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Risk, Liquidity, and Performance: Evidence from the Commercial Banks in Bangladesh

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Abstract

Research Originality: This study examines the interplay between bank risk, liquidity, and profitability in Bangladesh's banking sector. Using a fresh approach, it shows their combined impact on stability and growth in emerging markets. It provides practical insights for banks to effectively manage these factors and achieve long-term resilience.

Research Objectives: The study aims to investigate the interconnected influence of non-performing loan ratios and liquidity levels on profitability, and to analyze the effects of total asset growth, loan growth, and cost-to-income ratios on these dynamics.

Research Methods: The study used a panel dataset of 31 listed commercial banks from 2012 to 2022. Ordinary Least Squares (OLS) regression was primarily employed, followed by Prais–Winsten regression with corrected standard errors (PCSEs) for correlated panels to validate the findings.

Empirical Results: The research indicates that liquidity (LIQ) has a positive impact on profitability, with the net interest margin (NIM) being significantly influenced by non-performing loans. The control variable, SIZE, also showed statistical significance in performance.

Implications: This study highlights the significance of asset quality, liquidity management, loan composition, and operational efficiency in determining bank profitability, providing valuable insights for bank managers and policymakers in emerging economies seeking to enhance their financial performance.

Keywords:
liquidity; net interest margin; non-performing loan; return on asset; panels corrected standard errors

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INTRODUCTION

In finance and economics, bank liquidity and risk are the most fundamental elements of any financial institution's stability and smooth functioning. Their impact is immense concerning the healthiness and robustness of banks. At the same time, the collapse of either of these factors can lead to significant and urgent spillover effects in the financial system and economy. Khan et al. (2017) state that both concepts are vital for a banking institution's functioning, sound view, and growth. Managing liquidity risk is one of the most challenging tasks in financial intermediation (Cai & Thakor, 2008). Reducing liquidity risk is crucial in day-to-day operations, as banks provide liquidity to the economic system, maintain a suitable liquidity position, and manage it effectively (Datar, 2002). According to the Basel Committee, liquidity refers to a bank's ability to fund its operations and meet all its short-term obligations without incurring significant losses or disruptions. It means maintaining sufficient cash or quickly marketable assets on hand to ensure that the bank has enough funds to meet its immediate liabilities, such as withdrawals by depositors or payment obligations (Anghelache & Bodo, 2018). Liquidity is crucial for maintaining public confidence in the banking system, as it ensures that depositors' withdrawal rights are honored and that banks continue to operate smoothly, even in times of crisis or uncertainty (Gatev et al., 2009).

The factors that determine a bank's liquidity include the structure of its assets and liabilities, the availability of funding sources, regulatory requirements, market conditions, and the bank's general risk appetite (Khoury, 2015). Another critical technique for managing liquidity is diversifying funding sources and creating credit lines with other banks or financial organizations (Landskroner & Paroush, 2008). Bank risk captures all the hazards and uncertainties that concern banks' financial stability and profitability. The risks could be external, arising from changes in markets or regulations, or internal, resulting from flawed management decisions, poor operational practices, or inadequate risk management systems (Anghelache & Bodo, 2018). The primary common forms of bank risk are credit risk, which arises from possible borrower default; market risk, caused by changes in interest rates, currency rates, or asset prices; liquidity risk, previously explained; operational risk, linked to internal systems, processes, or human error; and compliance risk, which includes legal and regulatory requirements (Naili & Lahrichi, 2022).

Principles in managing bank risk include risk assessment through robust frameworks, prudential lending practices, diversity in asset portfolios, adequate capital reserves, and adherence to best practices and regulatory guidelines (Davydov et al., 2021). Maintaining the stability and integrity of the financial system secures, most notably, the defence of the interests of shareholders, depositors, and other stakeholders. It largely relies on effective risk management (Chen et al., 2021). Bank liquidity and risk are fundamental concepts in banking and finance that have distinct impacts on the stability, efficiency, and robustness of financial institutions. Therefore, if these concepts are understood and applied, a bank is well-positioned to confront challenges, capitalize on opportunities, and contribute to the economy's growth and development.

