Advanced International Journal of Business, Entrepreneurship and SME's
EISSN: 2682-8545
AIJBES
Volume 6 Issue 20 (June 2024) PP. 44-58
DOI 10.35631/AIJBES.620004

ADVANCED INTERNATIONAL JOURNAL OF BUSINESS, ENTREPRENEURSHIP AND SMES (AIJBES)
www.aijbes.com

GLOBAL ACADEMIC EXCELLENCE

THE EFFECT OF BANK-SPECIFIC AND BANK RISK ON BANK STABILITY AS MEASURED BY NPL OF THE BANGLADESHI COMMERCIAL BANK

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Article Info:

Article history:
Received date: 25.03.2024
Revised date: 10.04.2024
Accepted date: 30.04.2024
Published date: 11.06.2024

To cite this document:

Alam, M. M., & Yusuf, W. S. (2024). The Effect Of Bank-Specific And Bank Risk On Bank Stability As Measured By Npl Of The Bangladeshi Commercial Bank. *Advanced International Journal of Business, Entrepreneurship and SMEs*, *6* (20), 44-58.

DOI: 10.35631/AIJBES.620004.

Abstract:

This paper analyzed the effects of bank-specific and bank-risk drivers on bank stability as measured by non-performing loans(NPL) of commercial banks in Bangladesh from 2011 to 2021.This study used panel linear regression, and panel corrected standard error (PCSEs) to estimate the model. The main objective of the study was to analysed the effects of bank specific and bank risk on bank stability of conventional banks in Bangladesh. Capital adequacy, asset quality, income diversification, bank competition, managerial efficiency, and profitability (ROE) are used as proxies for bank-specific and liquidity risk; Sensitivity to marketing risk is used as proxies for bank risk, while control variable is used as bank size and non-performing loan (NPL) are used as a proxy for measurement of bank stability. The main results show that capital adequacy and profitability (ROE) are negative, but asset quality, income diversification, bank competition, and managerial efficiency are positively related to the NPL. The results further evaluate those determinants of bank risk, liquidity risk, and marketing risk have a positive impact on the NPL. The control variable bank size has a negative impact on the NPL. Based on our results, authorities in Bangladesh may develop rules for managing operations and ensuring bank stability as measured by NPLs.

Keywords:

Bank Stability, Capital Adequacy, Liquidity Risk, Managerial Efficiency, Non-Performing Loans (NPL).

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
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Introduction

The effective and orderly transfer of savings into investments is a necessary but insufficient requirement for economic growth and development in every society. Stable financial conditions enable public and private sectors to invest wisely in physical capital, expanding the economy. According to The World Bank (2020), a financially stable system effectively manages financial risk and resources while coping with external shocks via self-correcting processes. Few things are more crucial to a bank's health than a non-performing loan. Suppose there is monetary instability, such as non-performing loans (NPL). In that case, banks will be unable to provide credit to customers, which would slow down the flow of money throughout the economy. When non-performing loans (NPL) rise, it disrupts money flow into the actual economy (Ibrahim et al., 2019). The banks' ability to act as financial intermediaries is severely hampered, which has a chilling effect on exports and imports (Khaled Rahman et al., 2021). Bangladesh's NPL is higher than in other Asian and Pacific nations. From 1971 to 1999, Bangladesh's NPLs grew. Gross NPL to total bank loans reached 41.1% in 1999. The SCB bank had the highest NPL ratios in the 1970s and 1980s due to low appraisals and guided lending schemes (Adhikary, 2006). These directed lending schemes contributed to a massive increase in poor-quality loans, leading to persistent heavy losses. Banks have refused to write down long-term bad lending largely because of under-standard collateral underlying them and concerns about future legal issues (Majumder & Li, 2018a). However, NPL recoveries showed substantial changes after 1999, as the NPL decreased gradually to 6.1% in 2011 in total banking sectors due to provisioning, written-off loans, and a sharp decline in new bad debt (Final Stability Report, 2011). Credit Information Bureau gave banks more legal tools to retrieve problem loans and screen new ones. NPL increased from 8.8% in 2015 to 10.3% in 2018; finally, in 2021, the total banking sector NPL was 9.2%. The state's conventional bank control leads to poor evaluation, follow-up, and loan monitoring. In 2011, state conventional bank NPL was 11.3% and suddenly increased to 22.5% in 2014 (Bangladesh bank, 2015). The SCB NPL is rising by 30.9% in 2018 and 2021, slowly decreasing NPL by 20.6% (Bangladesh Bank, 2021). Conventional banks have a higher NPL rate, making them riskier. Islamic bank NPLs grew from 3.48 to 5.6% between 2011 and 2021 (Bangladesh Bank, 2021). However, it is still slightly higher than the Basel III value of a 5% level of non-performing loan ratio.

