationships or account for other potential factors that could influence the findings.
- The study relied on secondary data from various sources, including financial statements, annual reports, and macroeconomic data. The availability and quality of these data sources may vary, potentially introducing limitations in terms of data accuracy, consistency, and completeness.
- The study's design primarily focuses on exploring associations and relationships between variables rather than establishing causal links. While regression analysis helps to control for confounding factors, it cannot definitively establish causality. Other unmeasured variables and factors may be influencing the observed relationships.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical review

The nexus between bank concentration, competition, and financial stability has been a subject of extensive research and debate, leading to the development of several theories. Three prominent theories that have been empirically tested in the literature are the "Competition-Stability" theory, the "Competition-Fragility" theory, and the "Efficient-Structure" hypothesis.

2.1.1 Nexus between bank concentration, competition and financial stability

Bank concentration signifies the extent to which a limited number of banks dominate the banking industry, while "competition" denotes the level of competition among these banks. Financial stability, on the other hand, refers to the financial system's ability to withstand shocks and crises. In order for policymakers to achieve their goal of striking a balance between building a competitive banking environment and guaranteeing systemic stability, it is essential for them to have a solid understanding of this nexus. The purpose of this article is to investigate the complex dynamics between these components using both actual investigations and theoretical analysis.

Beck et al. (2013) asserted that concentrated banking sectors often consist of bigger banks that have varied portfolios and solid capital buffers. These institutions are able to absorb economic shocks more effectively than smaller banks. In addition, major banks operating in markets that are highly concentrated are in a stronger position to undertake investments in risk management technology and processes. Allen and Gale (2004) argued that concentrated banking systems are less susceptible to competitive pressures that might cause banks to engage in unduly hazardous activity. During the global financial crisis that occurred in 2008, nations that had a larger concentration of banks saw fewer banking crises, according to empirical research (Beck et al., 2013). This position is backed by this evidence.

On the other hand, excessive concentration may result in a "too-big-to-fail" (TBTF) dilemma, which is a situation in which huge banks may take on more risks in the expectation that they will get bailouts from the government in the event that they fail (Mishkin, 2006). These institutions may engage in riskier operations, knowing that they will socialize losses, leading to a situation that could be detrimental to the

stability of the financial system. The TBTF conundrum became apparent during the financial crisis that occurred in 2008, when a number of big banks needed considerable action from the government in order to prevent the collapse of the whole system. As a result, although concentration has the potential to improve stability under normal circumstances, it can also pose significant hazards during difficult financial times.

People often praise a competitive banking environment for its advantages, such as enhanced efficiency, innovation, and improved customer service (Claessens & Laeven, 2004). With that being said, more competition may also put pressure on banks to reduce lending standards and engage in riskier conduct in order to preserve market share, which could ultimately put the stability of the financial system in jeopardy (Vives, 2016). Jiménez et al. (2013) discovered that increasing competition in the Spanish banking industry led to riskier lending practices and more loan defaults. This was caused by the increased rivalry. Consequently, competition propels development and innovation, yet necessitates robust regulatory frameworks to mitigate associated risks.

To preserve financial stability, it is critical to strike a balance between bank concentration and competition. In order to successfully navigate this complicated environment, policymakers need to cultivate an ideal degree of competition that encourages efficiency and innovation without jeopardizing the stability of the financial system. According to Demirguc-Kunt and Detragiache (2002), regulatory procedures that include capital requirements, stress testing, and resolution frameworks for TBTF institutions are essential in order to achieve this equilibrium. Furthermore, regulations that encourage openness and accountability in banking activities have the potential to offset the negative impacts of both excessive concentration and competition.

The relationship between bank concentration, competition, and financial stability is complex and needs regulators and policymakers to give serious thought to the many aspects of this relationship. Additionally, while concentration may bring stability by building solid financial institutions, it also raises concerns about moral hazards and TBTF difficulties. On the other hand, competition encourages more efficient and innovative processes, but it may also result in more risky banking procedures.

Establishing a resilient and stable banking industry necessitates striking an ideal balance, supported by robust regulatory frameworks. In the future, research and policy development should continue to investigate and address the dynamic interactions that occur between these essential components of the financial system.

In Nepal, the banking sector has undergone significant transformation in recent decades, characterized by both concentration and competition. The Nepal Rastra Bank (NRB), the central bank, has implemented various policies to foster competition while ensuring financial stability. Nepal's banking sector is moderately concentrated, with a few large commercial banks dominating the market alongside a multitude of smaller financial institutions. This structure aims to balance the benefits of large, stable banks with the innovation and customer service improvements driven by competition (Nepal Rastra Bank, 2020). However, the rapid growth and competition have also led to concerns about credit risk and the soundness of smaller banks, highlighting the need for vigilant regulatory oversight.

2.1.2 Competition-stability theory

The competition-stability hypothesis, often attributed to De Nicolo and Boyd (2003), suggests that increased competition in the banking industry leads to increased financial stability. One of the fundamental premises of this theory is that more competition has the effect of diminishing the market power of particular banks, which in turn results in a reduction in interest rates. When interest rates are lower, it is less probable that borrowers will engage in unduly hazardous conduct, since the cost of borrowing is more manageable. This theoretical framework suggests that competitive forces drive banks to operate more efficiently and cautiously, thereby enhancing the overall stability of the financial system.

Schaeck et al. (2009) applied the Boone indicator in their study, subsequently publishing it in the Journal of Financial Services, to evaluate the level of competition in the European banking industry. According to the Boone indicator, which evaluates the effect of efficiency on market shares, banks that are more efficient tend to acquire a larger portion of the market to begin with. According to the research findings, there is a positive association between increased competition and improved financial stability. This suggests that increased rivalry decreases the incentives for banks to take

risks. The significance of this conclusion lies in the fact that it throws into question the conventional viewpoint that competition necessarily results in instability.

Beck et al. (2013) which analyzed data from many countries to determine the effect that competition has on the stability of the banking industry, further supports this argument. According to their research, countries with higher levels of banking competition experienced fewer instances of financial instability. This lends support to the argument that competition helps to promote a more stable banking environment. The findings of this research highlight the significance of regulatory frameworks that encourage fair competition while also ensuring that financial institutions adhere to responsible risk management procedures.

The application of the competition-stability theory might include promoting more rivalry among banks through the implementation of regulatory changes and market liberalization in Nepal. It is possible for the Nepal Rastra Bank (NRB) to develop policies that lower the barriers to entry for new banks and financial institutions. This would result in a competitive environment that encourages efficiency and stability. Through the implementation of such measures, Nepal can strengthen its banking system's resilience in the face of economic shocks and crises. Shrestha (2017) examined the impact of competition on financial stability in Nepal's banking sector. The research found that increased competition, measured by the Boone indicator, was associated with greater stability, consistent with the competition-stability theory. This suggests that promoting competition among banks can enhance financial stability in Nepal.

In general, the competition-stability hypothesis provides a solid justification for the beneficial effects that competition has on the financial system's stability. Competition has the potential to reduce market dominance and encourage conservative lending practices, both of which may contribute to a banking system that is more resilient and stable. When formulating policies with the intention of fostering both competition and stability in the banking sector, policymakers and regulators have to consider the empirical data that backs up this hypothesis.

2.1.3 Competition-fragility theory

The competition-fragility hypothesis provides an alternative to the competition-stability theory, which proposes that increasing competition may result in a decline in

the stability of the financial system. According to this hypothesis, which is often associated with the work of Keeley (1990), more competition makes it more difficult for banks to retain their market position and profit margins, which in turn forces them to take on greater risks in order to continue to be profitable. Because banks may engage in riskier lending practices and investments as a consequence of this increased risk-taking, the existing financial system may become more vulnerable.

Jiménez et al. (2013) provide statistical evidence that lends credence to the competition-fragility argument. A greater amount of competition, as measured by lower interest margins and fees, linked to riskier lending practices and higher levels of instability, according to the findings of their research, which used data from the Spanish banking industry. The researchers made the observation that banks that were subjected to stronger competitive pressures were more inclined to drop their credit criteria and make loans to borrowers perceived to be riskier. This resulted in an increase in the total risk that the banking system was exposed to. The significance of this discovery lies in the fact that it highlights the possible risks that result from excessive competition in the banking industry.

Boyd et al. (2006) have produced a body of work that provides more evidence in favor of the competition-fragility hypothesis. The findings of their study, which included the examination of a huge dataset that was collected from many countries, revealed that greater levels of competition were connected with increasing bank fragility. The research revealed that competitive forces might cause banks to take on excessive risks, particularly in the absence of robust regulatory monitoring. This was especially true in the absence of effective control. By highlighting the significance of effective regulation in minimizing the negative impacts of competition on financial stability, this underscores the relevance of effective regulation.

A comprehensive evaluation of the possible dangers that are linked with greater competition is required in order to apply the competition-fragility hypothesis to Nepal. It is essential for the NRB to put in place rigorous regulatory frameworks that prohibit excessive risk-taking, even while encouraging competition may be a driver of efficiency and innovation. A number of measures, such as rigorous capital requirements, frequent stress testing, and extensive monitoring of lending practices, might be implemented in order to guarantee that financial institutions do not sacrifice

their stability in order to increase their market share. Evidence supporting the competition-fragility theory can be found in the work of Paudel (2012), who analyzed the effects of competition on risk-taking behavior in Nepalese banks. The study found that heightened competition led to riskier lending practices and increased financial instability. This finding underscores the need for robust regulatory frameworks to mitigate the adverse effects of excessive competition on stability.

Within the context of the link between competition and financial stability, the competition-fragility hypothesis offers a viewpoint that is cautionary in nature. However, if it is not adequately controlled, competition has the potential to undermine stability, even while it might motivate banks to innovate and enhance their efficiency. Policymakers have the responsibility of striking a balance between the promotion of competition and the guarantee that banks will continue to maintain sound risk management procedures in order to protect the stability of the financial system.

2.1.4 Efficient structure hypothesis

Demsetz (1973) first introduced the efficient structure hypothesis, which Berger (1995) improved. It suggests that more concentrated banking markets may lead to better efficiency, which in turn may result in greater financial stability. Berger (1995) is the one who initially proposed the idea. According to this concept, financial institutions that have larger market shares are in a better position to take advantage of economies of size and scope, which ultimately results in more effective operations and a reduced risk of failure. The theory behind concentration is that it enables financial institutions to lower their expenses and increase their profitability, which in turn makes them more resistant to the effects of economic shocks.

Pasiouras and Kosmidou (2007) provide empirical data in support of the efficient structure theory. Through their research, they investigated the European banking industry and discovered that the Herfindahl-Hirschman Index (HHI), which measures bank concentration, had a positive correlation with bank stability. The researchers suggested that bigger banks operating in concentrated markets were better equipped to diversify their portfolios, manage risks, and maintain stronger capital buffers, all of which contributed to improved overall stability. This conclusion implies that concentration may lead to advances in efficiency, which in turn strengthens the stability of the financial system.

Berger et al. (2009) have done provides more evidence in favor of the efficient structure hypothesis for further consideration. The researchers evaluated a worldwide sample of banks and found that bigger banks operating in more concentrated markets demonstrated better levels of efficiency and lower levels of risk. Concentration may result in stability advantages because it allows banks to achieve economies of scale and lead to improvements in risk management methods, according to the research findings. These findings provide insight on the possible benefits that concentration might bring to the process of fostering a stable financial sector.

In Nepal, the efficient structure hypothesis proposes that promoting a reasonable amount of concentration within the banking sector may have the potential to improve both efficiency and stability. The Nepal Rastra Bank (NRB) should encourage smaller banks to merge and acquire larger ones, resulting in larger, more robust institutions that are better prepared to withstand economic shocks. Despite this, it is critical to ensure that such concentration does not result in monopolistic behavior or decreased competition, both of which have the potential to harm consumers and hinder innovation. In support of the efficient structure hypothesis, empirical research by Thapa (2015) demonstrated that bank concentration, measured by the HHI, was positively related to financial stability in Nepal. The study found that larger banks in concentrated markets exhibited higher efficiency and lower risk, suggesting that concentration can lead to stability benefits. This highlights the potential advantages of fostering a moderate level of concentration in Nepal's banking sector.

The efficient structure hypothesis provides an explanation for the potential stability advantages derived from bank concentration. Concentration has the potential to contribute to a more robust banking system by providing banks with the ability to take advantage of economies of scale and increase their efficiency. When formulating regulatory frameworks that strike a balance between the advantages of concentration and the need to preserve competitive markets, policymakers ought to consider the empirical data that backs up this concept.

2.2 Empirical review

Gajurel and Pradhan (2012) focused on examining the evolution of market concentration and assessing market competition within the Nepalese banking industry using data from 2001 to 2009. The study employs Hirschman-Herfindahl indices and

concentration ratios to measure market concentration, while market competition is evaluated using the Panzar-Rosse approach. The findings reveal a decreasing trend and low levels of market concentration in the Nepalese banking industry over the sample period. However, the analysis using the Panzar-Rosse approach suggests monopolistic market behavior among Nepalese banks, as both monopoly and perfect competition hypotheses are rejected. Additionally, the study highlights that the market for interest-based income exhibits higher levels of competition compared to the market for fee-based income. Moreover, the results indicate that bank size positively influences revenue generation, while equity capitalization has a negative impact. These findings remain robust across various specifications and estimation techniques. In conclusion, this study provides valuable insights into the dynamics of market concentration and competition within the Nepalese banking industry, underscoring the presence of monopolistic behaviors despite low levels of market concentration.