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One of the most extensively researched areas in finance and economics is the relationship between bank liquidity, risk management, and profitability, as well as its impact on financial stability. The literature reviewed so far indicates that theoretical and empirical research on the subject has identified a recurring theme: trade-offs between profitability and liquidity have further implications in light of current trends and regulatory frameworks. Traditional banking theory posits a trade-off between profitability and liquidity, commonly referred to as the liquidity-risk trade-off. The theory suggests that while banks with more liquid assets may be better positioned in the face of shocks, they do so at the expense of reduced profitability due to lower yields on such investments. Then again, banks holding riskier assets have the potential for higher returns, but also face the real risk of liquidity problems. In this regard, Chokroborty and Hasan (2024) utilized data from 18 banks over five years (2013-2017) to investigate the interrelationship between the profitability and liquidity management of the banks under consideration, specifically those listed in the public and private sectors of the Dhaka Stock Exchange (DSE) in Bangladesh. This applies to the profitability measurements of indicators such as the return on equity and returns on assets, as well as several liquidity management indicators, including current, cash, credit, and investment deposit ratios. This condition suggests that effective liquidity management does not always compromise profitability; the results indicated that the efficiency in managing liquidity was higher in private sector banks than in public sector banks listed on the Dhaka Stock Exchange (DSE).

Focusing on Bangladeshi commercial banks from 2005 to 2018, Ahmed (2021) conducted panel data regression analysis to investigate how external and bank-specific variables specifically affect the liquidity risk of these banks. The study reported correlations with only a few minor indicators; yet, the conclusion was drawn that banks should evaluate and mitigate the risks associated with potential future liquidity crises. In a study by Tasnova (2022) using statistical techniques on data from 2014 to 2019 regarding examining the variables affecting liquidity in 29 listed commercial banks in Bangladesh, the research showed a positive relation of bank liquidity with profitability, capital adequacy, non-performing loans, and interest rate spread while it also showed hostile ties with the economic cycle and the monetary policy interest rate. Liquidity was notably impacted by capital adequacy and the economic cycle. Naoaj (2023) analyzed the factors influencing liquidity risk within the banking sector, using panel data from 28 banks. The study revealed that leverage consistently had a positive impact on liquidity risk, while bank size and the regulatory environment had a negative impact. The effects of the capital adequacy ratio (CAR) and return on assets (ROA) varied based on each bank's specific characteristics.

Khalid et al. (2019) examined the relationship between financial performance and liquidity of Bangladeshi commercial banks using panel data from 2010 to 2017 for 31 banks listed on the Dhaka Stock Exchange. The study highlighted a severe liquidity crisis in Bangladesh's commercial banks, resulting in higher default rates and liquidity issues; however, it concluded that liquidity had no significant impact on key financial performance measures, such as return on equity (ROE) and return on assets (ROA). In

Nigeria, Taiwo and Mike (2021) investigated the effects of Non-Performing Loans (NPLs) on the liquidity of Nigerian Deposit Money Banks (DMBs), using panel regression analysis on data from 15 DMBs between 2009 and 2019. The study concluded that liquidity was negatively impacted by non-performing loans (NPLs) but positively influenced by capital adequacy ratio (CAR), bank size, and inflation. Ejoh et al. (2014) evaluated the impact of credit risk and liquidity risk management on the profitability of deposit money banks in Nigeria, specifically First Bank of Nigeria Plc. Using a descriptive research design and Pearson product-moment correlation, the study found significant relationships between credit management, liquidity, and profitability, recommending the implementation of adequate internal controls to effectively monitor risk management. Bace (2016) explored the liquid assets to deposit ratio (LADR) as a crucial metric for deposit-taking institutions, reflecting liquidity backed by stable retail deposits rather than volatile wholesale debt funding. The study found that while high liquidity levels can reduce profitability due to lower net interest margins, non-performing loans had the most substantial negative impact on return on average assets. Sahyouni and Wang (2019) examined Middle Eastern and North African banks (2011–2016) using panel data, finding that conventional banks generate more total liquidity than Islamic banks, though the latter create more liquidity per asset. They also identify a negative relationship between liquidity creation and performance (as measured by ROAE), with no significant difference between Islamic and conventional banks.