Bangladesh's NPL from 2011 to 2021 for the conventional bank. It decreased slowly from 227.1 to 405.8 billion (REF) in 2011-2013,. From 2014 to 2021, NPL rose from 501.6 billion to 1430.2 billion (Bangladesh Bank, 2021; Bangladesh bank, 2011). NPLs have caused capital erosion, income degradation, profitability, liquidity, and stability in Bangladesh's banking industry. The banks' future financial stability must determine the responsible causes behind these unexpected changes. Bangladesh's NPL is the highest among South Asian and Asian countries like Malaysia, Sri Lanka, China, Vietnam, Cambodia, Thailand, and South Korea (Rosenkranz & Lee, 2019; I. Ali, 2018).

The significant problem of NPLs is particularly pertinent to Bangladesh's conventional banks' bank stability. The banking system's stability is primarily defined by non-performing loans (Kumar et al., 2018). These bank loans have a high risk of being paid late or not because of the borrower's financial situation. When a bank has more bad loans, it becomes less secure. (Ledhem & Mekidiche, 2020; Çifter. A, 2015;) This study's major indication of bank stability is the percentage of non-performing loans. NPLs are quantified by dividing impaired loan amounts by total loan amounts. An increase in bad loans threatens the financial system's integrity and slows sustainable economic expansion (Terada-Hagiwara et al., 2019). It seems to be happening in Bangladesh. Bangladesh's traditional banking sector has seen non-

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume 6 Issue 20 (June 2024) PP. 44-58
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performing loans increase by double digits every year since 2018 (Bangladesh Bank, 2018). The major purpose of this study is to examine the influence of bank-specific and risk factors on conventional banks' bank stability in Bangladesh as assessed by non-performing loans. This research scope is to study bank-specific and bank risk on bank stability of conventional banks in Bangladesh. The major limitation is that the data availability encompasses information on banks operating in emerging markets such as Bangladesh during 2011-2021. The study collects 11 years of panel data from bank's annual reports, financial statements, bank scope, Fitch Connect, and other sites such as World Bank from 2011 to 2021 to achieve the objective.

The study is quantative in nature and 35 conventional banks are selected from Bangladesh. For this study, the sample was collected from 6 state commercial banks and 29 private commercial banks from Bangladesh from 2011 to 2021. The data was collected from the secondary sources such as fitch connect, bloomberg, annual reports of each bank form their websites.

Literature Review

Especially for developing countries, non-performing loan (NPL) is one of the most critical and immediate components of the financial stability banking sectors and global issues. Following the financial crises, non-performing loans (NPL) have drawn the attention of regulators and bank executives alike because they are seen as a sign of the financial system's weakness and insecurity (A. Ghosh, 2015). The importance of this phenomenon is magnified in economies that channel much of their money via banks. Banks are crucial to the strength of the financial sector in an economy that relies heavily on banks. Together with the capital markets of such developing nations, they are often cited as the critical financing mechanism (Moradi et al., 2016).