G.C. and Sharma (2016) explored the relationship between competition and financial stability in the Nepalese banking system, addressing two competing hypotheses: the "competition-fragility" view and the "competition-stability" view. Employing a fixed effects panel data model, the study analyzes annual data from commercial banks spanning the period from 1999 to 2012, a period marked by rapid growth in financial institutions in Nepal. Using the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratios as measures of competition, and the Z-index and non-performing loans ratio as proxies for financial stability, the study also considers the effects of macroeconomic factors and bank-specific indicators. The results reveal a positive relationship between greater banking competition and financial stability in Nepal, supporting the "competition-stability" view. Specifically, increased competition leads to a decrease in credit risk and contributes to financial stability. However, mixed results are obtained regarding the impact of bank competition on overall stability, with both higher concentration and higher competition found to be detrimental. Consequently, the study suggests that policymakers should facilitate further consolidation in the financial industry while ensuring that excessive consolidation does not hinder competition. Additionally, the findings underscore the importance of considering the macroeconomic situation of the country as a determinant of banking system stability. This study offers valuable insights into the nuanced relationship between competition and financial stability in the Nepalese banking sector,

emphasizing the need for balanced regulatory interventions to foster competition and ensure stability.

Neupane (2016) evaluated the level of competition, or market structure, within the Nepalese commercial banking sector. Utilizing both structural (n-bank concentration ratio and Herfindahl-Hirschman Index) and non-structural measures (Panzar-Rosse H-statistics), the study draws upon data spanning a decade sourced from various reliable sources. The findings reveal that the market structure of Nepalese commercial banks is characterized by monopolistic competition. Moreover, it is noted that banks other than government-owned and joint-venture banks face the highest degree of competition, whereas joint-venture commercial banks experience the lowest level of competition. Ultimately, the study suggests that while there may be slight variations in the degree of competition among government-owned, joint-venture, and other commercial banks, the overall market structure across all bank categories exhibits features of monopolistic competition. In conclusion, this study findings provide valuable insights into the competitive landscape of Nepalese commercial banking, emphasizing the prevalence of monopolistic competition and highlighting the differing levels of competition among various bank types.

Ali et al. (2018) examined the relationship between banking concentration and financial stability across 156 developed and developing countries from 1980 to 2011. Employing a comprehensive analysis, they initially explore the direct impact of banking concentration on financial stability, revealing that concentration alone does not significantly influence the stability of the financial system. However, the study delves deeper, examining two indirect channels: profitability and interest rates. Surprisingly, they uncover a positive and stabilizing effect of concentration on financial stability through the profitability channel, juxtaposed with a negative and destabilizing impact through the interest rate channel. Furthermore, when considering the developmental level of countries, the study discerns a stabilizing effect of concentration on financial stability in developing countries, alongside the absence of a destabilizing interest rate channel. Particularly noteworthy are the findings indicating that concentration exhibits both direct and indirect effects on financial stability during crisis periods, contrasting with its lack of direct impact during normal periods. In conclusion, researchers offer nuanced insights into the intricate relationship between

banking concentration and financial stability, underscoring the differential effects across countries and periods.

Calice and Leonida (2018) explored the relationship between banking market concentration and financial stability by considering the mediating variables that influence this connection. Utilizing data from 68 countries spanning the period from 1997 to 2015, the paper presents a unified empirical framework to simultaneously assess the presence and impact of these mediators. The findings unveil a nuanced picture: the effect of concentration on financial stability is contingent upon the level of concentration itself. Specifically, at lower levels of concentration, an increase tends to enhance banking system stability through improved profitability. Conversely, at higher levels, heightened concentration exacerbates fragility due to increased costs of credit, reduced diversification, and diminished monitoring efficiency. Interestingly, for intermediate levels of concentration, the study observes no significant impact on financial stability, as the competing moderating factors offset each other. Ultimately, the results suggest that an intermediate level of concentration may be optimal for overall welfare. The implication is the need for policymakers to carefully calibrate banking market concentration levels to achieve an optimal balance between stability and efficiency, acknowledging the nuanced interplay of various moderating factors.

G.C. (2020) empirically investigated the impact of competition on the Nepalese banking system, considering two competing hypotheses: the "competition-fragility" view and the "competition-stability" view. The study utilizes annual data from commercial banks spanning the period from 1999 to 2012, a period characterized by rapid growth in financial institutions in Nepal. Employing a fixed effects panel data model, the analysis incorporates measures of competition such as the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratios, while financial stability is assessed using proxies like the Z-index and nonperforming loans ratio. The study finds a positive relationship between greater banking competition and financial stability in Nepal, supporting the "competition-stability" view. Specifically, competition in the banking sector is associated with a decrease in credit risk and contributes to overall financial stability. However, mixed results are observed regarding the impact of bank competition on overall stability, with both higher concentration and higher competition being detrimental. Consequently, policymakers are advised to promote further consolidation in the financial industry while ensuring it

does not hinder competition excessively. Additionally, the study highlights the importance of considering the macroeconomic situation of the country as a determinant of banking system stability.

Antony et al. (2021) addressed the pressing concern of global financial instability, particularly in the aftermath of the 2007-09 global financial crisis, by focusing on the role of bank concentration in the context of Kenya, with competition as an intervening variable. Motivated by inconsistent theoretical evaluations, the paper aims to shed light on the impact of bank concentration on financial stability using structural equation modeling (SEM) to analyze both direct and indirect effects. The study's novelty lies in its methodological approach and its examination of the interplay between bank concentration, competition, and financial stability. The results reveal that higher concentration tends to drive up the cost-of-service provision, potentially exacerbating credit risks and exposing banks to systemic risks. Moreover, competition emerges as a significant factor in promoting financial system stability, supporting the "competition-stability" hypothesis, as an uncompetitive banking industry may incentivize excessive risk-taking, rendering banks vulnerable to systematic risks. Additionally, the study finds that stringent regulations can enhance concentration and financial stability but may hinder competition. The implication is the importance of fostering competition while maintaining adequate regulatory oversight to mitigate systemic risks in the banking sector.

Gautam (2021) analyzed the competitive landscape of commercial banks in Nepal, employing both structural and non-structural measures of bank competition. Data from 21 commercial banks were collected using a pooled sampling method, encompassing five banks with the highest total assets and sixteen banks selected randomly. Measures such as concentration ratio, Herfindahl-Hirschman Index (HHI), H-statistic, and Lerner Index were utilized to assess the competitive position of Nepalese commercial banks. The study employs a panel data regression model with bank fixed effects and time fixed effects to measure H-statistic and Lerner index. The findings reveal an increasing trend in capitalization and a decreasing trend in the non-performing loan ratio, indicating a lower likelihood of loan defaults and enhanced financial stability among Nepalese commercial banks. Additionally, there's a declining trend in bank concentration and HHI, suggesting a diminishing monopoly power and an increasing level of competitiveness among Nepalese commercial banks in recent

years. Interestingly, competition in the loan market is found to be higher than in the deposit market, highlighting the importance of prioritizing loan portfolio management over deposit collection strategies. In conclusion, the study characterizes the competitive condition of Nepalese commercial banks as monopolistic, emphasizing the need for appropriate strategies to enhance competitiveness in selling financial products and services.

Guidi (2021) examined the evolution of concentration, competition, and financial stability in the banking industries of South-East European (SEE) countries amidst significant structural changes such as privatizations, consolidations, and cross-border acquisitions. The study aims to understand how these factors have shifted over time and their impact on financial stability. Employing various measures of market concentration and competition, the research finds a decrease in concentration and market structures indicative of monopolistic competition. Utilizing multiple financial stability indicators, the study notes a decline in non-performing loans and a reduced likelihood of insolvency for SEE banks. The analysis reveals that increased market concentration correlates with lower non-performing loan ratios, suggesting enhanced financial stability, whereas higher market power, measured by the Lerner index, is associated with increased non-performing loans, indicating decreased stability. Furthermore, the study shows mixed effects of concentration and competition on financial stability when banks are categorized by ownership and size. The findings imply that policy measures should balance competition and concentration to maintain financial stability in SEE banking sectors.

Rahman et al. (2021) examined the relationship between bank competition, efficiency, and financial stability in the banking sector of Bangladesh. The study utilizes the Lerner index and Boone indicator to measure competition and employs non-performing loans (NPL) and Z-score as proxies for financial stability, analyzing secondary data from the annual reports of 28 DSE-listed commercial banks from 2011 to 2018. Using a dynamic panel GMM model, the study finds that increased competition, indicated by a lower Lerner index, enhances bank stability as evidenced by a higher Z-score. Additionally, higher cost efficiency correlates with greater financial stability, while the Lerner index's impact on NPL is negative but not statistically significant. Conversely, the Boone indicator reveals that reduced competition escalates NPLs, and an increase in the Boone indicator significantly

decreases the Z-score by 6.15 units. The findings suggest that fostering competition in the banking industry enhances financial soundness, and banks can further stabilize by improving cost efficiency and optimizing the loan-to-asset ratio. The study implies that policymakers should ensure competitive banking environments to bolster financial stability.

Adu (2022) investigated the impact of competition on banks' risk-taking behavior in Sub-Saharan Africa amidst the region's recent banking crisis and financial sector liberalization over the past three decades. The study tests the hypothesis that intense competition positively influences risk-taking by using a sample of 220 banks from 16 countries between 2007 and 2018, employing the Lerner index and H-statistics to measure competition, and Z-score, non-performing loans, loan-loss provisions, and capital adequacy ratio to assess risk-taking. Utilizing two-step system generalized method of moments (GMM) and two-stage least-squares (2SLS) techniques, the findings indicate that higher competition, as measured by the Lerner index, increases risk-taking across all risk measures, while competition measured by H-statistics similarly heightens risk-taking but does not significantly impact capital adequacy ratios. Additionally, bank-specific and macroeconomic variables also influence risk-taking. The study concludes that intense competition leads to greater risk-taking in the banking sector, supporting the competition-fragility view, and suggests that regulators and policymakers should carefully consider the implications of banking competition on financial stability in Sub-Saharan Africa.

Nyangu et al. (2022) analyzed the interplay between bank concentration, competition, and financial stability across five emerging countries within the East African Community (EAC), namely Kenya, Tanzania, Uganda, Rwanda, and Burundi. Employing a methodological approach that stands as a notable contribution to the existing literature, the paper rigorously tests various theories concerning these relationships. The study utilizes a two-step system Generalised Methods of Moments (GMM) on a sample of 149 banks, spanning 1,805 annual observations from 2001 to 2018. The findings illuminate that high concentration and low competition correspond to greater financial stability and reduced probability of bank default risk. Intriguingly, the study does not observe a non-linear relationship between competition and stability, indicating that heightened competition undermines bank stability and heightens vulnerability to default risk. These results lend support to the concentration-stability

hypothesis, suggesting that greater market power fosters more bank stability even when controlling for various bank-specific, industry, and macroeconomic factors. In conclusion, the study offers a significant policy contribution by highlighting the nuanced trade-offs between bank concentration and competition, and their implications for evaluating financial stability.

Oredegbe (2022) investigated the stability of the banking industry in BRICS and G7 countries from 2005 to 2014, aiming to understand the factors influencing stability in these diverse economic groups. Using panel data analysis, the study finds that the stability level of the banking industry in a prior period positively affects stability in the subsequent period. Additionally, the research supports the competition-stability proposition, indicating that increased competition enhances stability. For BRICS countries, economic growth is found to bolster stability, whereas inefficiency undermines it. Conversely, in G7 countries, profitability, capitalization, and inflation are significant enhancers of stability, but economic growth and inefficiency show no meaningful impact. These findings highlight the differing dynamics of banking stability between emerging and developed economies. The study concludes that stability is multifaceted and influenced by competition, economic conditions, and specific financial metrics. Policymakers should consider these varying factors when crafting regulations to enhance banking stability in different economic contexts.

Bakhouche (2023) investigates the impact of competition on the stability of the Tunisian banking sector from 2005 to 2020, with a particular focus on the role of cost efficiency in this relationship. Using a comprehensive analysis, the study reveals that increased competition in the banking sector tends to reduce stability, thereby supporting the competition-fragility hypothesis. The analysis shows that larger banks are more fragile, while liquidity and diversification have a neutral impact on stability. Additionally, macroeconomic factors such as inflation, GDP growth, and the rule of law are significant influencers of bank stability. The study finds no significant difference in stability between government-owned, foreign-owned, and private banks, indicating that non-government ownership may have objectives other than stability. The findings suggest that there is a need to review and possibly redefine the reform programs and their objectives to better align with the stability goals. This highlights the importance for policymakers to reassess the impact of competition on financial stability in the Tunisian banking sector.

Ekananda (2023) explored the nonlinear effects of banking competition on financial stability across different economic regimes, challenging the assumption that this impact is uniform across all conditions. Utilizing a nonlinear threshold regression model, the study analyzes data from five ASEAN countries to determine how banking competition influences financial stability at various regime levels. The findings reveal that the impact of banking competition on financial stability is indeed nonlinear and varies according to specific economic regimes, providing a more nuanced understanding compared to previous linear assumptions. This research offers detailed insights into the financial system stability model, highlighting inconsistencies in the effects observed by prior studies. The study concludes that the influence of banking competition on financial stability is regime-dependent, emphasizing the need for policymakers to consider varying economic conditions when making decisions related to GDP, capital adequacy ratio (CAR), and liquidity.

Ferreira (2023) examined the relationship between bank competition and stability by empirically testing the competition-fragility and competition-stability hypotheses. The study uses the Z-score to measure bank stability and employs the Herfindahl–Hirschman Index (HHI) and the Boone indicator to assess competition. The data, sourced from Moody's Analytics BankFocus and the World Bank Global Financial Development databases, encompasses 784 banks across 27 European Union countries from 2006 to 2021. Utilizing panel estimations, the research primarily confirms the competition-fragility hypothesis, indicating that increased competition correlates with reduced stability in the banking sector. The study also uncovers specific differences in Germany and France regarding the impacts of market concentration and responses to financial crises. The paper concludes that heightened bank competition may be harmful to the stability of EU banking institutions, suggesting that current competition levels should not be further increased. Policymakers should consider maintaining or potentially reducing competition to safeguard bank stability in the EU.

