



Determinants of Capital Adequacy and Their Implications for Banking Stability

Rubayet Yeasir Mustafa^{1*}, Md. Halimuzzaman², Mohammad Tofazzal Hossain³, Mohammad Kamal Uddin⁴

¹Loans and Advance Division, BASIC Bank PLC, Dhaka, Bangladesh

²School of Business, Galgotias University, Delhi, India

^{3,4}School of Business, Bangladesh Open University, Gazipur, Bangladesh

E-mail: ¹⁾ rubayetyeasir@gmail.com

ARTICLE INFO

Article History

Received : 17.02.2026

Revised : 28.03.2026

Accepted : 01.04.2026

Article Type: Research
Article

*Corresponding author:

Rubayet Yeasir Mustafa
rubayetyeasir@gmail.com



ABSTRACT

Capital adequacy is crucial for maintaining the stability and soundness of banking system, particularly in developing countries such as Bangladesh where banks face constant challenges related to quality of assets, compliance with regulatory standards and volatility in macroeconomic. With the implementation of Basel III and expanded regulatory scrutiny from Bangladesh Bank, determining factors that impact capital adequacy and consequently bank stability are becoming even more important. The objective of this paper is to empirically investigate important bank-specific, regulatory and macroeconomic determinants for capital adequacy have been examined, as well as testing whether or not capital adequacy tends to affect the general banking stability in Bangladesh. Particularly, the study purposes to investigate how profitability, asset quality, bank size, liquidity management, regulatory requirements and risk management influence capital adequacy among banks and appraise the influence of capital adequacy on banking solvency. A quantitative research method was used and primary data were obtained with a structured questionnaire which were distributed among banking staff of public, private and Islamic banks in Bangladesh. Descriptive and multivariate regression analysis were used to analyze the data. Findings show that profitability, asset quality, liquidity and efficient risk management positively influence capital adequacy whereas poor macroeconomic environment weakens the level of capitals. Their results also show that sufficient capital substantially increases bank stability by increasing its resilience, depositor confidence and crisis absorption. The study's findings show that enhancing internal control over financial reporting and regulatory enforcement are significant for maintaining banking stability in Bangladesh.

Keywords: Banking Stability, Banking Sector, Capital Adequacy, Regulatory Compliance, Risk Management

1. Introduction

Soundness of the banking system is a precondition for sustainable economic growth and development, particularly in case of developing countries like Bangladesh, where financial intermediation process are greatly dominated by financial institutions (Banerjee et al., 2020). Capital Adequacy, which is usually made based on the Capital adequacy ratios (CAR) indicates a bank's ability to bear with potential losses and protect depositors in the occurrence of financial distress (Ahmed & Chowdhury, 2024). Proper capitalization not only makes individual banks stronger but also makes the whole system more robust by making bank solvency and contagion within the system less likely (Akhter, 2023). After the global economic crisis and about 30 years of

banking sector fragility, capital adequacy has become a key concern in almost every prudential regulation across the globe (Adjei et al., 2024).

The transformation of the Bangladesh banking industry has been rapid and characterized by chronic structural issues such as increased NPLs, poor governance, tight liquidity and inconsistent adherence to regulatory requirements (Agrawal & Verma, 2024). Although Bangladesh Bank, Basel III is being progressively implemented by Bangladesh Bank, many banks still find it challenging to meet minimum capital buffers, especially the SOBs and small privates (Sheikh, 2022). These have also raised questions on the long-term endurance and robustness of the banks in a country, where macro-economic environment is less than certain, high inflation has been eating up profits and sharp depreciation of rupee against US dollar (Ahamed & Chowdhury, 2025). Even though the regulators focus on minimal capital standards, the adequacy of a bank's capital is driven by a broad set of internal and external considerations. Factors like profitability, asset quality and liquidity management are bank-specific determinants that significantly influence capital positions of banks (Alam & Islam, 2022).

Meanwhile, extraneous factors, such as regulatory compliance, economic development and changes in inflation and interest rate exert a great influence over the banks' ability to maintain sufficient capital (Barai, 2020). It is therefore particularly important to understand how these factors interact in the context of Bangladesh, where institutional capacity and market discipline are still evolving. While empirical studies on the relationship between capital adequacy and banking fragility in the context of developed countries have already been conducted, relatively less empirical work has been done for Bangladesh and that too is scattered (Akter & Rahman, 2023; Baten, 2020). Most of the previous literature is based on secondary financial data and fails to capture manager's perceptions about regulatory pressure, risk management effectiveness, and stability implications.