The critical reasons for substantial NPLs include weak credit procedures, a lack of experienced credit professionals, enormous markup margins, permissive credit principles, and a lack of monitoring rules on borrowers. Non-performing loans (NPLs) play a dynamic role in gauging the credit risk confronting financial institutions in a nation. Handley (2010) emphasizes that non-performing loans (NPLs) may be used to signal banking crises, which in turn stunt national economic growth by limiting credit expansion (M Ivanović, 2016). Low levels of non-performing loans (NPLs) indicate a robust financial system. When it's high, the economy is struggling. A nation's economy will feel the effects of rising non-performing loans (NPLs) first in the long term via their impact on commercial banks (Feijó, 2011). As the number of NPLs continues to rise, it will have a negative impact on banks' capacity to make money (Vouldis & Louzis, 2018).

Dimitrios et al. (2011) examined numerous NPL factors in the banking system in the euro and found that RO considerably influenced NPLs. Rachman et al. (2018) analyzed how different banking conditions influenced NPLs in Indonesia. They determined that banks with higher profitability have lower NPLs because they are better at advancing loans and have an effective credit control system. Kumar et al. (2019) explored different banking and microeconomic factors as probable causes of NPLs in the UAE banking sector. They revealed that ROA had a negligible connection with NPLs.

Ekanayake et al. (2015) studied the factors affecting NPLs in Sri Lanka's banking sector between 1999 and 2012; they discovered a positive correlation between bank efficiency and size and NPLs. Benthem (2017) investigates the link between commercial banks' operational efficiency, capitalization, and NPLs. According to the findings, the higher the degree of

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operational efficiency, the greater the level of NPLs. It suggests that how management operates has an impact on NPL. Fiordelisi et al. (2011) investigated many risk indicators in European banks. They found that decreased efficiency raises the risk level of banks in the future. According to (Louzis et al., 2012), efficiency and performance-related factors have affected the Greek banking sector's NPLs.

Bank capital has an opposite relationship with NPLs. On the one hand, low-capitalized banks' incentive and encouragement managers are likelier to engage in high-risk ventures and make loans without sufficient credit rating and monitoring. According to Kumar et al. (2019), NPLs and CARs have a negative association in banking when it comes to banking variables. Koju et al. (2018) researched Nepal's banking industry and discovered that CAR has a negative link with NPL. Louzis et al. (2012) examined multiple banking and microeconomic parameters as NPL drivers in different Greek banks, including ROA, CAR leverage ratio, and revenue diversification. They found that ROA negatively influences NPLs, but income diversification has a beneficial benefit. Rachman et al. (2018) looked at the many banking drivers influencing NPLs in Indonesia, including bank capital, income diversity, and other banking variables. Their study stated that these characteristics did not affect NPLs; nonetheless, a negative relationship was identified between income diversification and NPLs.

This research used the NPLs ratio as another proxy for bank stability (Kabir and Worthington, 2017; Louati and Boujelbene, 2015; Schaeck and Cihák, 2014; Turk Ariss, 2010;). This statistic serves as a risk indicator and is calculated as the bank's total impaired loans as a proportion of its net total loans. A higher ratio of non-performing loans to total loans is associated with a higher probability of a bank's failure (Noman et al., 2018; Goetz, 2017; Schaeck and Cihák, 2014; Fiordelisi and Mare, 2014). Chinoda et al. (2021) employed t-step GMM approaches using Z-score, NPL, and bank stability measurements. Specifically, they examined the effect of digital financial inclusion and bank rivalry on bank stability in Sub-Saharan Africa from 2014 to 2020 using a unique measure of digital financial inclusion. According to this research, bank stability (Z-Score and NPL) greatly influences bank competitiveness. Despite this, digital financial inclusion has a significant negative effect on NPL but a positive effect on bank stability. However, (Dutta & Saha, 2021) use the two-step GMM technique to investigate the influence of competitiveness and effectiveness on banking stability based on the NPL measure of 25 Bangladeshi banks from 2009 to 2017. Efficiency is significantly negatively correlated with Npl, but efficiency positively correlates with competition.

Raouf et al. (2020) investigated risk governance and four key indicators of financial stability, such as NPL, for conventional banks in the Gulf nations. They discovered that NPL is adversely connected to asset quality. Kasman et al. (2015) examined the influence of competition and intensity on bank stability in the Turkish banking market from 2002 to 2012. Alternatively, the NPL ratio and Z-scores measure a bank's stability. Bank concentration has a significantly positive relation with the Bank stability indicator NPL.

