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Determinants of Financial Stability in Nepalese Commercial Banks: An Empirical Analysis of Internal and External Factors

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Abstract

This study explores the determinants of financial stability in Nepalese commercial banks by analyzing data from 20 banks over an 11-year period (2013–2023). The research investigates the impact of both internal factors, such as bank size, profitability, capital, and loan loss provisions, and external factors, including market concentration, GDP growth, inflation, and exchange rates. Data were obtained from secondary sources, including annual reports, NRB economic surveys, and publications. Descriptive statistics, correlation, and regression analyses are employed to examine the relationships between internal and external factors and financial stability. The Z-score is used as the dependent variable to measure bank stability. The study finds that internal factors such as bank size, capital adequacy, and loan loss provisions significantly influence the financial stability of Nepalese commercial banks. Bank size negatively affects stability, while capital and LLP have a positive impact. Other external variables, such as concentration in the market, growth in the GDP, and inflation are also significant although they are less coherent and non-significant in combination models. The study concludes that those internal variables, especially size and risk management practices plays a greater role within deciding bank stability in Nepal as compared to the external macroeconomic factors. The findings point out that profitability is not a key determinant but sound provisioning and capitalization makes a company resilient. The above evidence indicates that the policies must focus on enhancing internal bank activities in order to ensure stability. The paper suggests that policy makers need to enhance the regulatory control of the big banks and encourage good risk management practices internally. Internal influences are more direct as compared to external economic influences and it is advisable that banks should increase the provisioning of loans to increase their stability.

***Keywords**: bank size, commercial banks, exchange rates, financial stability, loan loss provisions, Nepal.*

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Introduction

The banking industry has experienced voluminous restructuring and consolidation processes over the past 20 years across the world. In the run up to the world financial crisis (GFC) of the years 2007-2009, a series of reforms and policies were sought to enhance competition in the form of interest rate liberalization and deregulation. However, excess competition is claimed to have contributed to the global financial crisis and several regulation reforms to strengthen the financial system have now been introduced. It has indeed induced market power, and this provides high concentration of banks. The fundamental question is whether the banking system should be more competitive or focused on ensuring financial stability (Nyangu et al., 2022).

The stability of commercial banks has garnered significant academic and policy interest, especially in the wake of financial disruptions and the evolving complexity of banking systems across both developed and emerging economies. Numerous studies have explored the internal and external determinants of financial stability, yielding diverse and context-dependent insights. In the context of Nepal, Singh (2019) examined the determinants of banking stability using system GMM over the 2004–2018 period, revealing that while Nepalese banks initially improved in stability, the trend reversed post-2007, primarily due to declining asset quality, earnings, and capital adequacy. These factors collectively contributed to the classification of banks into varying stability tiers, also highlighting the role of inflation and income diversification in influencing resilience.

Expanding the geographic lens, Nyangu et al. (2022) provided empirical support for the concentration-stability hypothesis across five East African countries, noting that higher bank concentration coupled with lower competition enhances financial stability. Similarly, Liang et al. (2025) highlighting that the impact of digital financial development (DFD) on profitability and risk-taking capacity, especially for commercial banks were significant through enhancing operational efficiency as a significant facilitating factor. These findings align with Dhakal (2024), who emphasized the significance of managing liquidity and credit risks in ensuring the financial stability of Nepalese banks, further highlighting the detrimental influence of bank size and the positive contribution of ROA.

In contrast to the competition-stability thesis, studies such as Nguyen et al. (2024) and G.C. and Sharma (2016) advocate for a competition-stability perspective, particularly in the Vietnamese and Nepalese contexts respectively, demonstrating that competition can enhance bank efficiency and reduce credit risk. However, López-Penabad et al. (2021) suggested a more nuanced view where the effects of competition on risk-taking differ across countries with varying levels of banking system stability. Meanwhile, Barra and Zotti (2019) provide evidence from Italy that the relationship between market power and financial stability is U-shaped: Inefficiently high as well as low levels of competition may make banks less stable; it can influence cooperative bank behavior in a different way.