This article attempts to fill the gap by using a quantitative survey approach to identify the major determinants of capital adequacy and their influences on the stability of banking sector in Bangladesh. The results of this study offer an empirical perspective on the factors influencing capital adequacy and its cushioning effect, thereby adding to current literature as well as providing policy insights for bank management, regulators, and policymakers. The results will contribute to better capital planning, stronger regulatory supervision, and a more resilient and longer-term sustainable banking industry in Bangladesh.

2. Literature Review

2.1. Capital Adequacy and Banking Stability

Capital adequacy refers to a bank's ability to maintain sufficient capital to absorb unexpected losses from credit, market, and operational risks while continuing its intermediary function (Abu-Dawas, 2024). The Capital Adequacy Ratio (CAR), widely used under the Basel framework, serves as a key indicator of financial soundness and stability (Benink, 2020). Under Basel III, banks are required to hold higher quality capital buffers to strengthen resilience against systemic shocks (Agarwal, 2025). Adequate capital not only protects depositors but also sustains public confidence, particularly in developing economies where financial systems are more vulnerable (Kaya et al., 2022). A substantial body of literature confirms that capital adequacy is closely linked to banking stability. Well-capitalized banks are more resilient to economic shocks, less prone to failure, and better able to sustain lending activities during crises (Ambili, 2024; Gazi et al., 2022).

2.2. Determinants of Capital Adequacy

Profitability is considered a primary driver of capital adequacy, as retained earnings provide a stable internal source of capital (Lyu & Wang, 2025). Empirical studies show a positive relationship between profitability indicators such as ROA and ROE and capital levels (Liem et al., 2024). In contrast, asset quality, especially non-performing loans (NPLs), has a negative effect on capital adequacy, as rising credit risk reduces earnings and increases provisions (Hossain & Hamid, 2024). In Bangladesh, high NPL levels remain a persistent issue due to weak governance, political interference, and ineffective credit assessment (Kopteva et al., 2020).

The relationship between bank size and capital adequacy is mixed. Larger banks may benefit from economies of scale and better access to funding, but they may also maintain lower capital buffers due to the

“too-big-to-fail” perception (Veil, 2024). Evidence from Bangladesh suggests that while large private banks often show stronger capital positions, rapid expansion without adequate capital growth can increase vulnerability (Tasneem & Ahmad, 2024). Liquidity management also plays an important role. Banks with strong liquidity positions are better able to absorb short-term shocks without eroding capital (Lyu & Wang, 2025). Studies indicate a positive relationship between liquidity and capital adequacy, although liquidity pressures in Bangladesh have occasionally arisen due to rapid loan growth and external shocks (Yang, 2022).

2.3. Regulatory Framework and Research Gap

Regulatory requirements significantly influence bank capital behavior. Basel III has introduced stricter standards emphasizing capital quality, conservation buffers, and counter-cyclical measures (De Souza & De Souza, 2024). While Bangladesh Bank has adopted these standards, challenges remain in enforcement due to regulatory forbearance and governance issues (Adjei et al., 2024). Effective supervision is therefore essential to strengthening capital adequacy and ensuring financial stability.

Despite extensive global literature, studies examining the combined effects of bank-specific factors, regulatory conditions, and risk management practices in Bangladesh are still limited. Moreover, few studies incorporate managerial perspectives on risk and stability.

This study addresses these gaps with the following objectives:

- a. To analyze the impact of profitability, asset quality, bank size, and liquidity on capital adequacy.
- b. To evaluate the role of regulatory and macroeconomic factors.
- c. To examine the influence of risk management practices.
- d. To assess the relationship between capital adequacy and banking stability.
- e. To provide policy recommendations for improving financial stability.

3. Methodology

To investigate the factors of capital adequacy and impacts on banking stability in Bangladesh, this study used quantitative research design. For gathering the primary data, a close-ended structured questionnaire were used to collect responses from banking staff of public, private Islamic as well as foreign commercial banks. The sample choosing the officers, managers and high executives responsible for financial control, risk evaluation and regulation.