Srivastava et al. (2023) examined the impact of competition and concentration on financial stability in the Indian commercial banking sector, utilizing the Lerner index to measure market power and employing a system generalized method of moments technique to capture dynamic associations. The study reveals that heightened competition and greater market concentration negatively affect bank stability, with state-owned banks showing increased incentives for risky behavior amidst

competition. Larger banks are also found to be adversely impacted, supporting the "too-big-to-fail" hypothesis, while stricter capital norms under Basel III are shown to mitigate these effects. The findings underscore the need for policymakers to balance competition and stability, particularly considering the unique challenges faced by state-owned banks and larger institutions, emphasizing the importance of regulatory measures to ensure financial stability within the Indian banking sector.

Benchimol and Bozou (2024) investigated the impact of banking market structures on the real economy, particularly during financial crises. Utilizing a nonlinear dynamic stochastic general equilibrium model with financial frictions, they compare how shocks are transmitted under different levels of competition and concentration. The study finds that oligopolistic competition amplifies the effects of shocks more than monopolistic competition, with markups playing a critical role in this transmission mechanism. The analysis indicates that concentrated banking systems, though resilient to shocks, must strike a balance to optimize financial stability and social welfare. The researchers suggest that in the U.S., a banking concentration of five to eight banks effectively balances these objectives. The findings imply that policymakers should consider moderate banking concentration to ensure both financial stability and social welfare.

Khanal (2024) examined the causal relationship between bank competition and financial stability in Nepal, exploring two competing hypotheses: the "competition-fragility" theory and the "competition-stability" view. The study adopts a descriptive and causal research design, utilizing random effect panel data from six commercial banks in Nepal spanning from 2014 to 2019, sourced from the NRB monthly statistics and bank annual reports. Bank competition is measured using the Herfindahl-Hirschman Index (HHI) and n-bank concentration ratio, while financial stability is proxied by the Z-Index and non-performing loan ratio. The findings support the "competition-fragility" theory, revealing a negative association between bank competition and financial stability in Nepal. Specifically, increased competition leads to heightened risk-taking behavior among banks, resulting in elevated credit risk and diminished capital levels. These riskier policies increase the likelihood of bank bankruptcies and non-performing loan ratios, exacerbating fragility and financial instability. Consequently, less concentrated banking systems are shown to be more prone to crises. This study offers valuable insights into the dynamics between bank

competition and financial stability in Nepal, highlighting the adverse effects of heightened competition on the stability of the banking sector.

Khan and Akhtar (2024) explored the impact of competition and concentration on bank risk-taking behavior and stability within the South Asian Association for Regional Cooperation (SAARC) region. Employing data from 100 banks spanning the period from 2013 to 2021, the study utilizes dynamic and static measures analyzed through dynamic system Generalized Method of Moments (GMM). The findings indicate that higher competition tends to reduce stability, whereas concentration in the banking sector fosters stability and diminishes risk-taking behavior. Consequently, the study suggests that regulatory agencies should tailor their actions based on the degree of banking market concentration to enhance banking sector stability in the SAARC area. The practical implications of this research are significant, offering regulators and decision-makers insights into establishing capital requirements that prevent banks from engaging in excessive risk-taking to boost profits, thereby mitigating hazardous practices that could increase overall risk in the banking sector. In conclusion, this study contributes valuable insights into the nuanced dynamics between competition, concentration, risk-taking behavior, and stability in the SAARC region's banking sector, guiding regulatory efforts toward fostering a stable and resilient banking environment.

Shala et al. (2024) explored the effects of competition and concentration on bank income smoothing in Central and Eastern European (CEE) countries, using the two-step system GMM method to analyze data from 17 CEE countries between 2004 and 2015. The study finds that loan loss provisions (LLPs) are negatively related to both bank competition and concentration, indicating that banks do not engage in income smoothing through LLPs in highly competitive or concentrated markets. The research is limited by its focus solely on commercial banks and the exclusion of recent years due to database access restrictions. Practical implications suggest that intense competition may lead CEE commercial banks to reduce provisions or under-provision, increasing their exposure to credit risk and potentially threatening their stability. Policymakers should therefore be mindful of the impacts of competition on banking practices to ensure financial stability.

Verma and Chakrawarty (2024) analyzed the impact of competition within and outside the banking sector on the financial stability of Indian banks, considering the rising influence of nonbanking financial companies (NBFCs) and FinTech firms. Using the Herfindahl–Hirschman Index to gauge market share and the Z-score to measure financial stability, the study incorporates variables such as innovation, cybercrimes, and systemically important institutions in its panel regression analysis. The findings reveal that increased market share competition erodes bank profit margins, prompting higher risk-taking and negatively impacting financial stability. Innovation is found to positively influence stability, suggesting that competition can drive beneficial changes. Conversely, systemically important NBFCs and cybercrimes associated with the FinTech sector negatively affect stability, introducing new risks to banks. The study concludes that while competition can act as an enabler, it also necessitates careful regulatory oversight to mitigate emerging risks.

Table 1

Summary of Literature Review

Author & Year	Objective(s) of the Study	Methodology	Variables	Major Findings
Gajurel and Pradhan (2012)	Examine the evolution of market concentration and assess market competition within the Nepalese banking industry.	Hirschman-Herfindahl indices, concentration ratios, Panzar-Rosse approach	Market concentration, market competition, bank size, equity capitalization	Decreasing trend in market concentration. Monopolistic market behavior despite low concentration levels. Interest-based income market more competitive. Bank size positively influences revenue

				generation.
G.C. and Sharma (2016)	Explore the relationship between competition and financial stability in the Nepalese banking system.	Fixed effects panel data model	Competition, financial stability, macroeconomic factors	Positive relationship between competition and financial stability. Mixed results on overall stability impact. Policy recommendations for balanced consolidation and macroeconomic considerations.
Neupane (2016)	Evaluate the level of competition within the Nepalese commercial banking sector.	Structural and non-structural measures	Market structure, competition, bank types	Monopolistic competition prevalent across all bank categories. Slight variations in competition levels among bank types.
Ali et al. (2018)	Examine the relationship between banking concentration and financial stability across 156 developed	Comprehensive analysis.	Banking concentration, financial stability, profitability, interest rates.	Direct impact of concentration on stability is insignificant. Indirect effects through profitability and interest rates vary. Developing

	and developing countries.			countries exhibit stabilizing effects of concentration.
Calice and Leonida (2018)	Explore the relationship between banking market concentration and financial stability, considering mediating variables.	Unified empirical framework.	Banking concentration, financial stability, profitability, credit costs, diversification, monitoring efficiency.	Effect of concentration on stability depends on concentration level. Low concentration enhances stability, high concentration exacerbates fragility. Intermediate levels show no significant impact.
G.C. (2020)	Investigate the impact of competition on the Nepalese banking system.	Fixed effects panel data model	Competition, financial stability	Positive relationship between competition and financial stability. Mixed results on overall stability impact. Policy recommendations for balanced consolidation.
Antony et al. (2021)	Investigate the impact of bank	Structural equation modeling	Bank concentration, competition,	Higher concentration increases service

	concentration on financial stability in Kenya, with competition as an intervening variable.	(SEM).	financial stability, systemic risks.	provision costs and credit risks. Competition promotes stability, but stringent regulations may hinder it.
Gautam (2021)	Analyze the competitive landscape of commercial banks in Nepal.	Panel data regression model	Bank competition, financial stability	Increasing capitalization, decreasing non-performing loan ratio. Declining trend in market concentration. Loan market more competitive than deposit market.
Guidi (2021)	Examine the evolution of concentration, competition, and financial stability in SEE banking industries.	Various measures of concentration and competition.	Market concentration, competition, financial stability, non-performing loans, insolvency.	Increased concentration correlates with lower non-performing loans. Market power associated with increased non-performing loans. Mixed effects observed based on ownership and size categories.
Rahman et	Analyze the	Dynamic panel	Competition,	Increased

al. (2021)	relationship between bank competition, efficiency, and financial stability in Bangladesh.	GMM model.	efficiency, financial stability, non-performing loans, Z-score.	competition enhances bank stability. Higher cost efficiency also correlates with stability. Regulatory measures impacting competition and stability.
Adu (2022)	Investigate the impact of competition on banks' risk-taking behavior in Sub-Saharan Africa.	Two-step system GMM and 2SLS techniques.	Competition, risk-taking behavior, Lerner index, H-statistics, Z-score, non-performing loans, loan-loss provisions, capital adequacy ratio.	Higher competition increases risk-taking behavior. Bank-specific and macroeconomic variables also influence risk-taking.
Nyangu et al. (2022)	Analyze the relationship between bank concentration, competition, and financial stability in EAC countries.	Two-step system GMM.	Bank concentration, competition, financial stability, default risk.	High concentration and low competition correspond to greater financial stability. No observed non-linear relationship between competition and

				stability.
Oredegbe (2022)	Investigate banking industry stability in BRICS and G7 countries.	Panel data analysis.	Banking stability, competition, economic growth, inefficiency.	Stability in prior periods positively affects subsequent stability. Competition-stability proposition supported. Differential impacts observed in BRICS and G7 countries.
Bakhouche (2023)	Examine the impact of competition on the stability of the Tunisian banking sector.	Comprehensive analysis.	Competition, stability, cost efficiency, macroeconomic factors.	Increased competition reduces stability. Larger banks more fragile. Macroeconomic factors influence stability.
Ekananda (2023)	Explore the nonlinear effects of banking competition on financial stability across different economic regimes.	Nonlinear threshold regression model.	Banking competition, financial stability, economic regimes.	Impact of banking competition on financial stability is nonlinear and regime-dependent.

Ferreira (2023)	Examine the relationship between bank competition and stability, testing competing hypotheses.	Panel estimations.	Competition, stability, competition-fragility hypothesis, competition-stability hypothesis.	Increased competition correlates with reduced stability. Specific differences observed in Germany and France.
Srivastava et al. (2023)	Examine the impact of competition and concentration on financial stability in the Indian commercial banking sector.	System generalized method of moments technique.	Competition, concentration, financial stability, state-owned banks, Basel III norms.	Heightened competition and greater market concentration negatively affect bank stability. Larger banks adversely impacted.
Benchimol and Bozou (2024)	Investigate the impact of banking market structures on the real economy, particularly during financial crises.	Nonlinear dynamic stochastic general equilibrium model.	Banking market structures, financial stability, social welfare.	Oligopolistic competition amplifies shock effects. Concentrated banking systems must optimize stability and social welfare.
Khanal (2024)	Examine the causal	Descriptive and causal research	Bank competition,	Negative association

	relationship between bank competition and financial stability in Nepal.	design	financial stability	between competition and stability. Heightened risk-taking behavior increases fragility and instability.
Khan and Akhtar (2024)	Explore the impact of competition and concentration on bank risk-taking behavior and stability in the SAARC region.	Dynamic system Generalized Method of Moments.	Competition, concentration, risk-taking behavior, stability, SAARC region.	Higher competition reduces stability, concentration fosters stability. Regulatory actions should consider banking market concentration.
Shala et al. (2024)	Explore the effects of competition and concentration on bank income smoothing in CEE countries.	Two-step system GMM method.	Competition, concentration, income smoothing, LLPs.	LLPs negatively related to competition and concentration. Intense competition may threaten stability.
Verma and Chakrawarty (2024)	Analyze the impact of competition within and outside the	Panel regression analysis.	Competition, market share, financial stability, innovation,	Innovation positively influences stability. Negative impacts

	banking sector on the financial stability of Indian banks.	cybercrimes, systemically important institutions.	from NBFCs and FinTech.

2.3 Research gap

Nepal's banking sector, characterized by moderate concentration levels, as evidenced by the Herfindahl-Hirschman Index (HHI) in the Nepal Rastra Bank's (NRB) 2020 Financial Stability Report, requires a comprehensive empirical investigation into the interaction between market concentration, competition, and financial stability. However, studies examining these dynamics in the context of Nepal remain limited. Previous research in other regions provides mixed evidence on the implications of banking competition on stability. Rahman et al. (2021) found that increased competition enhances bank stability in Bangladesh by improving cost efficiency and reducing financial risks. Similarly, Oredegbe (2022) concluded that competition positively impacts stability in both BRICS and G7 countries. Conversely, Adu (2022) and Nyangu et al. (2022) observed that higher competition leads to increased risk-taking and reduced stability in Sub-Saharan Africa and the East African Community, respectively. These findings support the competition-fragility hypothesis. In Tunisia, Bakhouche (2023) also highlighted the destabilizing effects of increased competition, emphasizing the fragility of larger banks. Meanwhile, Ekananda (2023) demonstrated that the relationship between competition and stability is nonlinear and dependent on specific economic regimes in ASEAN countries. These varying perspectives underscore the importance of context-specific analyses suggesting that similar studies in Nepal should incorporate factors such as bank size, profitability, GDP growth, and inflation to provide nuanced insights into the competition-stability nexus.

CHAPTER III
RESEARCH METHODOLOGY

The methodology of this study involves the collection and analysis of quantitative data from a purposive sample of commercial banks in Nepal. The data are analyzed using descriptive statistics, correlation analysis, and regression analysis to provide insights into the nexus between bank concentration, competition, and financial stability in the Nepalese banking sector.