Abbas et al. (2019) examined the impact of bank capital, liquidity, and credit risk on profitability in commercial banks across developed Asian economies and the USA from 2011 to 2017. The results indicated that liquidity had a positive impact on profitability in Asian banks but a negative impact on large US banks. Additionally, liquidity had a more substantial influence on profitability than capital across all bank sizes. Salim and Bilal (2016) investigated the liquidity position and its impact on the financial performance of Omani banks, examining four local commercial banks over five years (2010-2014) using multiple regression analysis. The study found significant relationships between various liquidity ratios and performance indicators, such as return on assets (ROA), return on equity (ROE), and return on average assets (ROAA); however, no significant relationship was found with the net interest margin (NIM). Tanwar (2024) employed Seemingly Unrelated Regression (SUR) to analyze Indian commercial banks (2004–2021), revealing an inverse liquidity-risk-credit-risk relationship, their combined adverse effect on profitability (ROA and ROE), and the positive role of institutional factors (e.g., law and order), while highlighting capital allocation inefficiencies as a key constraint.

Empirical evidence for a trade-off between liquidity and risk in US banks was presented by Berger and Bouwman (2009), who demonstrated that higher liquidity levels are associated with lower risk levels. Demirguc-Kunt and Huizinga (2010) studied a global sample of banks and found that higher liquidity buffers are linked to lower probabilities of financial distress. In contrast, the bank's broad liquidity holdings may significantly increase its risk, as they can instigate increased risk-taking behavior among bank management. This idea is supported by research findings from Acharya and Naqvi

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(2012), who proposed a model suggesting that banks with abundant liquidity will lend more recklessly to earn higher profits, thereby increasing systemic risk. The 2008 global financial crisis led to stringent regulatory reforms, including the adoption of Basel III liquidity rules—specifically, the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). Studies by Jimenez et al. (2014) and Lalon et al. (2023) have demonstrated the importance of regulatory frameworks in shaping the relationship between bank risk and liquidity.

This research examines the intricate relationships between bank risk, liquidity, and financial performance in Bangladesh's commercial banking sector. Understanding these dynamics is crucial for policymakers and financial institutions in an environment where financial stability is essential for economic growth. Commercial banks play a central role in the financial system, and their ability to manage liquidity while mitigating risks has a direct impact on their performance and the overall stability of the economy. Bangladesh's banking sector has faced numerous challenges, including high levels of non-performing loans (NPLs), capital adequacy issues, and liquidity shortages, which can erode its financial resilience. By examining the interactions between these factors, this research aims to provide valuable insights that can inform strategies to enhance bank stability, optimize liquidity management, and improve performance. This is particularly crucial for promoting long-term financial stability and fostering sustainable economic growth in Bangladesh.

Despite the growing body of literature on global bank performance and risk management, limited studies have integrated the relationship between bank risk, liquidity, and performance specifically within the context of Bangladesh's commercial banking sector. The novelty of this research lies in its holistic approach to understanding these interactions, which considers the unique challenges that emerging market banks face. Additionally, this study fills the gap in understanding how these factors collectively impact financial stability and performance in a developing economy like Bangladesh, where the banking sector is under significant stress due to issues such as non-performing loans (NPLs) and liquidity deficits. The findings offer new insights into how banks in Bangladesh can strike a balance between risk and liquidity management, thereby enhancing their financial resilience and contributing to the country's overall economic stability.

METHODS

This study utilizes balanced panel data for thirty-three (33) commercial banks in Bangladesh. To explain the link between profitability ($NIM_{i,t}$), bank non-performing loan ratio ($NPLR_{i,t}$), and liquidity ($LIQ_{i,t}$) from 2012 to 2022, an econometric model has been developed. We have considered 33 commercial banks out of 58 commercial banks in Bangladesh (see Table 1), which was methodologically justified and grounded in two critical criteria such as data availability and asset size. Hence, this matter made their inclusion impractical for robust analysis. This research aims to provide a more accurate and representative overview of the commercial banking sector, particularly the

larger banks that hold a substantial portion of the industry's assets. Larger banks tend to have more established operations, and their performance and risk management practices provide critical insights into the overall health and trends within the industry. This approach ensures that the study is both data-driven and reflective of the key players in the sector, enhancing the reliability and generalizability of the findings.