Albaity et al. (2019), using the Two-step GMM method, collected data from 276 banks between 2006 and 2025 across eighteen MENA countries and investigated the effect of competition on bank stability. They discovered that NPL negatively affects bank size, implying that Islamic banks face considerable financial instability in MENA nations. Katuka et al. (2023) examined the influence of NPLs on Zimbabwean financial stability and economic performance from 2009 to 2017. This study used the PVAR model and found that short-term NPL shocks impacted the risk-adjusted return adversely. However, the positive impact on risk-adjusted capitalization

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AIJBES
EISSN: 2682-8545
Volume 6 Issue 20 (June 2024) PP. 44-58
DOI 10.35631/AIJBES.620004

tends to disappear with time. However, non-performing loans pose a significant threat to financial institutions. High levels of NPL in a bank's loan portfolio are associated with an elevated credit risk profile.

Summary of the bank specific and bank risk			
Author	Objective	Variables	findings
Katuka et al. (2023)	explores the impact (NPLs) on the Zimbabwean banking industry's stability and economic performance during the 2009-2017	Z-score, NPL, changes in gross loans (credit availability, GDP	the positive impact on risk-adjusted capitalization tends to disappear with time
Albaity, 2019	This paper investigates the impact of competition on bank stability using data from 276 banks across eighteen MENA countries between 2006–2015	Ln Z-score, NPL, ROA, ROE, Boone indicator, Diversification, (In)efficiency, Financial inclusion, Productivity, GDP	NPLs has a negative relationship with bank size and positive relationship with managerial efficiency.
Kaasman, 2015	the impact of competition and concentration on bank stability in the Turkish banking industry over the period 2002–2012	Z-score, NPL Lerner, E-learner, Boone. HHI (total assets), C5 (total assets), HHI(total loans), C5(total loans), HHI(total deposits), C5 (total deposits)	Bank concentration has a significantly positive relation with Bank stability indicator NPL
Hajar rouf, 2020	Risk Governance and Financial Stability: A Comparative Study of Conventional and Islamic Banks in the GCC	Risk governance, Capital adequacy, Cost to income ratio, Total earning assets, bank size, Leverage ratio	Loan loss reserve with Npls is negatively related to the quality of assets,
Dutta & Saha, (2021).	This study aims to explore the impact of competition and efficiency on financial stability of Bangladeshi banks over 2009–2017	Ln Z-score, ROA, NPL, Boone Loan, Boone Deposit, NIM, Efficiency, log (total Asset), Loan to deposit ratio,	This study suggests a nonlinear competition–stability relationship, and though efficiency contributes to stability, the impact is moderated in the presence of competition.

Methodology

The statistical program STATA was utilized to analyze data in this scientific study and used panel corrected the standard error (PCSEs) to estimate the model. Regarding timeline, this study focuses on Bangladeshi data from 2011 through 2021. The study collects 11 years of panel data from bank's annual reports, financial statements, bank scope, Fitch Connect, and

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other sites. This research relied on a measure of bank stability known as non-performing loans (NPLs) as its dependent variable. In this study bank specific variables like capital adequacy (capital), asset quality (assq), managerial efficiency (me), income diversification (indiv), bank competition (bankc), profitability (roe) and bank risk variables like Liquidity Risk (lr), Sensitivity to Market risk (Smr) used as independent variables. Bank size was used in this study as a control variable. For this study, the sample was collected from 6 state commercial banks and 29 private commercial banks of Bangladesh from 2011-2021.