On a continental scale, Ozili (2018) and Akande (2018) revealed the crucial role of governance, regulatory quality, and institutional efficiency in stabilizing Sub-Saharan African banking systems, whereas Adhikari (2021) and Neupane (2023) stressed the importance of bank efficiency, profitability, and macroeconomic variables in sustaining stability in Nepal. These insights were further reinforced by Pham et al. (2021), who demonstrated how bank size, equity levels, and macroeconomic strength contribute to stability in Vietnam, with prior stability acting as a predictor of future resilience.

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The interplay between liquidity, market structure, and regulatory efficiency was highlighted in the Indian context by Al-Homaidi et al. (2019), where capital adequacy and operational efficiency improved liquidity, while poor asset quality hindered it. Finally, Negash (2024) showed that in Ethiopia, capital structure is influenced by firm-specific and macroeconomic variables, with ROA and inflation exhibiting limited impact. Collectively, these studies provide a multidimensional view of bank stability, stressing the need for country-specific regulatory policies, prudent risk management, and the adoption of digital transformation to strengthen banking systems in the modern era.

Objectives of the Study

This paper aims at analyzing the factors that determine financial stability of Nepal-based commercial banks, both in internal elements (bank size, profitability, capital, and loan loss provisions) and external elements (market concentration, GDP growth, inflation, and exchange rates). The research will determine the main variables that can affect the stability of commercial banks in Nepal and determine the relationship between these variables over the period of 11 years. The study also aims at offering information on the interactive aspect of internal and external forces that can shape the resilience of the banks within the financial system of Nepal.

Literature Review

Singh (2019) the credit growth has negative impact on bank stability. The results of this study are consistent with the concentration-stability hypothesis. Income diversification has a good effect on the stability of the banks. Results reveal that inflation is becoming an important factor in affecting the stability of the banks. The research also indicates that the GFC did not have any major effect on the stability of Nepal banking industry.

Nyangu et al. (2022) that showed that in high concentration and low competition the financial stability is higher, with lower probability of bank default risk. Moreover, the competition and stability are not related in a linear manner and it is seen that the higher the competition the less stable the banks are and they are more prone to default risk. These results therefore tend to buttress the hypothesis of concentration-stability postulations to the effect that higher market power translates to a higher degree of bank stability after adjusting the bank-specific, industry and macroeconomic factors.

Liang et al. (2025) argued that DFD improves the banks' profitability and risk-taking ability, which in turn enhance their overall stability. It is worth noting that operational efficiency facilitates this process. Also, the research reveals the regional and size-related variations in the effects of DFD on the stability of commercial banks. After running the robustness and endogeneity tests, the results are still similar, and it is possible to state that the idea of digital finance can be applied and promoted universally and is credible to contribute to the stability of commercial banks. These findings are significant in assisting the theoretical underpinning and practical guidance to strategic planning and policy implications in the digital finance age for commercial banks.

Barra and Zotti (2019) pointed out that financial stability inefficiency is U-shaped in relation to the market power measure. The significance of banking scale in explaining the risk-taking relationship with bank market power. After the merger, incentives of the cooperation banks to gain market power

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in order to benefit from risk enhancing are weakened. The statistics do not favour this recent reform of the cooperative banks in Italy.

Ozili (2018) demonstrated that banking efficiency, foreign presence of banks, concentration in the industry, size of bank sector, government effectiveness, political stability and regulatory quality – investors protection- control for corruption and unemployment could explain reliably a variation observed by the banking stability within Africa. All the determinants have different significance depending on the banking stability proxy that is used and the time when it is considered: pre-crisis, during-crisis, or post-crisis.

Dhakal (2024) found that bankspecific risks, such as liquidity risk and credit risk are the major challenge for the survival of banks. Conversely, no effect of funding risk on financial stability can be observed, whereas larger banks negatively affect stability and ROA has a positive effect on financial resilience.

Nguyen et al. (2024) revealed that banks demonstrate greater stability in highly competitive environments, with the positive relationship between competition and the efficiency of Vietnamese banks remaining significant even during financial crises. Utilizing alternative risk indicators and the exclusion of state-owned banks, the study affirms the strong relationship between competition and bank stability efficiency. This pioneering research utilizes the stochastic frontier approach to investigate how competition enhances bank stability, suggesting that policies promoting competitive expansion can effectively improve bank stability efficiency in developing markets.