3.1 Research design

This study utilizes a combination of descriptive and causal research designs. It collects and analyzes data to describe the current state of bank concentration, competition, and financial stability. The descriptive research design gathers information about existing conditions, such as levels of bank concentration, competition, and financial stability. Simultaneously, the causal research design explores the relationships between these variables. It investigates the cause-and-effect dynamics among bank concentration, competition, and financial stability to uncover factors that influence these variables. The study employs surveys, interviews, and data analysis to collect information from banks, financial institutions, and regulatory bodies. The analysis focuses on the present state of bank concentration, competition, and financial stability, providing insights for policymakers, regulators, and industry stakeholders.

3.2 Population and sample and sampling design

The population of interest for this study consists of all commercial banks operating in Nepal. However, due to practical considerations, we select a sample of five commercial banks from the population. The selected sample banks are Standard Chartered Bank Nepal Limited (SCB), Nepal SBI Bank Limited (NSBL), Nabil Bank Limited (NABIL), Everest Bank Limited (EBL) and NMB Bank Limited (NMB). The sampling design for this study employs purposive sampling. We purposefully select five commercial banks based on the predetermined criteria to ensure a diverse representation of the banking sector in Nepal. This approach enables us to capture a range of bank concentration and competition levels within the sample.

3.3 Nature and source of data

The study relies on secondary data from various sources. The primary sources of data are the financial statements and reports of the selected commercial banks, obtained from the Nepal Rastra Bank and the respective banks' annual reports. Additionally, macroeconomic data related to the banking sector, such as inflation rates, and GDP growth, are collected from the Nepal Rastra Bank and other relevant government publications. These sources will provide comprehensive and reliable data for analysis.

3.4 Data collection procedures

The data collection process involves gathering financial data from the selected commercial banks for a specified time period. The variables of interest include bank concentration measures) market share of large five commercial banks), competition indicator (Herfindahl-Hirschman Index - HHI), financial stability metrics (z score), and macroeconomic variables. The data collects consistently across all selected commercial banks to ensure comparability and reliability.

3.5 Method of analysis

The analysis commences with descriptive statistics to provide a overview of the variables of interest. This includes measures of central tendency such as means, medians and dispersion such as standard deviations, ranges. The correlation analysis is conducted to examine the relationships between bank concentration, competition, and financial stability indicators. Additionally, regression analysis is employed to explore these relationships further, while controlling for relevant macroeconomic variables. This approach enables the identification of causal relationships between the variables. The main tools of the study are:

3.5.1 Descriptive analysis

Descriptive analysis is employed to summarize and present the characteristics of the variables in the study, providing a clear overview of the data. Key statistics such as mean, standard deviation, minimum, and maximum values are calculated for each variable, including the independent variables (market concentration and market competition), control variables (bank size, profitability, GDP growth, and inflation), and the dependent variable (bank stability).

3.5.2 Correlation analysis

Correlation analysis is conducted to examine the linear relationships between the variables focusing on how the independent variables (market concentration and

market competition) and control variables (bank size, profitability, GDP growth, and inflation) are associated with the dependent variable (bank stability). Pearson's correlation coefficient is calculated to determine the strength and direction of these relationships, with values ranging from -1 to 1. A positive correlation indicates that as one variable increases, the other tends to increase, while a negative correlation indicates an inverse relationship.

3.5.3 Regression analysis

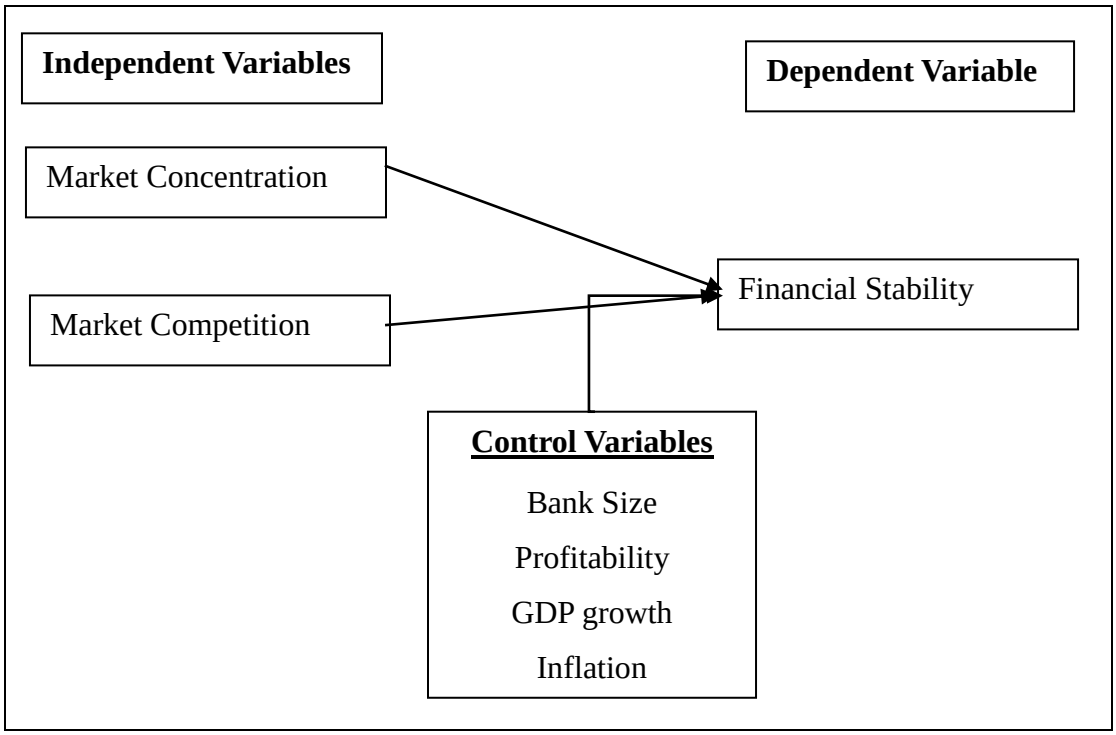
Regression analysis is utilized to assess the impact of the independent variables (market concentration and market competition) on the dependent variable (bank stability), while controlling for bank size, profitability, GDP growth, and inflation. A multiple regression model is employed to quantify the relationship between the variables, estimating how changes in the independent and control variables affect bank stability. The regression coefficients are interpreted to understand the magnitude and direction of the effects, with statistical significance tested using t-tests. The model's overall fit is assessed using the R-squared value, which indicates the proportion of variance in bank stability explained by the independent and control variables. The model of the study is as:

$$Financial\ Stability = \beta_0 + \beta_1 BankConcentration + \beta_2 Competition + \beta_3 Size + \beta_4 Profitability + \beta_5 GDP + \beta_6 Inflation + e$$

3.6 Research framework and definition of variables

Drawing upon empirical studies, the framework will analyze the relationship between competition, concentration, and financial stability in Nepal's banking sector. Financial stability is assessed through proxy Z-index derived from (Srivastava et al., 2023), serves as the dependent variable. Competition is measured using the Panzar-Rosse H-statistics which will be derived from (Gajurel & Pradhan, 2012), while market concentration, indicated by the Herfindahl-Hirschman Index (HHI) and concentration ratios, are explored through studies like Neupane (2016). Bank size, reflected by total assets, is controlled for using research such as Gautam (2021), and macroeconomic factors like GDP growth rate and inflation rates, sourced from Khanal (2024), contextualize the analysis. This framework establishes a solid foundation for examining the interplay between competition, concentration, and financial stability in

Nepal's banking sector, integrating insights from diverse empirical studies. The framework of the study is presented in Figure 1.



Source: Gajurel & Pradhan, (2012); Neupane (2016); Gautam (2021); Srivastava et al., (2023) and Khanal (2024)

Figure 1 *Research Framework*

3.6.1 Financial stability

Financial stability is crucial for the smooth functioning of financial institutions and the broader economy. It is often measured using indicators like the Z-score, which combines profitability, leverage, and volatility measures to assess the probability of a bank's insolvency (Beck, Demirgüç-Kunt, & Levine, 2006). A stable financial environment reduces the likelihood of banking crises and fosters economic growth by maintaining investor confidence and facilitating smooth credit flow (Laeven & Valencia, 2013). Research has shown that well-capitalized banks, with higher capital adequacy ratios, are more resilient to financial shocks, thus contributing positively to financial stability (Berger & Bouwman, 2013).

3.6.2 Market concentration

Market concentration refers to the degree to which a small number of firms dominate a market. In the banking sector, high market concentration can lead to less

competition, which might result in inefficiencies and higher costs for consumers (Claessens & Laeven, 2004). However, some studies suggest that a concentrated banking market can enhance stability because larger banks may be better equipped to absorb shocks (Beck, Demirgüç-Kunt, & Levine, 2006). The relationship between market concentration and financial stability is complex and varies across different contexts and regulatory environments (Carletti & Hartmann, 2003).

3.6.3 Market competition

Market competition in the banking sector plays a critical role in determining the efficiency and stability of financial institutions. Increased competition can lead to lower interest margins and improved service quality for consumers (Claessens & Laeven, 2004). However, excessive competition might reduce profitability, leading to higher risk-taking by banks (Allen & Gale, 2004). The impact of competition on bank stability is debated, with some studies arguing that competition enhances stability by making banks more efficient, while others suggest it may increase the risk of bank failures (Keeley, 1990).

3.6.4 Bank size

Bank size is a significant determinant of a bank's behavior and performance. Large banks often benefit from economies of scale, which can enhance their profitability and efficiency (Berger & Mester, 1997). However, larger banks might also engage in riskier activities, knowing that they are "too big to fail" and expecting government bailouts in times of distress (Mishkin, 2006). The size of a bank can also influence its market power, allowing it to set prices and conditions that smaller competitors cannot match (Boyd & Runkle, 1993).

3.6.5 Profitability

Profitability is a key indicator of a bank's performance and its ability to generate earnings relative to its expenses. Higher profitability generally contributes to financial stability, as it provides a buffer against losses and helps banks withstand economic downturns (Dietrich & Wanzenried, 2011). Return on Assets (ROA) is commonly used measures of profitability in the banking sector (Goddard, Molyneux, & Wilson, 2004). Profitability also influences a bank's ability to attract capital and invest in growth opportunities, thereby enhancing its competitive position in the market (Athanasoglou, Brissimis, & Delis, 2008).

3.6.6 GDP growth

GDP growth is a macroeconomic factor that significantly impacts the banking sector. Economic growth fosters higher demand for banking services, including loans and deposits, leading to increased profitability for banks (Demirgüç-Kunt & Huizinga, 1999). During periods of economic expansion, banks experience lower default rates and higher credit growth, contributing to financial stability (Levine, 2005). Conversely, in times of economic recession, banks face higher risks due to increased loan defaults and reduced demand for financial products (Borio, 2014).

3.6.7 Inflation

Inflation affects the banking sector by influencing interest rates, loan demand, and the value of financial assets. High inflation can erode the value of money, leading to higher nominal interest rates and increased uncertainty in financial markets (Boyd, Levine, & Smith, 2001). Inflation also affects the cost of borrowing and can reduce the real value of outstanding loans, impacting banks' profitability and stability (Perry, 1992). Central banks often respond to inflation by tightening monetary policy, which can further affect banks' lending and investment activities (Fisher, 1933).

CHAPTER IV
RESULTS AND DISCUSSION

This chapter presents the findings and their interpretations, delving into the essential aspects of the research. It illustrates nexus between bank concentration, bank competition and financial stability interrelate. The discussion offers an in-depth analysis of the results, emphasizing their significance for Nepal's banking sector and the intricate implications for policies and practices. The aim of this chapter is to thoroughly elucidate the outcomes and their importance by linking quantitative data with descriptive narratives.

4.1 Results

The findings establish a basis for the comprehensive analysis that follows. This section informs the reader about the methodological rigor involved in data collection and the analytical techniques employed to ensure the reliability of the results. It also provides a brief overview of the anticipated outcomes, setting the stage for a deeper exploration of the findings that either confirm or challenge these initial expectations. The results section mainly focuses on the trends of the research variables, descriptive statistics, correlations among the study variables and regression analysis.

4.1.1 Financial stability (Z score)

Financial stability is a condition in which the financial system operates effectively, maintaining the ability to withstand shocks and continue functioning without significant disruptions. It encompasses the resilience of financial institutions, markets, and infrastructures, ensuring that they can absorb losses and continue to provide essential services. A stable financial system is crucial for economic growth, as it fosters confidence among investors and consumers, facilitates efficient capital allocation, and minimizes the risk of financial crises. The nexus between bank concentration, competition, and financial stability is particularly significant, as higher concentration can lead to reduced competition, potentially increasing systemic risks and affecting overall economic health. Figure 2 shows the trend of financial stability measured by Z score during the ten years of the study period.