Table 1. Number of Banks

Bank Status	Number of Banks	Percentage (%)
Selected Banks (State-Owned)	6	10
Selected Banks (Private)	27	47
Excluded Banks	25	43
Total	**58**	**100**

The panel data estimations enable the control of both observable and unobservable heterogeneity at the bank and temporal levels. This study employs a regression model to investigate the determinants of bank profitability, with a focus on key financial and operational factors. This study employs several variables to explain profitability, bank risk, and liquidity. The dependent variable, Net Interest Margin (NIM), is used as a measure of bank profitability. NIM represents the difference between interest income and expenses relative to total interest-earning assets. To account for distributional concerns, the study has used the natural logarithm of NIM, which normalizes the distribution and reduces the influence of outliers (Chowdhury & Siddiqua, 2016).

The key independent variables include the Non-Performing Loan Ratio (NPLR), Liquidity (LIQ), Loan Growth (LG), Asset Growth (GTA), and Bank Efficiency, measured by the Cost-to-Income Ratio (CIR). The Non-Performing Loan Ratio (NPLR) measures the proportion of loans at risk of default (Islam & Nishiyama, 2019). The Liquidity Ratio (LIQ) is measured by the natural logarithm of total liquid assets, reflecting the bank's ability to meet short-term obligations without incurring significant losses. Loan Growth (LG) captures the expansion of a bank's lending activities, while Asset Growth (GTA) reflects the bank's overall expansion in size. The Cost-to-Income Ratio (CIR) measures operational efficiency (Hess & Francis, 2004). The empirical model specification for this study is as follows:

$$\text{Profitability}_{ij} = \beta_0 + \beta_1 \text{Bank Riks}_{ij} + \beta_2 \text{Liquidity}_{ij} + \beta_3 \text{Loan Growth}_{ij} + \beta_4 \text{Asset Growth}_{ij} + \beta_5 \text{Bank Efficiency}_{ij} + e_{ij}$$

Each explanatory variable represents a critical aspect of banking operations that can influence profitability. Bank risk, as measured by the non-performing loan ratio (NPLR), is expected to negatively impact the net interest margin (NIM) due to its association with asset quality deterioration and higher provisioning costs. Liquidity (LQ) plays a crucial role in determining financial stability; however, its impact on profitability is ambiguous, as excessive liquidity may signal inefficiencies. Loan growth (LG) and asset growth (GTA) are

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included to capture the impact of credit expansion and financial development, respectively, with their effects contingent on risk management practices. Finally, bank efficiency (CIR) is expected to exhibit a negative relationship with profitability, as a higher cost-to-income ratio indicates weaker cost control.

RESULT AND DISCUSSION

The result and discussion section includes a summary of the statistics, correlation matrix, and regression results, including linear and PCSE regression. After that, some diagnostic tests were performed to check multicollinearity, Heteroskedasticity, and Cross-Sectional Independence in the study. Thirty-three major commercial banks have been considered for this analysis. Table 2 comprehensively summarizes each variable across 335 observations, presenting its respective mean, standard deviation, and range, which offer insights into the distribution and variability of the data. The NIM (Net Interest Margin) values and those of the other variables illustrate the variability and distribution within the dataset, providing essential insights into its characteristics.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
NIM	335	23.365	.754	19.779	24.485
NPLR	335	.103	.143	0	.806
LIQ	335	24.021	.785	21.843	26.499
LG	335	.111	.121	-.593	.838
GTA	335	.108	.074	-.132	.579
CIR	335	1.035	9.206	-6.285	167.851

Source: Author's Calculation Results from Stata (2024).