Jha and Hui (2012) studied financial performance of eighteen Nepalese commercial banks for the period 2005-2010 categorised by ownership pattern on selected financial ratios of CAMEL model. Multivariate regression analysis was applied to two models in investigating the effect of CAR, NPLR, interest expense to total loan ratio (IAWT), net interest margin and credit to deposit ratio on financial profitability which is proxied by ROA and ROE. Findings revealed that public sector banks are far less efficient rather than other banks and whereas domestic private banks are equally efficient in comparison with foreign joint venture owned banks. In addition, capital adequacy ratio, interest expenses to total loan and net interest margin have more significant influence on ROA than on ROE.

Akande (2018) argued that the high cost of financial intermediation in Sub-Saharan African banking system provides a rationale to examine the role of competition, regulation and stability on efficiency of banks. For data analysis, panel seven-variable structural vector autoregressive model is applied on 440 commercial banks' observations for a period of 2006-2015. The performance effects of shocks in competition, capital, liquidity and asset quality monitoring regulations were positively significant. Nonetheless, the results indicate all variables react to a one standard deviation shock of efficiency (as they are significantly different from zero), indicating that while the variables are important for efficiency, efficiency is also required by all of them in order to operate effectively. Therefore, efficiency is at the very core of running the banking system well.

Adhikari (2021) seeks to analyze the cost efficiency, profit earning ability and stability of Nepalese commercial banking institutions and demonstrates that more than profit earned, role of banking they play is significant. Descriptive and causal comparative research designs have been applied, and data are collected from the financial reports of individual banks as well as the NRB reports for the period 2011/12 to 2019/20 involving 27 commercial banks with 243 observations. Simple descriptive statistics have been used to summarize the quantitative data into an understandable form and relationship

between dependent and independent variables is explored by using correlation, simple regression analysis and multiple regression analysis. The result also indicates a negative and significant correlation in bank efficiency with profitability, positive and significant links with stability.

Negash (2024) analysed specific and country leveldeterminants of the capital structure in Ethiopian commercial banks. The research design used was explanatory with a quantitative manner. This study collected a panel dataset of 14 commercial banks from 2010 to 2022. The result of random effect panel regression indicates that tangibility, non-debt tax shields, growth and interest rate had a positive marginal significant effect while GDP had negative marginaLsignificant effect towards leverage as capital structure measure. Of the independent variables examined, ROA, liquidity, tax rate effective risk and inflation have no significant impact on the capital structure of bank selected commercial. The study is believed to be useful for commercial banks' managers, for legislators and regulators and all stake holders in that they can draw conclusion from this work and take decisions on the size of capital which would make a top contribution toward the healthiness of Ethiopian banks with a mixed equity/debt financial leverage ratio.

G.c and Sharma (2016) suggests that the rates of interest at a level higher than competition on a less competitive market in order to induce borrowers taking more risks may lead to higher probability of NPLs and instability. This article empirically analyses the effect of competition on banking system in Nepal considering annual data of commercial banks between 1999 and 2012 using fixed effects panel data model. The period of study coincides with the phase of burgeoning financial institutions in Nepal. HHI and n-bank concentration ratios are chosen as competition indicators, whereas Z-index and NPL ratio for 19 financial stability measures. The influence of macroeconomic variables and bank indicators are also included into consideration. The findings reveal that in Nepal, the higher banking competition is associated with the greater financial stability therefore confirming the "competition-stability" conjecture. Banking competition is found to lead to a reduced credit risk and contributes for the financial stability. Some mixed results are achieved about the effects of bank competition on total stability. These results suggest that stability is a function of not only the concentration of resources but also the degree to which those resources are competitive. Policy therefore ought to encourage more concentration in banking although caution has to be taken that undue consolidation does not lead to a competitive stifling environment. Furthermore, along with the intensity of competition in banking markets, the macroeconomic status of a country is observed as an important factor that influences banking stability.