Model

Bank Stability = Bank specific + Bank risk + Bank size

NPL = Bank Specific (*capital+Asset+Man.Effi+IncDiv+BankC+ROE*) + Bank Risk (*Liq+SMr*) + Control Variable (*Bsize*)

NPL = *capital + Asset+ Man.Effi + IncDiv + BankC + ROE + Lr + SMr + Bsize*

$$NPL_{it} = \beta_0 + \beta_1\, Cap_{it} + \beta_2\, Asset_{it} + \beta_3\, Man\ Effi_{it} + \beta_4\, In\ Div_{it} + \beta_5\, BankC_{it} + \beta_6\, Roe_{it} + \beta_7\, lr_{it} + \beta_8\, SMr_{it} + \beta_9\, Bsize + \varepsilon_{it}$$

Results

The data shown in the following tables supports the panel analysis's empirical analysis. Table 1 shows the analysis of descriptive statistics for the conventional banks. This table shows the average value of non-performing loans (NPL) .1, and the standard deviation value is .117 of the conventional banks in Bangladesh. The mean value of bank-specific variables capital, assq, indiv, bankc, me, and roe shows 0.335, 0.056, 0.4, 0.009, 0.599 and 0.042, respectively. This table also shows the mean values of bank risk variables lr and mr are 0.188 and 0.002, respectively. The mean value of the control variable bank size is 5.287.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
npl	339	0.1	0.117	0	0.598
capital	339	0.335	1.763	-0.281	18.23
assq	339	0.056	0.121	0.005	2.15
indiv	339	0.4	0.668	-6.462	7.252
bankc	339	0.009	0.003	0.007	0.019
me	339	0.599	0.477	0.247	7.796
roe	339	0.042	0.647	-11.211	.963
lr	339	0.188	0.534	0.019	9.785
mr	339	0.002	0.002	0	0.014
banksize	339	5.287	0.375	4.24	6.214

Table 2 used a pairwise correlation matrix to analyze the connection between the variables chosen from the studied commercial banks in Bangladesh. Table 2 displays the correlation of all chosen factors. When the correlation coefficient of the variables exceeds 0.799, the issue of multicollinearity arises (Pervez & Ali, 2022). The research lacks multicollinearity because the variables have no significant relationship (Bhowmik & Sarker, 2021). Moreover, all selected variables except capital, indiv, roe and bank size positively correlate with NPLs of the sampled commercial banks in Bangladesh. The following outcomes show that all other variables except

Advanced International Journal of Business, Entrepreneurship and SME's
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EISSN: 2682-8545
Volume 6 Issue 20 (June 2024) PP. 44-58
DOI 10.35631/AIJBES.620004

Assq, indiv and roe negatively correlate with capital adequacy. The subsequent findings show that all other selected variables except indiv, roe and lr are positively correlated with assq variable.

Table 2: Matrix of Correlations

Variables	NPL	Capital	Assq	Indiv	Bankc	Me	Roe	Lr	Mr	Banksize
NPL	1.000									
Capital	-0.071	1.000								
Assq	0.246	0.353	1.000							
Indiv	-0.055	0.001	-0.042	1.000						
Bankc	0.579	-0.067	0.163	0.101	1.000					
Me	0.566	-0.018	0.116	-0.427	0.252	1.000				
Roe	-0.403	0.018	-0.079	0.112	-0.105	-0.283	1.000			
Lr	0.025	-0.018	-0.000	0.007	0.066	-0.019	0.011	1.000		
SMr	0.143	-0.096	0.071	0.123	0.288	0.069	0.015	0.032	1.000	
Banksize	-0.046	-0.138	0.023	0.137	0.142	0.015	0.032	0.010	0.839	1.000

Table 3 shows the correlated panels corrected standard error (PCSEs) analysis of the estimated model. Capital adequacy shows the negative and significant relationship with bank stability non-performing loans (NPL) in this table. Increased capital adequacy serves as a technique to regulate and restrict the occurrence of problematic loans, which banks want to avoid doing to safeguard their capital. Lower capital levels, in essence, incentivize banks to engage in riskier lending practices since having less capital may not effectively deter such behaviour. The success of banks' loan proposal evaluation policies, as determined by their performance, is critical. Study findings corroborate the theory that undercapitalized financial institutions are likelier to take on more risk. These results add credence to moral hazard theory, which postulates that banks with inadequate capital may engage in riskier lending practices, including not thoroughly vetting potential borrowers, leading to a more significant percentage of non-performing loans. This finding is supported by several studies (Okyere and Mensah, 2022; Salas & Saurina, 2002; Erdas & Ezanoglu, 2022; Singh et al., 2021; Us, 2017).