The descriptive statistics reveal that the net interest margin (NIM) has a mean value of 23.365, indicating a relatively stable profitability measure across the banks. The non-performing loan ratio (NPLR) shows a mean of 0.103, suggesting that, on average, 10.3% of loans are non-performing, which is a significant concern for asset quality. Liquidity (LIQ) has a mean of 24.021, reflecting the banks' ability to meet short-term obligations. Loan growth (LG) and total asset growth (GTA) show positive mean values, indicating expansion in lending and asset bases, respectively. However, the cost-to-income ratio (CIR) exhibits a wide range, with some banks showing inefficiencies in cost management.

The correlation study reveals significant relationships among several financial aspects, as shown in Table 3. The strong positive relationship between the natural logarithm of net income margin (NIM) and liquidity (LIQ) underscores the importance of efficient liquidity management in enhancing profitability, aligning with the findings of Munteanu (2012), who highlights the impact of liquidity on profitability in Romanian banks. Furthermore, the negative correlations between the non-performing loan ratio (NPLR), loan growth (LG), and asset growth (GTA) are consistent with studies such as those by

Ozili (2019), which suggest that proper loan expansion and asset management can help mitigate non-performing loans. These findings offer valuable guidance for enhancing the financial performance of Bangladeshi banks.

Table 3. Matrix of Correlations

Variables	(NIM)	(NPLR)	(LIQ)	(LG)	(GTA)	(CIR)
NIM	1.000					
NPLR	-0.243***	1.000				
LIQ	0.744***	0.002	1.000			
LG	-0.086	-0.238***	-0.050	1.000		
GTA	-0.119**	-0.193***	-0.110**	0.461***	1.000	
CIR	-0.052	0.023	-0.043	-0.038	-0.062	1.000

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's Calculation Results from Stata (2024).

The diagnostic tests conducted for the regression analysis provide essential insights into the potential issues of multicollinearity, heteroskedasticity, and cross-sectional dependence in the model. The VIF tests multicollinearity among the independent variables. Table 4 of VIF shows that all the VIFs of Loan Growth, Total Asset Growth, Non-Performing Loan Ratio, Natural Logarithm of Liquidity, and Cost-to-Income Ratio are relatively low; the highest is associated with Loan Growth, at 1.309. Since the VIF values are below the usual cutoff of 10, it may be concluded that multicollinearity does not pose a significant problem to this model. This can be inferred from the mean VIF value of 1.14, indicating that the explanatory variables are not highly correlated. White's test revealed significant heteroskedasticity ($chi^2 = 211.2$, $p < 0.01$), indicating that the variance of the error terms varies across observations.

Table 4. Variance Inflation Factor (VIF)

	VIF	1/VIF
LG	1.309	.764
GTA	1.299	.77
NPLR	1.071	.934
LIQ	1.015	.985
CIR	1.007	.993
Mean VIF	**1.14**	

Source: Author's Calculation Results from Stata (2024).

This result implies evidence of heteroskedasticity in the model, meaning that the variance of the error terms is not constant across observations. The decomposition of the IM-test shows significant heteroskedasticity, skewness, and kurtosis components, further confirming the presence of heteroskedasticity. Pesaran's test confirmed the presence of cross-sectional dependence, suggesting that the residuals across banks are correlated. The

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average absolute value of the off-diagonal elements is 0.560, which measures the strength of cross-sectional dependence. Consequently, the PCSE regression model was applied in the analysis. Resolving these diagnostic issues enhances the reliability and validity of the regression analysis. It provides results that may now portray more accurate information regarding factors that affect the NIM of the banking sector in Bangladesh.

The regression analysis used Ordinary Least Squares (OLS) and Prais-Winsten regression with correlated panels corrected standard errors (PCSEs) to account for potential heteroskedasticity and cross-sectional dependence (see Table 5). In this model, the R-squared value is 0.6280, meaning that the included predictors can explain 62.8% of the variation in NIM. The Prais-Winsten regression model (PCSE), which accounts for correlated panels and corrects standard errors, provides detailed insights into how various financial factors impact the NIM of Bangladesh's public and private sector banks. The R-squared value is 0.783, this result means that the included predictors can explain 78.3% of the variation in NIM.