López-Penabad et al. (2021) analyzed the impact of bank competition on financial stability is still inconclusive and a hot topic in both academic and political arena. This paper analyses the effect of market power, which is captured by the Lerner index, on bank stability (proxied by distance-to-default and Z score) for a sample 117 listed banks from 16 European countries over the period of 2011 to 2018. Our results show that market power in banking reduces the banks' risky behaviour, and thus support "competition-fragility" perspective for the entire sample. We find no evidence of an inverted U-shaped effect of competition on bank risk-taking. Yet our results disagree with extant research by emphasizing that the nexus of bank competition and risk taking is distinguishable, whether the banks operates in a country characterized by an institutional context where banking system is either stable or unstable. In countries that have less financial stable banking systems competition is positively related to bank risk. In financially more stable banking environments, the market power of banks does not seem to have an impact on bank soundness. Public regulations need to ensure that the banking

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competition is preserved, while there is limitation of excess bank risks in particular if the banking systems are less financially sound. A prerequisite for this could be European banking consolidation.

Phan et al. (2019) examines the nexus of competition, efficiency and stability in banking sectors of four Asian countries (China, Hong Kong, Malaysia and Vietnam) from 2004 to 2014. Findings support the traditional competition–fragility hypothesis and indicate that greater competition is associated with lower stability. Likewise, credit risk, size of the bank and market concentration might have a positive relationship with stability of bank. Conversely, banks that are more exposed to liquidity risk and less diversified in terms of revenue might themselves become unstable. Our results indicate that the global financial crisis led to a decrease in banking sector stability. Listed banks could be less stable compared with non-listed banks. Macroeconomic context (inflation and GDP growth) is another influence to bank stability. Furthermore, there is a number of interesting policy implications for enhancing bank stability.

Neupane (2023) highlight the significant influences to the financial stability of Nepalese commercial banks. The panel data regression model "Fixed Effect Model" is applied to explore the financial information of selected Nepalese commercial banks. The results of the study reveal that bank efficiency, profitability, capital structure, banking sector development, GDP growth rate, inflation and exchange rate are some of the internal/external determinants of financial stability with respect to Nepalese commercial banks. The bank size, loan loss provision and bank concentration are observed to be the weak determinants of financial stability for Nepalese commercial banks

Pham et al. (2021) explored the determinants of bank's stability in a developing economy. Empirical evidence was obtained from the commercial banks listed in Vietnam's Stock Exchanges for the period 2010-2018. Moreover, the generalised method of moments (GMM) regression approach accounts for the three sources of endogeneity: unobserved heterogeneity, simultaneity and dynamic endogeneity. The findings from the results suggest that bank stability is enhanced by banking sector indicators (equity-to-asset ratio, bank size and loan to asset ratio and revenue diversification). Moreover, the results also indicate a positive effect of macroeconomic policies in banking sector on bank stability. Secondly, one can argue that the bank stability of, is also very frequently positively related to the previous year's bank stability. More specifically with respect to foreign investment in the banking system, investigated on each presence of foreign investmet, assets based total foreign investment also indicates a positive relation with stability of bank. Lastly, a negative relationship is found between the bank's stability and market share of mobilized capital, loan loss provisions and the market structure.

Al-Homaidi et al. (2019) investigate the determinants of LQD for Indian net working commercial banks. To this end, the research has used both GMM and pooled with fixed and random-effects models on a sample of 37 commercial banks listed on BSE in India over the period from 2008 to 2017. A dependent variable of banks' LQD, which was a count measure, reacted with both bank-related and macroeconomic factors. The findings showed that bank size, capital adequacy ratio, deposits ratio, operation efficiency ratio and return on assets ratio have a significant positive effect on LQD among the bank-specific factors. It is found that assets quality ratio, assets management ratio, return on equity ratio and net interest margin has a significant negative influence on LQD. On the macroeconomic factors, it is found that interest rate and exchange rate were significant determinants of LQD. The RBI ought to provide some benchmark figures for above ratios in order to facilitate smooth LQD of commercial banks of India. The study advised bankers to have a proper management of asset quality

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such that it enhances bank performance. Third, the study provides valuable information for bankers, analysts, regulators, investors and other interested parties involving the LQD of listed commercial banks.