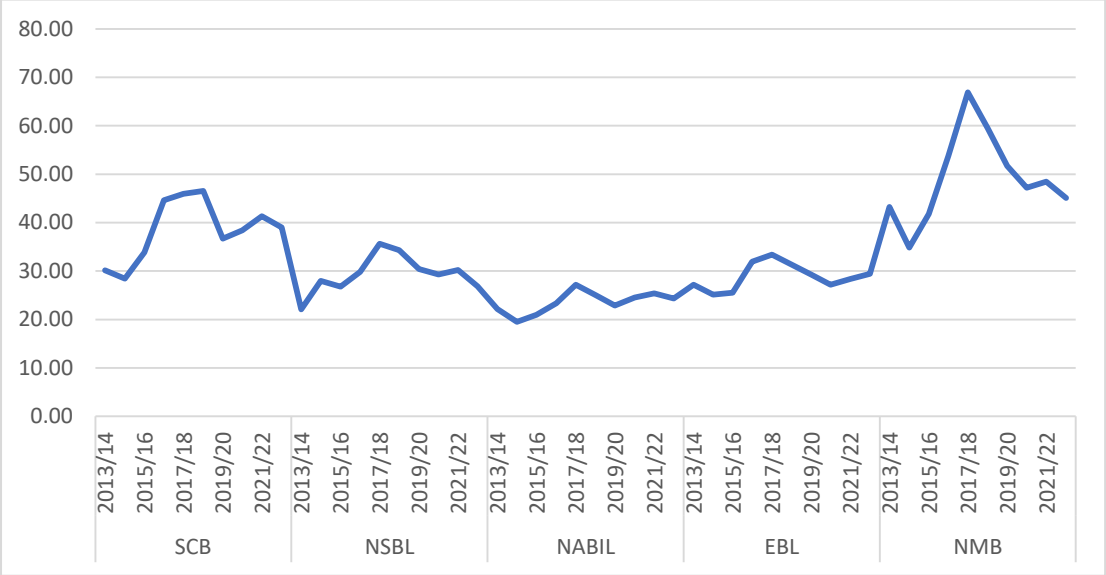


Figure 2 *Trend of Financial Stability*

Figure 2 shows the Z Score which measures financial stability, shows varying trends across the banks. For SCB, there's an overall upward trend from FY 2013/14 (30.14) to FY 2018/19 (46.55), indicating improved stability, but it slightly declines afterward, reaching 39.00 in FY 2022/23. NSBL's Z Score fluctuates, peaking at 35.66 in FY 2017/18 before declining to 26.85 by FY 2022/23. NABIL experiences an initial decrease followed by a gradual rise until FY 2017/18, then a decline to 24.35 by FY 2022/23. EBL shows minor fluctuations, peaking in FY 2017/18 at 33.39 and decreasing to 29.43 by FY 2022/23. NMB sees a significant rise in Z Score up to FY 2017/18 (66.90) but then a downward trend, ending at 45.09 in FY 2022/23.

4.1.2 Market concentration (% of large five commercial banks)

Market concentration is often measured by looking at the percentage of the market controlled by the largest five banks. A higher percentage indicates a more concentrated market, which can imply reduce competition and increased market power for these leading banks. When the largest five banks hold a significant share of the market, it can impact the competitive landscape, potentially leading to less favorable conditions for consumers and increased systemic risks. Understanding the concentration of market share among the largest five banks is essential for assessing the competitive dynamics of the banking sector and its overall stability. Figure 3

shows the trend of market concentration measured by market share of large five banks during the ten years of the study period.

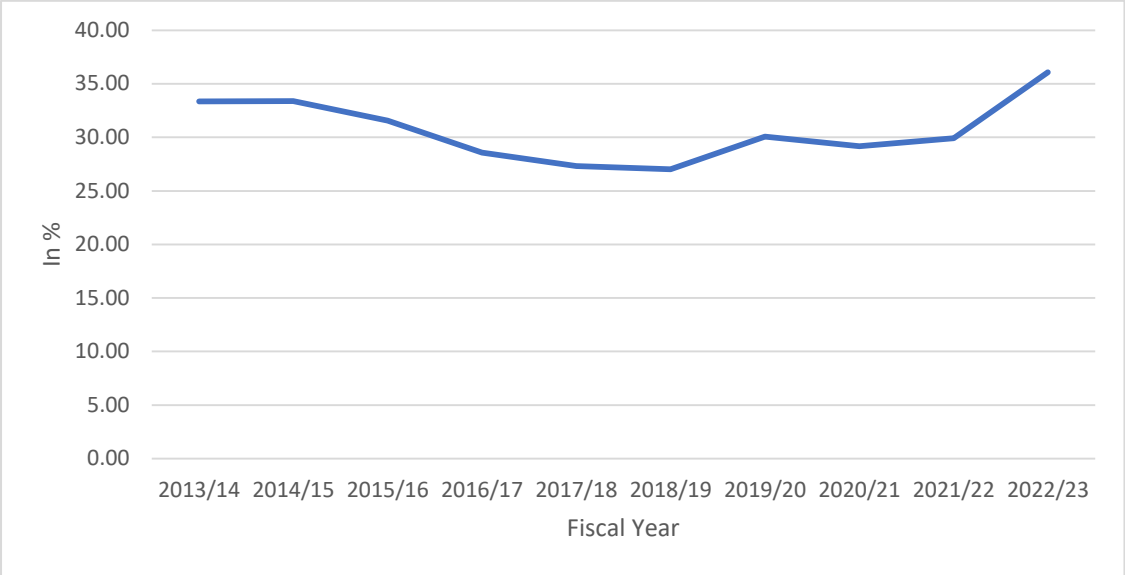


Figure 3 *Trend of Market Concentration*

Figure 3 shows the trend of market concentration (MC) which indicates the level of dominance by a few banks in the market shows a decreasing trend over the ten-year period. This decline suggests that the market is becoming less concentrated, with market share being distributed more evenly among a larger number of banks. In FY 2013/14, the MC was higher, indicating that a few banks held a significant portion of the market. However, by FY 2022/23, the MC had decreased, reflecting the entry of new players into the market or the growth of smaller banks, which has diluted the market share of the larger banks. This trend towards lower market concentration indicates increasing competition in the banking sector, which could lead to better services and products for consumers as banks strive to maintain or grow their market share.

4.1.3 Market competition (HHI Index)

Market competition in the banking sector can be assessed using the Herfindahl-Hirschman Index (HHI), which measures the concentration of market share among the largest banks, typically focusing on the top three. An HHI below 1,500 suggests a competitive market with low concentration, where market power is more evenly distributed among many banks, enhancing competition and leading to better services and lower costs for consumers. An HHI between 1,500 and 2,500 indicates moderate concentration, where a few banks may have significant influence but competition still

exists. An HHI above 2,500 reflects a highly concentrated market, where a few banks dominate, potentially leading to oligopolistic behavior, where these institutions exert significant influence over pricing and services, potentially stifling competition. The HHI is a critical indicator of the competitive dynamics within the banking sector and its implications for financial stability. Figure 4 shows the trend of market competition measured HHI index during the ten years of the study period.

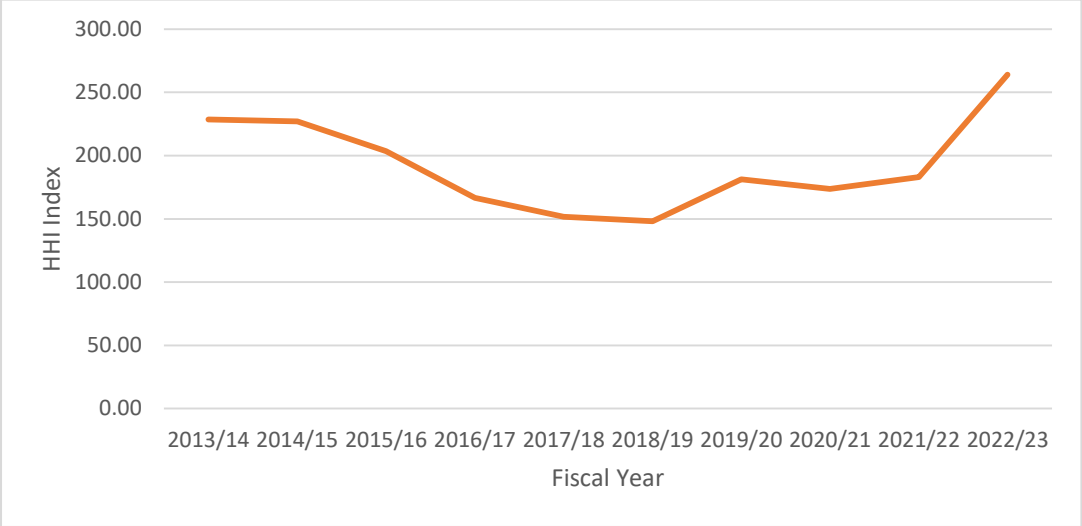


Figure 4 *Trend of Bank Competition (HHI Index)*

Figure 4 shows the Herfindahl-Hirschman Index (HHI), a measure of market competition, also shows a declining trend over the ten-year period, which indicates an increase in market competition. The HHI is higher when a market is dominated by a few large players, but as the index decreases, it suggests that market power is being spread more evenly among more institutions. In FY 2013/14, the HHI was relatively high, reflecting a more concentrated market where a few banks had significant market control. However, by FY 2022/23, the HHI had declined, indicating that market competition had increased, with more banks entering the market or existing smaller banks growing their market share. This increase in competition is beneficial for consumers, as it can lead to lower costs, better customer service, and more innovative financial products.

4.1.4 Bank size

Bank size plays a pivotal role in the dynamics of the banking sector, influencing both competition and financial stability. Larger banks often benefit from economies of scale, allowing them to operate more efficiently and offer a wider range of services. However, their size can also pose risks, as they may become "too big to fail," leading

to moral hazard and increased systemic risk. The relationship between bank size and financial stability is complex; while larger banks can contribute to stability through diversification and resource availability, their dominance can also lead to reduced competition and increased vulnerability in times of economic stress. Figure 5 shows the trend of bank size measured by natural log of total assets during the ten years of the study period.

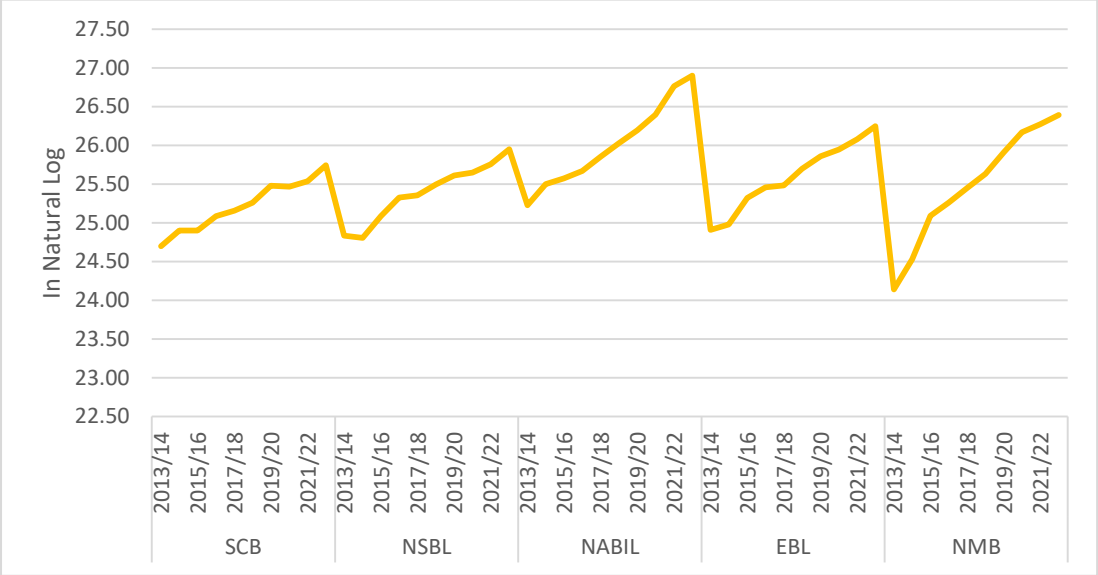


Figure 5 *Trend of Bank Size (Natural Log of Total Assets)*

Figure 5 the bank size which reflects the total assets of each bank shows a consistent upward trend across all banks over the ten-year period. For SCB, the size increases steadily from 24.70 in FY 2013/14 to 25.74 in FY 2022/23. This growth reflects the bank's efforts to expand its asset base, possibly through new product offerings, mergers, or organic growth. NSBL follows a similar trajectory, with the bank size growing from 24.84 in FY 2013/14 to 25.95 in FY 2022/23. This steady increase suggests that the bank has been successful in accumulating assets, likely driven by increased customer deposits, lending activities, or investments in financial instruments. NABIL also shows consistent growth, with its bank size rising from 25.23 in FY 2013/14 to 26.90 in FY 2022/23. This growth is indicative of NABIL's strategy to enhance its market presence and increase its share of financial assets, possibly through strategic acquisitions or organic growth. EBL sees a similar upward trend, with its bank size increasing from 24.91 in FY 2013/14 to 26.25 in FY 2022/23. This reflects the bank's ongoing efforts to expand its operations and capture a larger share of the market. NMB Bank also experiences steady growth in its size, rising from

24.14 in FY 2013/14 to 26.39 in FY 2022/23. The consistent increase in size suggests that NMB has been effectively managing its growth strategy, possibly by expanding its customer base, increasing lending, and investing in diverse asset classes.

4.1.5 Profitability

Profitability in the banking sector is a crucial indicator of financial health and stability. It reflects a bank's ability to generate income relative to its expenses and capital. High profitability can enhance a bank's resilience to economic shocks, allowing it to absorb losses and maintain operations during downturns. However, excessive focus on profitability can lead banks to engage in riskier behaviors, potentially undermining financial stability. The interplay between profitability, competition, and concentration is vital, as competitive pressures can drive banks to improve efficiency and service quality, while high concentration may lead to complacency and reduced innovation. Figure 6 shows the trend of profitability measured by return on assets during the ten years of the study period.