Table 5. Regression Analysis

Variables	OLS			PCSE		
NIM	**Coef.**	**p-value**	**Sig**	**Coef.**	**p-value**	**Sig**
NPLR	(1.4560)	0000	***	(0.8500)	0.0040	***
LIQ	0.7040	0000	***	0.5040	0.0000	***
LG	(0.5750)	0.0170	**	(0.1820)	0.1620	
GTA	(0.5110)	0.1940		(0.8600)	0.0110	**
CIR	(0.0020)	0.5490		(0.0010)	0.7170	
Constant	6.7160	0000	***	11.4610	0.0000	***
R-squared	0.6280			0.783		

*** p<.01, ** p<.05, * p<.1

Source: Author's Calculation Results from Stata (2024).

Some of the significant findings from the OLS regression study indicate that non-performing loans (NPLR) have a negative impact on profitability (NIM), with a coefficient of -1.456, suggesting that rising defaults are detrimental to banks' profitability. This finding is consistent with the literature, as noted by Chokroborty and Hasan (2024) and Ejoh et al. (2014), who argue that rising NPL ratios negatively impact the financial performance of banks due to higher provisioning costs and a reduced ability to generate income from loans. Furthermore, Islam and Nishiyama (2019) conducted a comprehensive study on the causes and impacts of NPL in Asian countries, concluding that rising NPL ratios harm bank profitability by increasing the cost of credit management and reducing overall efficiency. The findings underscore the importance of effective credit risk management in maintaining bank profitability. The financial health of banks in Bangladesh is influenced by persistently high NPLRs, which is why banks must implement robust credit management strategies (Akter & Roy, 2017). The PCSE model also shows a negative relationship with a coefficient of -0.85. The reduced coefficient indicates that, after applying panel data

corrections for autocorrelation and heteroskedasticity, the negative impact of NPLR on NIM remains slightly less pronounced but remains significant. This result further supports the negative association between NPLR and profitability, emphasizing the importance of managing credit risk to maintain healthy profit margins.

Liquidity (LIQ) has a positive effect on NIM in both the OLS and PCSE models, reinforcing the conventional view that adequate liquidity is crucial for banks' profitability. The OLS model highlights the critical role of liquidity management in enhancing profitability. The PCSE model further confirms this positive relationship, with a slightly lower coefficient of 0.5040, yet it remains highly significant. The strong positive liquidity-NIM relationship aligns with Lalon et al. (2023) and Ahamed (2021), who link liquidity tools (e.g., loan-to-deposit ratio) to profitability, but caution against the risks of mismanagement. In a global context, Berger and Bouwman (2009) found similar results, arguing that liquidity creation within banks leads to greater stability and improved performance. Ahamed (2021) emphasized contextual factors such as asset size and the macroeconomy in Bangladesh, while both stress the need for regulatory prudence to balance short-term gains with long-term stability. Despite liquidity's profitability boost, unmanaged risks or economic volatility could jeopardize sustainability, warranting cautious interpretation.

In the OLS model, loan growth (LG) has a moderate relationship with net interest margin (NIM). However, in the PCSE model, the impact of LG becomes weaker and statistically insignificant. This result indicates that expanding loan portfolios does not inherently lead to improvements in the net interest margin. This finding aligns with Foos et al. (2010), who argue that loan growth alone may not reflect pricing efficiency or risk-adjusted returns. However, Fahlenbrach et al. (2016) caution that aggressive LG, while statistically neutral here, could still signal latent risks (e.g., underperformance, collapse), particularly if growth outpaces risk management frameworks. This result underscores the need for context-specific regulation (Curry et al., 2008), as factors such as social capital mediate LG outcomes (Jin et al., 2019). Higher trust and community cohesion may mitigate default risks and enhance macroeconomic stability, thereby tempering systemic vulnerabilities. Therefore, while LG's direct impact on NIM appears muted, its indirect consequences—shaped by institutional quality and external conditions—demand proactive oversight to balance growth ambitions with financial resilience.