Research Methodology

The research methodology involves analyzing data from 20 commercial banks operating in Nepal, representing the sample under analysis. The research covers an 11-year period. The information was sourced from secondary sources, especially annual reports, the NRB economic survey, among other published materials. In the data analysis, the study has used descriptive statistics, which summarize the key variables; correlation analysis for the determinants of various factors; and regression analysis to establish the internal and external factors affecting the financial stability of the banks. This methodology helps to achieve a comprehensive understanding of the determinants of bank stability in Nepal and provides insight into the important factors that affect the performance and resilience of commercial banks in the region. The variables, their measurement, symbols, and similarities in previous studies are depicted in Table 1.

Table 1

Variables used and measurements

Variable	Abbreviation	Measurement	Sign	Source (from Literature Review)
Bank Size	SIZE	Ln (Total assets)	–	Dhakal (2024); Barra & Zotti (2019); Singh (2019); Neupane (2023); Pham et al. (2021)
GDP Growth Rate	GDP	World bank development indicator	+	Ozili (2018); Neupane (2023); Pham et al. (2021); Negash (2024)
Inflation	INFL	World bank development indicator	–	Singh (2019); Ozili (2018); Phan et al. (2019); Neupane (2023)
Profitability	ROA	Net income to total assets	+	Jha & Hui (2012); Dhakal (2024); Adhikari (2021); Al-Homaidi et al. (2019)
Loan Loss Provision	LLP	Loan loss provision divided by total assets	+	Singh (2019); Pham et al. (2021); Neupane (2023)
Capital	CAP	Percentage of equity to total assets	+	Jha & Hui (2012); Al-Homaidi et al. (2019); Adhikari (2021); Neupane (2023)
Bank Concentration	CONC	Sum of market share of all banks in terms of total assets for each year	±	Nyangu et al. (2022); G.C. & Sharma (2016); López-Penabad et al. (2021); Barra & Zotti (2019)
Exchange Rate	EXR	World bank development indicator	±	Ozili (2018); Al-Homaidi et al. (2019); Neupane (2023); Negash (2024)
Financial Stability (Z-score)	z-score	$\frac{ROAit + E_{it}/TA_{it}}{\sigma_{ROAit}}$	Dependent Variable	Singh (2019); G.C. & Sharma (2016); Pham et al. (2021); López-Penabad et al. (2021); Liang et al. (2025); Neupane (2023)

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The Z-score is a widely used indicator of bank stability that assesses the relationship between a bank's buffer capital and profitability relative to the risk of return volatility. Specifically, it estimates how much a bank's profits can decline before its capital is exhausted. In this study, the Z-index is employed as the dependent variable, serving as a measure of overall bank risk and a proxy for financial stability.

The Z-score is calculated as: $\frac{ROAit + E_{it}/TA_{it}}{\sigma_{ROAit}}$

Here, Z-Score represents bank stability, while ROA_{it} denotes return on asset. $E_{it}/\ TA_{it}$ refers equity ratio (equity-to-total asset ratio) and σ_{ROAit} is the standard deviation of ROA. Additionally, "i" is an individual bank and "t" indicates a time period. This indicates that higher profitability and capitalization lead to lower chances of failure. On the other hand, high volatility in earnings decreases the Z-score. In other words, the higher the Z-score, the greater the chance is that the bank is more resilient (Neupane, 2023). The study used the following static model to examine the Determinants of Financial Stability in Nepalese Commercial Banks: An Empirical Analysis of Internal and External Factors.

For Internal Factor

$Z_{it}= \beta_0+\beta_1 ROA_{it}+\beta_2 SIZE_{it}+\beta_3 CAP_{it+}\beta_4 LLP_{it}+\varepsilon_{it}$ ..... (i)

For External Factor

$Z_{it} =\beta_0+\beta_1 GDP_{it}+\beta_2 INFL_{it}+\beta_3 EXR_{it}+\beta_4 CONC_{it}+\varepsilon_{it}$..... (ii)

For both (internal and external factor)

$Z_{it} =\beta_0+\beta_1 ROA_{it}+\beta_2 SIZE_{it}+\beta_3 CAP_{it}+\beta_4 LLP_{it}+\beta_5 GDP_{it}+\beta_6 INFL_{it}+\beta_7 EXR_{it}+\beta_8 CONC_{it}+\varepsilon_{it}$ .....(ii)

Where, "Z" is an indicator of bank stability, β is constant term, ROA is return on assets, SIZE is bank size, CAP is capital, LLP is loan loss provision, CONC is all bank concentration ratio in terms of assets, GDP is annual growth rate of real GDP, INF is annual inflation rate, EXR is exchange rate and " ε_{it} " is the error term.