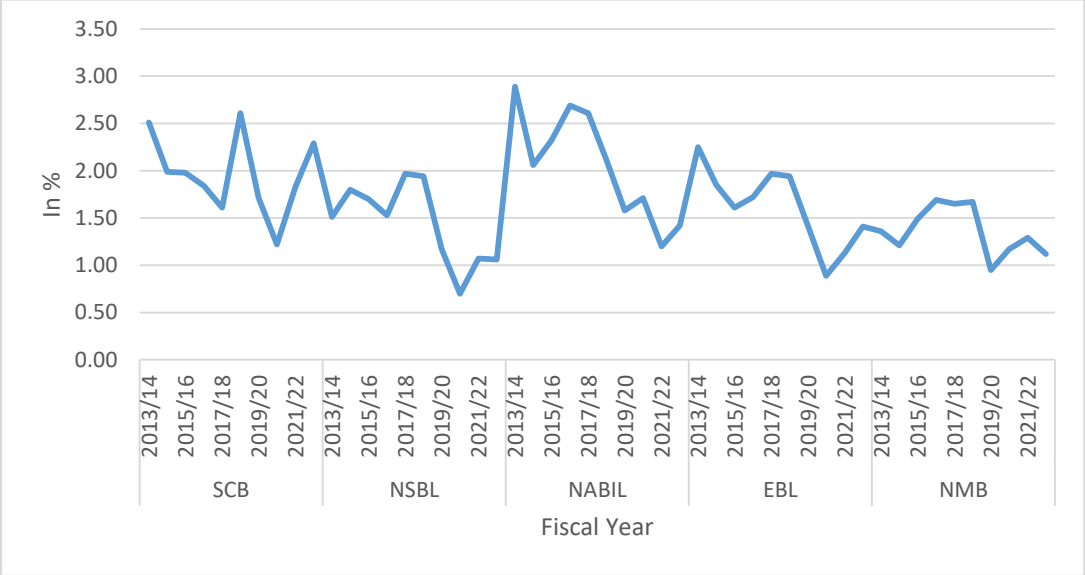


Figure 6 *Trend of Profitability (ROA)*

Figure 6 shows return on assets (ROA) trends among the large five banks show varied performance. SCB's ROA starts at 2.51% in FY 2013/14, peaks at 2.63% in FY 2015/16, but declines to 2.29% by FY 2022/23, indicating challenges in maintaining profitability. NSBL reaches a peak of 1.97% in FY 2017/18, followed by a steady decline to 1.06%, suggesting difficulties in asset profitability. NABIL exhibits a downward trend from 2.89% to 1.42%, reflecting challenges related to competition and regulatory changes. EBL's ROA slightly declines from 2.25% to 1.41%,

indicating reduced asset efficiency. Similarly, NMB peaks at 1.69% in FY 2016/17 before falling to 1.12%, pointing to struggles in sustaining profitability amid increased competition and operational costs.

4.1.6 GDP growth

GDP growth is a fundamental indicator of economic health, reflecting the overall performance of an economy. In the context of banking, robust GDP growth can enhance financial stability by increasing demand for loans and financial services, thereby improving banks' profitability and asset quality. Conversely, sluggish or negative GDP growth can lead to higher default rates on loans, straining banks' balance sheets and potentially leading to systemic risks. The relationship between GDP growth, bank concentration, and competition is critical, as a growing economy can support a competitive banking environment, while concentrated markets may struggle to adapt to changing economic conditions. Figure 7 shows the trend of GDP growth during the ten years of the study period.

Figure 7 *Trend of GDP Growth*

Figure 7 the gross domestic product (GDP) growth rate in Nepal has shown significant fluctuations over the past ten years, reflecting the various economic challenges and opportunities faced by the country. In FY 2013/14, GDP growth was moderate at 6.03%, indicating stable economic conditions. However, the growth rate experienced a sharp increase, reaching a peak of 8.98% in FY 2016/17. This peak

represents a period of strong economic expansion, possibly driven by post-earthquake reconstruction activities, increased investment, and favorable economic policies. Unfortunately, this growth was not sustained, as GDP growth dropped sharply to -2.37% in FY 2019/20. This significant decline reflects the severe impact of external shocks, including the COVID-19 pandemic, which led to a contraction in economic activities across various sectors. By FY 2022/23, GDP growth had recovered slightly to 2.2%, though it remains below the peak levels observed earlier in the decade. This recovery, albeit modest, indicates ongoing economic challenges, such as low consumer demand, slow investment recovery, and continued external economic pressures.

4.1.7 Inflation

Inflation affects the banking sector by influencing interest rates, consumer behavior, and overall economic stability. Moderate inflation can be beneficial, as it encourages spending and investment; however, high inflation can erode purchasing power and lead to increased uncertainty. For banks, inflation impacts the cost of borrowing and the real value of assets and liabilities. The relationship between inflation, bank concentration, and competition is significant, as concentrated markets may have less incentive to adjust to inflationary pressures, potentially leading to inefficiencies and reduced financial stability. Understanding these dynamics is essential for policymakers aiming to foster a resilient banking sector. Figure 8 shows the trend of inflation rate during the ten years of the study period.

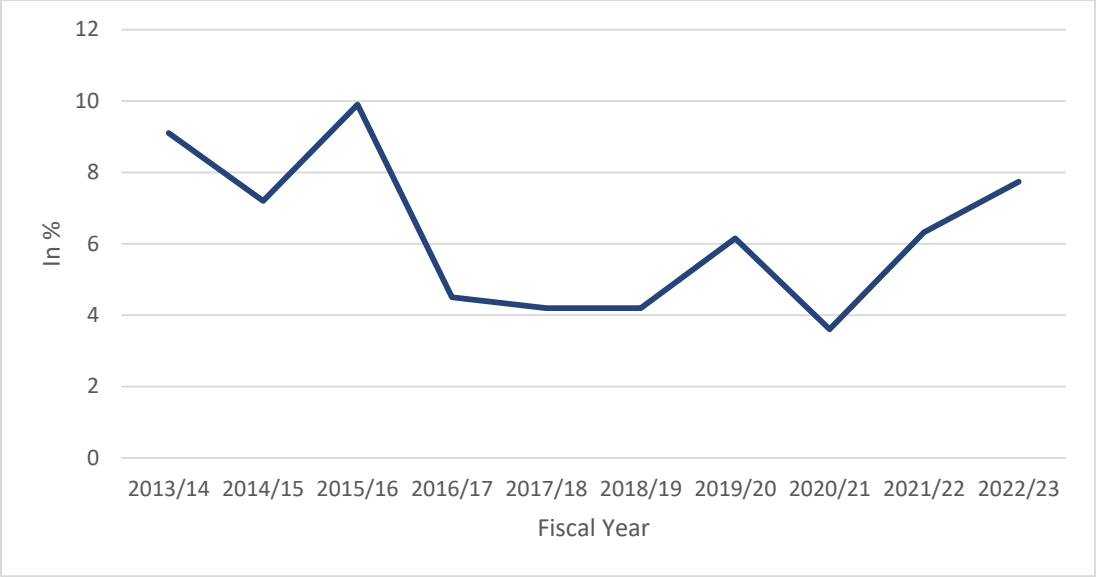


Figure 8 *Trend of Inflation*

Inflation in Nepal has exhibited considerable variability over the ten-year period. In FY 2013/14, inflation was relatively high at 9.1%, reflecting significant inflationary pressures, possibly due to supply-side constraints, increased demand, or external factors such as import price shocks. The inflation rate reached its peak at 9.9% in FY 2015/16, indicating a period of substantial inflationary pressure. This peak may have been influenced by factors such as agricultural supply shortages, increased import prices, or other external shocks. However, following this peak, inflation began to decline, reaching a low of 3.7% in FY 2017/18, suggesting a period of relative price stability, possibly due to effective monetary policy, improved supply conditions, or lower demand pressures. Despite this decline, inflation began to rise again, reaching 7.7% by FY 2022/23. This increase indicates a resurgence of inflationary pressures, which could be due to factors such as rising global commodity prices, supply chain disruptions, or increased domestic demand.

4.1.8 Descriptive analysis

Descriptive analysis plays a important role in this study by providing a foundational understanding of the data characteristics related to bank concentration, competition, and financial stability and control variables like bank size, profitability, GDP growth and inflation. Through descriptive statistics like means, range and standard deviations the analysis summarizes the key features of the dataset allowing for an initial exploration of trends and patterns within the banking sector. By presenting a clear picture of the data descriptive analysis sets the stage for deeper investigations into the relationships and potential causative factors that drive the dynamics of the banking industry.

Table 2

Descriptive Analysis Results

Variables	N	Min	Max	Mean	S.D.
Financial Stability (Z_Score)	50	19.51	66.90	33.90	10.57
Market Concentration (Market Share of Large Five Banks)	50	.27	.36	0.31	0.03
Market Competition (HHI Index)	50	148.07	263.96	192.74	35.85
Bank Size	50	24.14	26.90	25.54	0.56
Profitability (ROA)	50	.70	2.89	1.69	0.50

GDP Growth	50	-2.37	8.98	4.36	3.32
Inflation Rate	50	3.60	9.90	6.29	2.10

Table 2 shows the descriptive analysis results of study variables. The Z-Score, a measure of financial stability, varied significantly across the 50 observations in the study, with values ranging from a minimum of 19.51 to a maximum of 66.90. The mean Z-Score was 33.90, with a standard deviation of 10.57. This indicates a moderate level of variation in financial stability among the banks in the study, with some banks being significantly more stable than others. The range suggests that while some banks are at greater risk of financial distress, others maintain a strong level of financial stability.

Market concentration, measured by the market share of the largest five banks, exhibited a narrower range of variation, with values ranging from 0.27 to 0.36. The mean market concentration was 0.31, with a standard deviation of 0.03. This indicates that the market share of the largest five banks is relatively consistent, suggesting a moderately concentrated banking market. The close range and low standard deviation highlight that the market is not overly dominated by the top banks, but their collective influence remains significant.

The Herfindahl-Hirschman Index (HHI), a measure of market competition, ranged from 148.07 to 263.96 across the 50 observations, with a mean of 192.74 and a standard deviation of 35.85. The wide range of HHI values suggests varying levels of competition within the banking sector. The mean HHI of 192.74 falls within the range that indicates moderate market concentration, implying that the sector is neither highly competitive nor highly concentrated, with some potential for oligopolistic behavior among the larger banks.

Bank size, indicated by the logarithm of total assets, ranged from 24.14 to 26.90, with a mean of 25.54 and a standard deviation of 0.56. The relatively small standard deviation suggests that most banks in the study are of similar size, with only slight variations. This consistency in bank size could imply similar levels of resources and operational capacity across the banks studied, with no single bank significantly larger than the others.

Profitability, measured by Return on Assets (ROA), ranged from 0.70% to 2.89%, with a mean of 1.69% and a standard deviation of 0.50%. The variability in ROA

indicates differences in how efficiently banks are utilizing their assets to generate profit. The mean ROA of 1.69% suggests that, on average, the banks in the study are moderately profitable, but the range also shows that some banks are significantly more or less profitable than others.

GDP growth, reflecting the broader economic environment, ranged from -2.37% to 8.98%, with a mean of 4.36% and a standard deviation of 3.32%. The negative minimum value indicates periods of economic contraction, while the positive maximum reflects strong economic growth. The relatively high standard deviation highlights the volatility in economic conditions during the study period, which may have had varying impacts on the banking sector's performance.

Inflation rates during the study period ranged from 3.60% to 9.90%, with a mean of 6.29% and a standard deviation of 2.10%. This indicates moderate inflationary pressures within the economy, with some periods of higher inflation that could affect the cost of borrowing, lending rates, and overall economic stability.

4.1.9 Relationship analysis

Relationship analysis in this study is employed to explore the connections and interactions among various variables such as bank concentration, competition as independent variables bank size, profitability, GDP growth and inflation as control variable and financial stability as dependent variable. Examining the correlation between market concentration, competition and financial stability can reveal whether higher concentration correlates with increased systemic risks. This analysis is pivotal in identifying significant relationships that warrant further exploration, guiding the development of hypotheses for more advanced statistical modeling and helping to contextualize the findings within the broader economic environment.

Table 3

Relationship Analysis

		Z_Score	MC	HHI	BS	PRO	GDP	INF
Z_Score	Pearson Correlation	1	-.320*	-.331*	-.085	-.188	.184	-.312*
	Sig. (2-tailed)		.023	.019	.556	.191	.201	.028
MC	Pearson Correlation		1	.998**	-.064	-.083	-.414**	.757**
	Sig. (2-tailed)			.000	.658	.567	.003	.000
HHI	Pearson Correlation			1	-.088	-.083	-.406**	.776**
	Sig. (2-tailed)				.544	.568	.003	.000

BS	Pearson Correlation	1	-.303*	-.175	-.320*
	Sig. (2-tailed)		.032	.224	.024
PRO	Pearson Correlation		1	.307*	.118
	Sig. (2-tailed)			.030	.415
GDP	Pearson Correlation			1	-.465**
	Sig. (2-tailed)				.001
INF	Pearson Correlation				1
	Sig. (2-tailed)				

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

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

Table 3 shows the relationship between independent variables and dependent variable utilized in this study. Market concentration which was measured by the market share of the largest five banks (MC) shows a negative relationship with financial stability (Z-Score). The Pearson correlation coefficient is -0.320, with a significance level of 0.023. This indicates that as market concentration increases financial stability tends to decrease. The negative correlation suggests that higher market concentration where a few banks dominate the market might be associated with reduced financial stability. This could be due to the risks posed by fewer players having significant control over the market potentially leading to systemic vulnerabilities.

The Herfindahl-Hirschman Index (HHI) which measures market competition also exhibits a negative relationship with financial stability, with a Pearson correlation coefficient of -0.331 and a significance level of 0.019. This implies that as the HHI increases indicating a less competitive and more concentrated market—the financial stability of banks tends to decline. The negative correlation reinforces the idea that higher market concentration, as reflected in the HHI, might lead to reduced financial stability, possibly due to the increased market power and risk-taking behavior of a few dominant banks.

Bank size measured by the logarithm of total assets (BS has a weak negative relationship with financial stability with a Pearson correlation coefficient of -0.085 and a significance level of 0.556. Although the relationship is negative, it is not statistically significant, suggesting that bank size does not have a substantial impact on financial stability in this study. The lack of significant correlation indicates that larger or smaller bank sizes do not consistently affect the financial stability of banks, implying that other factors might be more critical in determining financial stability.