A positive significant relationship exists between asset quality and bank stability in Bangladesh's non-performing loans (NPL). A favourable association between bank asset quality and stability in Bangladesh demonstrates the significance of responsible lending practices, competent risk management, and a supportive regulatory framework. It emphasizes the need for banks to prioritize asset quality to maintain long-term stability and resilience in the face of economic crises (Naili & Lahrichi, 2022; Berger et al., 2017; Bourkhis & Nabi, 2013; Rumler & Waschiczek, 2016).

A positive relationship exists between income diversification and banks' stability (NPL) in Bangladesh. Income diversification leads to a more stable and resilient banking industry in Bangladesh by lowering sensitivity to economic shocks and assisting banks in navigating varied market situations. It enables banks to share risk, stabilize income, and respond to

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changing economic conditions, eventually leading to higher overall stability, including non-performing loans (Lee et al., 2020; López-Penabad et al., 2021; Moudud-Ul-Huq, 2019; Nguyen et al., 2012; Srairi, 2013).

The results demonstrate a positive and significant link between non-performing loans and the degree of rivalry amongst banks. Competition fosters the development of a market-driven system for keeping banks responsible. Banks must maintain responsible lending practices to preserve consumer confidence and attract new customers. It may result in a more stable loan portfolio with fewer non-performing loans. Overall, in Bangladesh, a competitive banking environment encourages conservative lending practices, efficient operations, and regulatory compliance, all of which lead to reduced levels of non-performing loans and improved overall stability in the banking industry (Amidu & Wolfe, 2013; Kouki & Al-Nasser, 2017; Tabak, Gomes, & da Silva Medeiros Jr, 2015).

These results found a positive significant relationship between bank managerial efficiency and bank stability, as measured by the NPL. It implies that efficient managerial practices contribute to a more stable banking environment by encouraging responsible lending, solid risk management, and quick action to resolve possible loan issues. This positive association between management efficiency and bank stability is critical for maintaining a solid financial sector, especially regarding non-performing loans (Abedifar et al., 2013; Altunbas et al., 2007; Bustaman et al., 2017).

The research demonstrates that ROE has a negative and substantial influence on NPLs, explains that profitable banks encounter fewer challenges with loan repayment systems, and ensures excellent management in their operation system. It's evidence that the loan portfolios of the most successful banks exclude borrowers with low credit scores. Furthermore, banks with a high profitability ratio minimize their risk significantly. The findings support the incorrect management hypothesis by showing that low bank profitability is related to bad management in response to lending strategies, which increases NPLs. Furthermore, banks with poor profitability tend to raise their risk, implement a more liberal lending policy, and maintain minimal present profitability, which can only be achieved at the expense of greater future NPLs. To keep their non-performing loans (NPLs) to a minimum, highly profitable banks will typically issue loan proposals with lower default probabilities than their less successful counterparts (Merhbene, 2021; Bhowmik & Sarker, 2021; Zheng et al., 2017; Louzis et al. 2012; Louzis et al. 2012; Godlewski, 2004; Fan and Shaffer, 2004).

The outcomes in Table 3 show a positive relationship between liquidity risk and bank stability (NPL). It suggests that significant liquidity risk might damage a bank's stability. It may cause various issues, such as possible fire sales, trouble satisfying commitments, and limited ability for new financing. It may influence a bank's capacity to successfully manage risks, such as non-performing loans. As a result, a negative link is often found between liquidity risk and bank stability, particularly concerning NPLs (Almarzoqi, Naceur et al., 2015; Beck, Demirgüç-Kunt et al., 2013; Cornett et al., 2011).

The results also show a positive relationship between marketing risk and bank stability (NPL). Consequently, there is a negative link between marketing risk and bank stability, notably in non-performing loans (NPLs). For this reason, banks prioritizing stability concentrate on conservative lending practices. Banks seeking stability may use more conservative marketing methods. They may avoid aggressive advertising activities that may attract high-risk borrowers.