Findings

The objective is to provide a comprehensive understanding of the key determinants influencing the stability of commercial banks in Nepal, particularly focusing on the roles of bank-specific variables like size, profitability, and loan loss provisions, as well as external factors such as market concentration and macroeconomic variables. This section outlines the key findings that emerge from these analyses and offers insights into how these factors interact to shape the resilience of Nepalese banks.

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Table 2

Correlation analysis

	size	GDP	INFL	ROA	LLP	CAP	CONC	EXR	Z-score
SIZE	1								
GDP	-.127	1							
INFL	-.183**	.406**	1						
ROA	-.082	.181**	-.034	1					
LLP	.988**	-.108	-.183**	-.097	1				
CAP	.196**	.141*	-.199**	.303**	.230**	1			
CONC	.562**	-.064	-.017	.177**	.493**	-.177**	1		
EXR	.840**	-.300**	-.195**	-.287**	.860**	.234**	.110	1	
Z-score	-.051	.111	-.086	.106	.016	.302**	-.301**	.053	1

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

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

Note: SIZE refers to bank size, GDP stands for GDP growth rate, INFL indicates inflation, ROA signifies return on assets, LLP represents loan loss provision, CAP denotes capital, CONC refers to bank concentration, EXR stands for exchange rate, and z-score pertains to financial stability. The variables marked with *** and ** demonstrate statistical significance at the 1% and 5% thresholds, respectively.

The correlation analysis reveals significant relationships between various bank-specific and macroeconomic factors with the Z-score, which serves as a measure of bank stability. Bank size (SIZE) exhibits a negative correlation with the Z-score, indicating that larger banks tend to have lower stability, which aligns with previous findings suggesting that larger institutions may face more systemic risks. Profitability, as measured by ROA, shows a weak and insignificant correlation with bank stability, suggesting that profitability alone may not be a strong predictor of financial resilience. Conversely, capital (CAP) and loan loss provisions (LLP) both demonstrate a positive and significant correlation with the Z-score, implying that higher equity levels and provisions for bad loans enhance bank stability. CONC is negatively related to the Z-score, which supports the hypothesis that a high market concentration reduces competition and increases stability. Inflation (INF) has a negative coefficient, implying that high inflation may hurt bank stability. The exchange rate and GDP growth have a positive correlation, although less robust, with the latter positive and significant while the former records insignificant effects. The findings point to the multifaceted nature of stability, whose determinants range from internal to external factors.

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Table 3

Regression analysis of internal factors on the z-score of the bank

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	72.147	14.621		4.934	<.001
ROA	169.051	131.226	.083	1.288	.199
Size	-52.798	7.930	-2.694	-6.658	<.001
CAP	93.678	31.596	.198	2.965	.003
LLP	49.955	7.748	2.641	6.447	<.001

a. Dependent Variable: z-score

Note: ROA signifies return on assets, SIZE refers to bank size, CAP denotes capital and LLP represents loan loss provision.

The regression analysis of internal factors on the Z-score shows that bank size (SIZE), capital adequacy (CAP), and loan loss provisions (LLP) are significant in influencing the stability of banks, as their respective p-values are less than 0.05. Bank size has a negative coefficient, indicating that large banks have a tendency to be less stable, while there is a positive coefficient for capital and loan loss provisions, indicating that high equity and higher bad loan provisions enhance bank stability. Return on assets, ROA, which reflects profitability, is insignificant at the 0.05 significance level, since its p-value stands at 0.199, meaning that profitability does not considerably affect the financial stability of the bank in this model.

Table 4

Regression analysis of external factors on the z-score of the bank

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	32.550	9.644		3.375	<.001
CONC	-276.574	58.196	-.304	-4.752	<.001
GDP	.794	.311	.184	2.553	.011
INFL	-1.143	.557	-.143	-2.053	.041
EXR	.128	.076	.113	1.687	.093

a. Dependent Variable: z-score

Note: CONC refers to bank concentration, GDP stands for GDP growth rate, INFL indicates inflation, and EXR stands for exchange rate.