Profitability measured by return on assets (ROA) shows a weak negative correlation with financial stability, with a Pearson correlation coefficient of -0.188 and a significance level of 0.191. This negative relationship, though not statistically significant, suggests that higher profitability might be associated with lower financial stability, but the evidence is not strong enough to draw firm conclusions. The weak correlation indicates that profitability alone may not be a strong predictor of financial stability in this context.

GDP growth has a positive albeit weak, relationship with financial stability with a Pearson correlation coefficient of 0.184 and a significance level of 0.201. This positive correlation suggests that as the economy grows, the financial stability of banks tends to improve. However, the relationship is not statistically significant, indicating that while economic growth may contribute to better financial stability, the effect is not strong enough to be considered a decisive factor in this study.

The inflation rate exhibits a negative relationship with financial stability, with a Pearson correlation coefficient of -0.312 and a significance level of 0.028. This negative correlation suggests that higher inflation rates are associated with lower financial stability. The statistically significant relationship implies that inflationary pressures could adversely affect the stability of banks, possibly by increasing the cost of borrowing, reducing profit margins, and creating economic uncertainty that challenges the banking sector's resilience.

4.1.10 Regression analysis

Regression analysis serves as a powerful tool in this study to quantify the relationships identified in the previous analyses and to model the impact of independent variables, such as market concentration and competition, bank size, profitability, GDP growth and inflation on dependent variables financial stability. By applying multiple linear regression technique, the study aims to discern the strength and direction of these relationships while controlling for potential confounding factors. This analytical approach allows for a more understanding of how various elements interact within the banking sector enabling the identification of significant predictors of financial stability. Ultimately regression analysis provides empirical evidence that supports or refutes the hypotheses formed during the relationship

analysis, contributing to a more robust and comprehensive understanding of the nexus between bank concentration, competition, and financial stability.

Table 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.553[a]	.306	.209	9.40058

a. Predictors: (Constant), INF, PRO, BS, GDP, MC, HHI

Table 4 the model summary reveals that the independent variables Inflation Rate (INF), Profitability (PRO), Bank Size (BS), GDP Growth (GDP), Market Concentration (MC), and Market Competition (HHI) together explain approximately 30.6% of the variance in the dependent variable Financial Stability (Z-Score) as indicated by the R Square value of 0.306. The Adjusted R Square, which accounts for the number of predictors in the model is slightly lower at 0.209 suggesting that around 20.9% of the variance in financial stability can be explained when adjusting for the number of predictors. While the model captures a significant portion of the variance in financial stability there is still a substantial amount of variability unexplained, indicating that other factors not included in the model may also play a role in determining financial stability.

Table 5

Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1674.824	6	279.137	3.159	.012[b]
	Residual	3799.953	43	88.371		
	Total	5474.776	49			

a. Dependent Variable: Z_Score

b. Predictors: (Constant), INF, PRO, BS, GDP, MC, HHI

Table 5 the analysis of variance (ANOVA) shows that the regression model which includes the predictors Inflation Rate (INF), Profitability (PRO), Bank Size (BS), GDP Growth (GDP), Market Concentration (MC), and Market Competition (HHI), is statistically significant in explaining the variation in Financial Stability (Z-Score). The

F-value of 3.159, with a significance level (Sig.) of 0.012, indicates that the overall model is a good fit and that the combined effect of these independent variables on financial stability is statistically significant at the 5% level. The regression model explains a significant portion of the total variation in Z-Score.

Table 6

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1637.612	573.579		2.855	.007
	MC	2597.540	1045.524	6.868	2.484	.017
	HHI	-429.885	167.545	-7.352	-2.566	.014
	BS	-5.538	2.902	-.294	-1.908	.063
	PRO	-8.871	3.304	-.418	-2.685	.010
	GDP	.746	.568	.234	1.314	.196
	INF	1.297	1.481	.257	.876	.386

a. Dependent Variable: Z_Score

Table 6 the regression coefficients provide the relationship between each independent variable and the dependent variable Financial Stability (Z-Score). The unstandardized coefficients (B) indicate the expected change in the Z-Score for a one-unit change in the independent variable, holding all other variables constant. The significance (Sig.) values help determine whether these relationships are statistically significant.

The unstandardized coefficient for market concentration (MC) is 2597.540 meaning that a one-unit increase in MC is associated with an increase of 2597.540 units in the Z-Score suggesting a positive relationship with financial stability. The p-value is 0.017, which is less than 0.05 indicating that this relationship is statistically

significant. This suggests that higher market concentration is associated with greater financial stability in the banking sector.

The unstandardized coefficient for market competition (HHI) is -429.885 meaning that a one-unit increase in the HHI is associated with a decrease of 429.885 units in the Z-Score indicating a negative relationship with financial stability. The p-value is 0.014 which is statistically significant. This suggests that as market competition increases (as indicated by a lower HHI), financial stability decreases, highlighting the potential risks of increased competition in the banking sector.

The coefficient for bank size (BS) is -5.538, indicating that a one-unit increase in bank size results in a decrease of 5.538 units in the Z-Score. However, the p-value is 0.063, which is slightly above the 0.05 threshold, indicating that this relationship is not statistically significant at the 5% level. This suggests that while larger banks may have a slightly negative impact on financial stability, this effect is not strong enough to be considered statistically significant. Though marginally above the standard threshold (0.05), this suggests that bank size may not significantly influence financial stability in this model. Larger banks might possess diversified operations, which could reduce their sensitivity to specific risks, thus diluting the direct impact of size on stability.

The coefficient for profitability (PRO) is -8.871, meaning that a one-unit increase in profitability results in a decrease of 8.871 units in the Z-Score. The p-value is 0.010, which is statistically significant, indicating a strong negative relationship between profitability and financial stability. This could imply that higher profitability may be associated with increased risk-taking, potentially reducing financial stability.

The unstandardized coefficient for GDP growth (GDP) is 0.746, meaning that a one-unit increase in GDP growth is associated with a 0.746 increase in the Z-Score. However, the p-value is 0.196, which is not statistically significant. This suggests that GDP growth does not have a significant impact on financial stability within the context of this study. GDP growth is often expected to enhance financial stability. However, in this context, the relationship might not be significant because the dataset or time period analyzed could reflect instances where external factors (e.g., global shocks or sector-specific downturns) moderated the expected positive impact of GDP on financial stability.

The coefficient for Inflation Rate (INF) is 1.297, indicating that a one-unit increase in inflation leads to a 1.297 increase in the Z-Score. The p-value is 0.386, which is not statistically significant. This suggests that inflation does not have a significant direct impact on financial stability in this analysis. Inflation's impact on financial stability can vary depending on the economic environment. In some cases, moderate inflation may have little to no direct effect on financial stability as institutions could have mechanisms (e.g., inflation-indexed contracts) to offset such risks. The data may reflect a period where inflation was relatively stable or controlled.

Among the study variables, market concentration, market completion and profitability are the major predictors of financial stability in Nepalese commercial banks as indicated by their significant effect on financial stability. Insignificance does not necessarily imply that these variables are unimportant in all contexts. Instead, it indicates that under the specific conditions, time frame, or dataset used in this study, their impact on financial stability (Z_Score) was not statistically significant. Further research or different modeling approaches (e.g., interaction effects or lagged variables) might uncover their significance.

4.2 Discussions

This research focuses on the examination of competition and market concentration, as well as the implications these factors have on the financial stability of the Nepalese banking industry, in order to fulfill the three basic goals First and foremost, the purpose of this research was to evaluate the degree of competition that exists within the Nepalese financing industry. The findings illuminate a financial sector characterized by both diversity and inequality. Despite the significant number of banks in Nepal, the level of competition within the banking industry remains unevenly distributed. The financial sector is characterized by an oligopolistic market structure in which a small number of market-dominant institutions retain a significant amount of market power. These big banks are able to exercise enormous influence over the industry as a result of their size, client base, and financial resources. As a result, they often define the competitive dynamics that smaller banks are required to follow. These strong players create an environment of rivalry, but a small number of crucial players experience the majority of the competition. Even if they are more numerous, smaller banks have a difficult time competing on an equal footing. They frequently struggle to gain a comparable number of customers or market share. Based

on this situation, it appears that while competition exists, it is not particularly fierce or extensive across the entire sector. This results in a market that is competitive in nature but concentrated in practice.

Through the use of concentration ratios such as the Herfindahl-Hirschman Index (HHI) and concentration ratios (CR), the second purpose was to investigate the influence that market concentration has on the stability of the financial system in Nepal. It seems that there is a complex link between market concentration and financial stability, as shown by the findings. It would indicate that a higher level of market concentration, as shown by the concentration ratios, has a favorable correlation with financial stability. This is largely due to the fact that the dominant banks, which are responsible for increasing concentration, often have solid capital structures, diverse asset portfolios, and substantial risk management frameworks. Because of their distinctive characteristics, they are able to better resist economic shocks and preserve financial stability. With the ability to weather financial crises without imminent risks to their solvency, larger banks are able to absorb losses more efficiently and sustain themselves. However, this concentration also introduces systemic risks. Because the banking system is dependent on a small number of important players, the collapse of one of these large institutions may set off a chain reaction of adverse repercussions that would extend across the entire financial system, resulting in widespread instability. Therefore, market concentration, despite the fact that it may help maintain financial stability during times of economic turmoil, also poses the danger of systemic collapse, which could have significant repercussions for the country's economy as a whole.

On the other hand, a boost in competition within the banking sector may have negative impacts on financial stability, despite the fact that it is advantageous for customers in terms of the variety of options available, the prices, and the quality of the services they get. For the purpose of competing with bigger, more well-established institutions, smaller banks may participate in riskier financial activities, such as reducing lending requirements or aggressive market tactics. They do this in an attempt to compete with larger institutions. These measures may compromise their financial health, potentially leading to instability, particularly if multiple smaller banks are experiencing issues simultaneously. The results indicate that a healthy banking

environment requires competition, but its effectiveness requires balancing it with concerns of financial stability.

In the Nepalese banking business, the results of the study show that there is a complicated link between market concentration, competition, and financial stability. According to Gajurel and Pradhan (2012), who observed modest levels of market concentration while highlighting monopolistic practices, the research is in agreement with their findings when it comes to market concentration. Ali et al. (2018) and Calice and Leonida (2018) found similar results, suggesting that increased concentration could exacerbate financial instability by increasing credit costs and reducing diversity. This finding suggests that, although concentration can improve stability, it can also contribute to vulnerabilities.

G.C. and Sharma (2016), Rahman et al. (2021), and Antony et al. (2021) all provided support for the "competition-stability" concept, which asserts that increasing competition lowers credit risk and improves overall stability. The contention that increased competition enhances overall stability supported this position. Contrary to the study's findings, which suggest that competition could offer customers more options, it could also compel smaller banks to engage in riskier activities to compete with larger institutions, potentially jeopardizing their financial stability.

In terms of the stability of the financial system, the results highlight the fact that bigger banks, as pointed out by Gajurel and Pradhan (2012), are in a better position to preserve stability as a result of their robust capital structures and diverse asset portfolios. Neupane (2016), who pointed out that joint-venture banks, which are often bigger, suffer less rivalry and, as a result, enjoy more stability, provides evidence that offers support for this assertion. On the other hand, the study suggests that more competition, although advantageous for customers, may result in complacency among bigger banks. Larger banks may lack the incentive to innovate or improve their services in a less competitive environment.

In general, the findings of the study show that market concentration, despite the fact that it might improve financial stability, often results in less competition, which in turn leads to inefficiencies. Conversely, improper control of greater competition could potentially pose threats to stability. This underscores the necessity of implementing a balanced regulatory approach to foster a robust accounting environment in Nepal.

The research highlights the delicate balance between promoting competition and guaranteeing financial stability in the Nepalese banking industry. Market concentration has the potential to improve stability, but it is also associated with the danger of systemic breakdown, and less competition may result in inefficiencies. Conversely, increased competition, while beneficial in numerous aspects, can introduce vulnerabilities into the financial system if not managed responsibly. Regulations that prohibit excessive concentration and minimize the risks associated with increased competition accomplish this. These ideas could greatly benefit policymakers in Nepal who are working toward the goal of establishing a robust banking environment that promotes both economic development and financial stability.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

The interaction between these three factors reveals a complex and subtle relationship between bank concentration, competition, and financial stability in Nepal's banking system. High market concentration, often associated with the dominance of a small number of major banks, can enhance the stability of the financial system by fostering the growth of well-capitalized institutions capable of withstanding financial shocks. On the other hand, excessive concentration has the ability to inhibit competition, which subsequently results in inefficiencies, increased prices for customers, and the possibility of complacency in risk management. On the other side, increasing competition leads to improved innovation and efficiency, but it also has the potential to promote riskier conduct among banks as they compete for market share, which might possibly compromise the stability of the financial system. This demonstrates that a balanced strategy is required in Nepal, one that provides sufficient competition to encourage efficiency and innovation while maintaining appropriate concentration to preserve financial stability. This is because the nexus between these elements in Nepal suggests that a balanced approach (a balanced approach) is essential.

This study addresses a critical need to understand Nepal's banking sector's dynamics, particularly in light of Nepal's expanding market structure and the growing relevance

of financial stability. The study specifically addresses the aforementioned requirement. Because the banking industry is a fundamental component of the Nepalese economy, the primary objectives of this study are to evaluate the degree of competition, investigate the influence that market concentration has on the financial system's stability, and investigate the complex connection that exists between these particular aspects. Understanding these linkages is becoming increasingly important for policymakers, regulators, and banking institutions in Nepal as the country continues to develop its financial infrastructure and become more deeply integrated into the global economy. This will allow them to successfully handle problems and capitalize on opportunities.