In the OLS model, the variable for Gross Total Assets (GTA) indicates an insignificant relationship between GTA and NIM. On the other hand, the variable GTA shows a negative relationship with NIM in the PCSE model. This result suggests that the negative impact of larger bank size on profitability becomes more pronounced. This finding indicates that rapid asset growth may be associated with inefficiencies that hinder profitability. Larger banks, although benefiting from economies of scale, may face challenges in managing their growing asset bases effectively, which could result in reduced net interest margins. This result aligns with the findings of Maudos and Guevara (2004), who argue that while expanding assets is often viewed as a sign of bank growth, it may lead to diminishing returns if not managed properly. As asset bases grow, operational costs also increase, and managing a larger portfolio can lead to inefficiencies. Furthermore, this

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result aligns with Oanh and Nga (2024), who noted that larger banks may experience lower profitability if asset growth outpaces operational improvements.

Finally, the study finds that the Cost-to-Income Ratio (CIR) does not significantly affect profitability in the PCSE model. This result contrasts with some studies that have found a negative relationship between CIR and profitability, suggesting that operational inefficiency can reduce a bank's profitability. This result contrasts with studies like Hussain (2014) and Antwi (2019), which found a negative relationship between CIR and profitability. While Du Toit and Cuba (2017) observed the impact of economic downturns on CIR and profitability in South Africa, the lack of significance of CIR on NIM in Bangladesh may indicate that factors like liquidity management or macroeconomic conditions play a more crucial role in determining NIM, rather than cost efficiency alone. The findings suggest that while operational efficiency is essential, it may not have as direct an impact on profitability as factors like liquidity and credit risk management.

However, the mixed results for loan growth, asset growth, and cost-to-income ratio suggest that these factors should be managed carefully to ensure that growth does not come at the expense of profitability. The findings highlight the importance of robust risk management practices, efficient liquidity management, and prudent asset expansion strategies for ensuring sustainable profitability in the banking sector.

CONCLUSION

The study investigated the influence of bank liquidity and risk on profitability within a commercial bank. The results suggest that effective liquidity management and a decrease in credit risk are crucial factors in enhancing bank profitability. Non-performing loans indeed exerted a detrimental impact on profitability, underscoring the need for banks to adopt stringent credit risk management practices that could protect them from potential loan defaults. This condition highlights the importance of a robust risk management framework in protecting net interest margins and ensuring stability in bank earnings. Moreover, the positive relationship between liquidity and profitability reveals that effective liquidity management is crucial in underpinning bank performance. In other words, if banks maintain optimal liquidity, they will regularly meet their short-term financial liabilities, securing profitability. On the other hand, however, expanding total assets can negatively impact profitability, suggesting that while expansion is necessary, it should be supported by improved asset management practices to prevent a dilution of returns.

The findings thus advocate that policymakers should incentivize stronger credit risk management practices by encouraging banks to invest in advanced credit assessment tools and early warning systems. Regulatory measures, such as offering tax incentives or regulatory relief to banks that adopt predictive technologies, could significantly enhance credit risk detection and management. Furthermore, regulators should introduce mandatory liquidity coverage ratios (LCR) to ensure that banks maintain a minimum level of high-quality liquid assets (HQLA). The Bangladesh Bank could also encourage the development of more diversified funding sources by promoting syndicated loans

and capital market instruments. Again, policymakers must recognize the challenges posed by the size of banks. As larger banks may face diminished profitability due to increased operational complexity, it is essential to strengthen regulatory oversight for these institutions. Introducing more stringent capital adequacy ratios and requiring frequent stress tests for larger banks can mitigate the risks associated with their size. This regulatory framework will ensure that larger banks contribute to the economy without creating systemic risks. Optimizing asset management practices through investment in technology and enhancing operational efficiencies will be equally crucial for managing larger asset bases without compromising profitability. These measures will cumulatively strengthen the financial resilience and profitability of Bangladeshi banks, thereby contributing to the stability and growth of the banking sector. By focusing on these areas, policymakers and bank managers can achieve sustainable financial performance and promote broader economic stability in the region.

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