A regression of the external factors on the Z-score shows that CONC or market concentration, GDP growth, and inflation significantly determine the stability of banks. The negative coefficient of CONC means that a high degree of concentration in the banking sector decreases stability. GDP growth (GDP) shows a positive and significant relationship with stability, indicating that stronger economic growth contributes to improved bank resilience. Inflation (INFL) exhibits a negative and significant relationship with the Z-score, suggesting that higher inflation may undermine stability. However, the

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exchange rate (EXR) does not have a statistically significant effect, with a p-value of 0.093, indicating that exchange rate fluctuations may not substantially affect bank stability in this model.

Table 5

Regression analysis of internal and external factors on the z-score of the bank

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	45.062	34.501		1.306	.193
CONC	-193.367	149.130	-.213	-1.297	.196
GDP	.146	.375	.034	.389	.698
INFL	-.513	.565	-.064	-.907	.365
EXR	-.100	.286	-.089	-.349	.727
SIZE	-41.745	11.089	-2.130	-3.765	<.001
ROA	243.978	146.789	.119	1.662	.098
CAP	59.456	35.456	.126	1.677	.095
LLP	43.062	8.605	2.277	5.004	<.001

a. Dependent Variable: z-score

Note: CONC refers to bank concentration, GDP stands for GDP growth rate, INFL indicates inflation , EXR stands for exchange rate, SIZE refers to bank size, ROA signifies return on assets, CAP denotes, and LLP represents loan loss provision.

The regression analysis of both internal and external factors on the Z-score shows that several variables significantly impact bank stability, while others do not. Bank size (SIZE), loan loss provisions (LLP), and return on assets (ROA) are significant predictors of bank stability. Specifically, bank size (SIZE) has a negative coefficient, indicating that larger banks tend to have lower stability. Loan loss provisions (LLP) have a positive and significant relationship with stability, suggesting that higher provisions for bad loans enhance stability. However, return on assets (ROA) has a borderline significance (p-value = 0.098), implying a weaker, though positive, relationship with stability.

The results of CONC, GDP, INFL, and EXR are all insignificant at 0.05 levels in this model, which is shown by the respective p-values. This therefore indicates that while internal factors like size, profitability, and risk provision play a more direct role in the determination of bank stability, external factors such as economic growth, inflation, and market concentration may not necessarily significantly affect bank stability in this context.

Conclusion

The findings from this study align with several studies in the literature, particularly on the influence of internal factors on the stability of banks. The inverse relationship between bank size and stability tallies with Dhakal (2024), who also found that large banks have a tendency to face systemic risks, which adversely affect the stability of these institutions. Moreover, the positive relationship noticed between LLP and bank stability as documented by Singh (2019) was attributed to the importance of income diversification and responsible risk management practices in enhancing bank resilience. Borderline

significance of ROA also reflects findings from Jha and Hui (2012), who note that profitability, while important, is not always a strong predictor of stability.

However, the results about external factors, such as market concentration, GDP growth, inflation, and exchange rate, are contrary to some other studies in the literature. While Nyangu et al. (2022) showed that high market concentration strengthens stability, this study did not find any significant effect of market concentration on stability. Likewise, Ozili (2018) and Nguyen et al. (2024) identified macroeconomic factors including GDP growth and inflation as an important determinant of bank stability, but those variables were insignificant in this analysis. This contradiction shows that internal elements like bank size and risk management may affect the stability of Nepalese banks more than external economic factors, which is possibly due to the unique context of Nepal's banking sector.

Implications

The results have significant policy implications for regulators and banks in Nepal. The negative impact of bank size on stability indicates that regulators may need to adopt policies that address the risk of large banks, possibly through increased regulation or by encouraging decentralization to reduce systemic risk. The critical role of LLP in enhancing stability underlines the importance of sound risk management practices, which banks should emphasize in order to raise financial sustainability, particularly under uncertain economic conditions. Also, the weak role of external factors such as market concentration, GDP growth, inflation, and exchange rates suggests that internal factors, such as bank size and provisioning behavior, are of more immediate importance to stability in Nepal's banking system. This suggests the need for a more focused regulatory approach that gives more emphasis to internal controls than to external economic factors, while also understanding the uniqueness of Nepal's financial system.

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