This study employs a combination of descriptive and causal research designs to explore the relationships between bank concentration, market competition, and financial stability in the Nepalese banking sector. The study utilizes a purposive sample of five commercial banks, selected based on criteria such as market share, size, and ownership types, and relies on secondary data from financial statements and macroeconomic indicators. Descriptive statistics provide an overview of the key variables, including market concentration, competition, bank size, profitability, GDP growth, inflation, and financial stability, while correlation analysis examines the linear relationships among these variables. Multiple regression analysis is then conducted to quantify the impact of market concentration and competition on financial stability, controlling for the effects of bank size, profitability, GDP growth, and inflation. The study's findings offer valuable insights into the dynamics of competition, concentration, and stability within the Nepalese banking industry, with implications for policymakers and industry stakeholders.

The findings of the study showed that market concentration, measured by the market share of the largest five banks (MC), has a positive relationship with financial stability (Z-Score), with an unstandardized coefficient of 2597.540 and a p-value of 0.017. This suggests that a one-unit increase in market concentration is associated with a 2597.540 unit increase in financial stability. In contrast, market competition, measured by the Herfindahl-Hirschman Index (HHI), shows a negative relationship with financial stability, with an unstandardized coefficient of -429.885 and a p-value of 0.014. This indicates that a one-unit increase in HHI leads to a 429.885 unit decrease in financial stability. Profitability, measured by return on assets (ROA), also

has a significant negative relationship with financial stability, with an unstandardized coefficient of -8.871 and a p-value of 0.010, implying that higher profitability is associated with a decrease in financial stability. Other variables like bank size, GDP growth, and inflation rate did not show statistically significant impacts on financial stability, with p-values of 0.063, 0.196, and 0.386, respectively.

The research provides a number of significant advantages, not only for the banking industry, but also for the process of formulating economic policy in Nepal as a whole. In addition to providing regulators with useful insights into the ways in which market concentration and competition impact financial stability, it also offers advice on how to strike the correct balance between stimulating competition and protecting stability. Findings like this are helpful for financial institutions because they allow for the refinement of risk management methods and competitive practices, which in turn ensures sustained development. Furthermore, the study establishes the foundations for future research, providing a platform for investigating comparable processes in other developing countries. This is an important contribution to the field. Through its findings, this study ultimately contributes to the development of a more robust and efficient banking system, thereby bolstering the general economic growth and stability in Nepal.

5.2 Conclusion

It was the purpose of this research to investigate the dynamics of competition and market concentration within the Nepalese banking industry, as well as the consequences these dynamics have for the stability of the financial system. Because of these discoveries, a full knowledge of the interaction between these important elements has been achieved.

In the first place, the research investigated the degree of rivalry that exists within the Nepalese banking industry, and it found that the environment is fairly competitive. According to the findings of the investigation, even while a small number of major banks do not completely control the market, there is still a considerable concentration of market power among the most prominent financial organizations. It seems that the market is mostly controlled by the bigger firms, despite the fact that there is opportunity for smaller banks to operate. This amount of rivalry shows that this is the case.

Secondly, concentration ratios were used in order to investigate the influence that market concentration has on the stability of the financial system. Increasing market concentration was shown to have a tendency to correspond with enhanced financial stability in Nepal, according to the findings of the research. This result is consistent with the "too-big-to-fail" idea, which proposes that bigger institutions, on account of their size and power, may adhere to risk management procedures that are more conservative, hence contributing to an increase in overall stability. On the other hand, this gives rise to worries over the possible systemic risks that may arise in the event that these institutions were to experience financial trouble.

Last but not least, the research investigated the connection between concentration, competition, and the preservation of financial stability. According to the results, there is a complicated connection that seems to encourage financial stability. This interaction involves moderate competitiveness working in conjunction with high concentration. The presence of competition is beneficial to efficiency and innovation; nevertheless, an excessive amount of competition may result in hazardous behaviors among banks, which may threaten the stability of the financial system. On the other hand, a market that is highly concentrated, although being relatively stable, may inhibit competition, which may result in inefficiencies and a reduction in the welfare of consumers over the long term.

The findings of the research highlight the need of establishing regulatory frameworks that are well-balanced and that encourage healthy competition while also ensuring that market concentration does not threaten financial stability. For the purpose of fostering a banking sector that is both competitive and stable, policymakers in Nepal need to negotiate these dynamics with great care. This will ensure that the industry will continue to expand sustainably and will be resilient in the face of economic problems.

5.3 Implications

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

- The findings suggest that regulators should balance promoting competition with maintaining market stability. Policymakers should consider implementing

regulations that prevent excessive concentration while ensuring that competition does not lead to destabilizing risk-taking behaviors among banks.

- Banks in Nepal can leverage the study's insights to develop strategies that optimize their market positions. Larger banks, in particular, should continue to enhance their risk management practices to maintain their role in supporting financial stability.
- With the market concentration identified, there is a need for stronger consumer protection mechanisms. Regulatory bodies should ensure that consumers benefit from competitive pricing and improved service quality, preventing potential exploitation by dominant players.
- The relationship between concentration and financial stability implies that banks, especially the larger ones, must prioritize robust risk management frameworks to mitigate systemic risks, thereby contributing to the overall stability of the financial system.
- Central banks and monetary authorities should consider the implications of market concentration when designing monetary policies. Understanding the concentration-stability relationship can help in formulating policies that support both financial stability and economic growth.
- The study highlights the need to promote financial inclusion by encouraging smaller banks to enter and compete in the market. This can be achieved through policies that lower barriers to entry and support the growth of smaller institutions.
- Future research could expand on this study by exploring the long-term effects of concentration on innovation and efficiency within the banking sector. Additionally, comparative studies between Nepal and other similar economies could provide deeper insights into the optimal balance between competition and stability.

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Appendices

Appendix I

Data Utilized in the Study

BANKS	FY	Z Score	MC	HHI	Bank Size	ROA	GDP Growth	Inflation
	2013/14	30.14	33.35	228.49	24.70	2.51	6.01	9.1
	2014/15	28.44	33.40	227.04	24.90	1.99	3.98	7.2
	2015/16	33.82	31.55	203.59	24.90	1.98	0.43	9.9
	2016/17	44.59	28.59	166.62	25.08	1.84	8.98	4.5
	2017/18	45.93	27.30	151.76	25.15	1.61	7.62	4.2
	2018/19	46.55	27.03	148.07	25.26	2.61	6.66	4.2
	2019/20	36.71	30.07	181.29	25.48	1.71	-2.37	6.15
	2020/21	38.41	29.18	173.59	25.47	1.22	4.25	3.6
	2021/22	41.34	29.93	182.97	25.54	1.83	5.84	6.32
SCB	2022/23	39.00	36.06	263.96	25.74	2.29	2.2	7.74
	2013/14	22.05	33.35	228.49	24.84	1.51	6.01	9.1
	2014/15	27.94	33.40	227.04	24.81	1.80	3.98	7.2
	2015/16	26.76	31.55	203.59	25.09	1.70	0.43	9.9
	2016/17	29.81	28.59	166.62	25.33	1.53	8.98	4.5
	2017/18	35.66	27.30	151.76	25.35	1.97	7.62	4.2
	2018/19	34.30	27.03	148.07	25.50	1.94	6.66	4.2
	2019/20	30.43	30.07	181.29	25.61	1.17	-2.37	6.15
	2020/21	29.30	29.18	173.59	25.65	0.70	4.25	3.6
	2021/22	30.22	29.93	182.97	25.75	1.07	5.84	6.32
NSBL	2022/23	26.85	36.06	263.96	25.95	1.06	2.2	7.74
	2013/14	22.12	33.35	228.49	25.23	2.89	6.01	9.1
	2014/15	19.51	33.40	227.04	25.50	2.06	3.98	7.2
	2015/16	20.96	31.55	203.59	25.57	2.32	0.43	9.9
	2016/17	23.36	28.59	166.62	25.67	2.69	8.98	4.5
	2017/18	27.17	27.30	151.76	25.85	2.61	7.62	4.2
	2018/19	25.07	27.03	148.07	26.03	2.11	6.66	4.2
	2019/20	22.90	30.07	181.29	26.19	1.58	-2.37	6.15
	2020/21	24.52	29.18	173.59	26.40	1.71	4.25	3.6
	2021/22	25.40	29.93	182.97	26.76	1.20	5.84	6.32
NABIL	2022/23	24.35	36.06	263.96	26.90	1.42	2.2	7.74
	2013/14	27.15	33.35	228.49	24.91	2.25	6.01	9.1
	2014/15	25.15	33.40	227.04	24.98	1.85	3.98	7.2
	2015/16	25.53	31.55	203.59	25.32	1.61	0.43	9.9
	2016/17	31.95	28.59	166.62	25.46	1.72	8.98	4.5
	2017/18	33.39	27.30	151.76	25.48	1.97	7.62	4.2
	2018/19	31.33	27.03	148.07	25.70	1.94	6.66	4.2
	2019/20	29.27	30.07	181.29	25.86	1.42	-2.37	6.15
	2020/21	27.15	29.18	173.59	25.94	0.89	4.25	3.6
EBL	2021/22	28.37	29.93	182.97	26.08	1.13	5.84	6.32

	2022/23	29.43	36.06	263.96	26.25	1.41	2.2	7.74
	2013/14	43.25	33.35	228.49	24.14	1.36	6.01	9.1
	2014/15	34.87	33.40	227.04	24.53	1.21	3.98	7.2
	2015/16	41.77	31.55	203.59	25.09	1.49	0.43	9.9
	2016/17	53.73	28.59	166.62	25.26	1.69	8.98	4.5
	2017/18	66.90	27.30	151.76	25.45	1.65	7.62	4.2
	2018/19	59.50	27.03	148.07	25.63	1.67	6.66	4.2
	2019/20	51.71	30.07	181.29	25.91	0.95	-2.37	6.15
	2020/21	47.18	29.18	173.59	26.17	1.17	4.25	3.6
	2021/22	48.45	29.93	182.97	26.27	1.29	5.84	6.32
NMB	2022/23	45.09	36.06	263.96	26.39	1.12	2.2	7.74

Appendix II

Market Share and Large Five Banks based on Total Assets

	Total Assets	Sum of CR5	Market Share	CR1	CR2	CR3	CR4	CR5
2013/14	1,387,888.00	462,924.00	33.35456463	122558.00	87275.00	86512.00	86174.00	80405.00
2014/15	1,676,683.00	559,932.00	33.3952214	139561.00	115986.00	104345.00	100887.00	99153.00
2015/16	2,057,853.00	649,185.00	31.54671398	166432.00	129783.00	127300.00	113885.00	111785.00
2016/17	2,476,973.00	708,072.00	28.5861816	173545.00	150818.00	140332.00	116510.00	126867.00
2017/18	2,968,283.71	810,434.38	27.30313067	197332.00	171893.55	160978.07	144811.15	135419.61
2018/19	3,548,816.78	959,091.61	27.02567277	230517.62	201138.82	185841.99	171515.65	170077.53
2019/20	4,300,472.78	1,293,201.99	30.07115859	274082.96	266390.91	251852.89	263153.97	237721.26
2020/21	5,223,069.92	1,524,171.32	29.18152243	346147.5	345423.3	309987.5	291066.2	231546.9
2021/22	5,791,576.93	1,733,494.98	29.93131233	419818.1	360537.2	358569.8	330242.8	264327
2022/23	6,180,508.36	2,228,817.85	36.06204733	526882.6	481203.6	446185.2	394021.7	380524.8

Appendix III

HHI Index

	Market Share of Individual Large Banks				
HHI Index	CR1	CR2	CR3	CR4	CR5
228.4907	8.83054	6.288332	6.233356	6.209002	5.793335
227.0415	8.323637	6.917587	6.223299	6.017059	5.91364
203.587	8.087653	6.306719	6.186059	5.534166	5.432118
166.6182	7.006334	6.088803	5.665463	4.703725	5.121856
151.7585	6.648017	5.791008	5.423271	4.878616	4.562219
148.0665	6.495619	5.667771	5.236731	4.833038	4.792514
181.2889	6.373322	6.194456	5.8564	6.119187	5.527794
173.5898	6.627281	6.613414	5.934967	5.572704	4.433156
182.9733	7.24877	6.2252	6.19123	5.702122	4.56399
263.9608	8.524907	7.785825	7.219232	6.375232	6.156853

HHI = CR1^2 + CR^2 + CR3^2 + CR^2 + CR5^2

NEXUS BETWEEN BANK CONCENTRATION, COMPETITION A...

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Abstract This research investigates the complex link that exists between the concentration of banks, the level of competition, and the stability of the financial system in Nepal's banking industry. The study examines data from five commercial banks, focusing on factors such as market concentration, competition, bank size, profitability, GDP growth, inflation, and financial stability. The study's research techniques are a blend of descriptive and causal research designs. According to the data, a greater market concentration has a positive correlation with financial stability. This lends credence to the idea that bigger banks contribute to stability by using risk management strategies that are more conservative. However, while increased competition fosters efficiency and innovation, it also contributes to a decline in financial stability due to potentially riskier practices among banks. Higher competition inevitably leads to increased risk. According to the research findings, there is a pressing need for a regulatory strategy that strikes a healthy balance between fostering healthy competition and preserving adequate concentration to guarantee stability. In the process of navigating the ever- changing dynamics of the financial system, these observations have substantial significance for the policymakers, regulators, and banking institutions in Nepal.
Keywords: Bank concentration, competition, financial stability, market structure, risk management ii CHAPTER I INTRODUCTION 1.1 Background of the study Banking is a critical component of the financial system, providing services such as deposit taking, lending, and facilitating payments (Beck et al., 2006). It is a highly regulated industry, with oversight aimed