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Stable banks often follow regulatory rules as well as industry best practices. It helps to ensure that marketing efforts are consistent with responsible lending and risk management practices (Bashatweh & EY Ahmed, 2021; Karim et al., 2018).

At the end of the table, we found a negative relationship between bank size and bank stability. It indicates that the inverse association between bank size and stability, particularly concerning NPLs in Bangladesh, underscores the difficulties that more prominent institutions may confront in managing varied portfolios and complicated operations. While bigger banks provide advantages such as economies of scale and a superb choice of services, they also face unique dangers that might jeopardize their stability, such as a possibly higher percentage of non-performing loans (Durguti, 2020; Hasmiana and Pintor, 2022; Salas and Saurina 2002; Hu et al., 2004).

Table 3: Linear Regression, Correlated Panels Corrected Standard Error (PCSEs)

NPL	Coef.	St.Err.	Z	P>|Z|	[95% Conf	Interval]
Capital	-0.007492	.0013784	-5.44	0.000	-.0101936	-.0047903
Assq	0.1466147	.0242387	6.05	0.000	.0991077	.1941217
Indiv	0.0249454	.016725	1.49	0.136	-.007835	.0577258
Bankc	16.08826	1.532729	10.50	0.000	13.08416	19.09235
Me	0.1062814	.0220644	4.82	0.000	.0630361	.1495268
Roe	-0.0426387	.0158122	-2.70	0.007	-.0736299	-.0116474
Lr	0.0007261	.0015957	0.46	0.649	-.0024014	.0038537
SMr	16.55423	3.774412	4.39	0.000	9.156523	23.95195
Banksize	-0.1183505	.0293335	-4.03	0.000	-.1758431	-.0608579
Number of observations		339		R-squared		0.7721
Number of groups		33		Wald chi		3951.71
				Prob>chi		0.0000

Managerial Implications:

This study will help the policy maker, regulatory authority, bank management, bank supervisor, investors, and other stakeholders. Additionally, future researcher may use the findings for the further research.

Conclusion

Due to their vital role in maintaining a country's economic stability, commercial banks are sometimes referred to as the backbone of the economy. As a result, the banking sector's stability is critical for economic growth and financial crisis resilience. Rising credit risk caused by rising NPLs jeopardizes the bank's stability and viability. As a result, keeping checks on non-performing loans is important for the health of the whole economy and individual banks' success. The present study analyzed the factors contributing to non-performing loans at commercial banks in Bangladesh.

The research results demonstrate that a low capital ratio reduces the likelihood of generating a riskier loan portfolio, which reduces NPLs. However, a lower loan-to-deposit ratio indicates fewer non-performing loans; therefore, Bangladesh's commercial banks should use stringent screening processes for any loan proposals they receive and keep their financing profiles

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consistent by adhering to Basel III-mandated minimums for the ratio of loans and deposits The research also demonstrates a negative and statistically significant correlation between NPLs and the profitability of commercial banks, which provides evidence that the latter factor acts to reduce the former.

The research found that commercial banks should keep their necessary capital by regulatory requirements and refrain from making risky loans that would increase the proportion of unsecured credits in the bank's portfolio and, potentially, the proportion of non-performing loans. According to Haynes et al. (2021), governments may implement a regulation that mandates banks evaluate loans at market value free of corruption to rein in zombie debt. New IFRS-9 requirements, stress testing, and efficient AQRs may contribute to the policy's success. Bank-specific and bank-risk characteristics of commercial banks that affect NPLs are the only subject of this research. There are many approaches to expand upon the current research.

Acknowledgment
This paper is extracted from my PhD thesis. So, thanks to my research supervisor, Associate Professor Dr. Wan Sallha Yusuf, whose dedication to research excellence has guided me along this path. Their intelligent feedback, support, and guidance shaped this research. I also like to thank my peers and the university for their resources. They made this paper what it is today.

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