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{E^2}$$

Where $Z=1.96$ for a 95% confidence level, $p=0.5$ assuming maximum variability and $E=0.05$ margin of error (Cochran, 1942). Using this estimate a minimum sample size of 384 respondents was necessary to be included into study; but to increase the quality of data and considering non-response, 400 questionnaires were distributed by purposive sampling. All included responses were kept for analysis. Using a five points Likert scale, the instrument evaluated bank-specific determinants, regulatory and macroeconomic factors as well as capital adequacy and banking stability. Descriptive analysis and multivariate regression models were used to explore the associations between study variables.

4. Results and Discussion

The presentation and discussion of empirical findings is represented in this section, combining analysis obtained from data collected on banking professional practices in Bangladesh. The descriptive statistics were employed to present demographic profile of the respondents and perception towards the drivers of Capital adequacy and banking stability. Then, we conducted inferential statistics to consider associations of bank-specific regulatory macro factors with capital adequacy and an impact of capital adequacy on banking stability. The results were discussed in the context of prior theories and evidence, including focusing on the distinctive structural and regulatory attributes of Bangladeshi banking system. The debate emphasized similarities as well as contrasts with earlier analyses, and made relevant implications for bank management and policy makers.

4.1. Research Results

4.1.1. Demographic and Professional Information of the Respondents

The demographic and professional characteristics of the respondents are relevant for an understanding of the empirical results, as opinions about capital adequacy and bank stability vary throughout respondents' careers with their level of seniority at their employers. The findings were based on a generally well-distributed sample of banking executives by demographic and occupational categories in the Bangladeshi Banking sector.

Table 1. Demographic and Professional Information of the Respondents

Variables	Category	Frequency	Percentage (%)
Gender	Male	276	69.0
	Female	118	29.5
	Prefer not to say	6	1.5
Age Group	Below 30 years	72	18.0
	31–40 years	164	41.0
	41–50 years	112	28.0
	Above 50 years	52	13.0
Educational Qualification	Bachelor's	96	24.0
	Master's	214	53.5
	Professional (CA/ACCA/CFA)	70	17.5
	PhD	20	5.0
Designation	Entry-level Officer	108	27.0
	Mid-level Manager	152	38.0
	Senior Manager	92	23.0
	Executive	48	12.0
Years of Banking Experience	Less than 5 years	84	21.0
	5–10 years	146	36.5
	11–15 years	104	26.0
Type of Bank	Above 15 years	66	16.5
	Public Banks	94	23.5
	Private Banks	182	45.5
	Islamic Banks	86	21.5
	Foreign Commercial Banks	38	9.5

With respect to gender composition, while the male constituted majority of respondents (consistent with patterns characterizing workforce distribution in the banking industry in Bangladesh), a substantial number of female professionals also participated (table 1). This suggests that the sector is slowly becoming more gender inclusive, at least when it comes to professional and management positions. The age distribution also reflected the economically productive age groups, but most of the respondents were between 31 and 50 years old; hence, it was assumed that the participants were generally relatively mature in their professional life experience and practical knowledge with respect to banking operations, risk control and regulatory compliance.

In terms of education, a significant percentage of respondents were postgraduates and certified professionals, which implies good quality of the respondent sample. Such educational history also increases the believability of the answers for it needs a technical comprehension of financial regulations, risk evaluation and capital management framework and do not be taken too lightly the implication in such terms as capital adequacy and bank stability are huge but heavy terms. The profile of designator representation also indicated involvement from junior officers, middle-grade managers, higher-grade executives and senior-level managers, which served to elicit views from various levels in the chain of command. The respondents of managers and top managements are important since these persons are directly engaged in capital budgeting and making strategic decisions.

Professional experience More than the half of respondents had no less than a moderate level and some more experienced in the banking industry, which was likely to exhibit knowledge about regulatory reform

(e.g., Basel III) and capital adequacy requirements proposed by Bangladesh Bank (Kaya et al., 2022). In addition, public, private Islamic and foreign commercial banks were respondent firms, thus being able to provide comparative perspectives between different banking models. On the whole, given the heterogeneity of demographics and professional categories encompassed by respondents, this mixture of surveyed demographic profile provided some support for generalization of findings to shed light on the broader picture about bank capital adequacy practices and financial stability challenges being faced by Bangladesh banking industry.

4.1.2. Bank-Specific Determinants of Capital Adequacy

This sub-section analyzed the effect of internal bank specific factors on financial adequacy in context of banking industry in Bangladesh. The bank-specific factors represent efficiency of management, financial performance and operational risk management behaviors that influence a bank's opportunity to maintain a reasonable level of capital buffers. In this research, capital adequacy is tested for its significance against the internal determinants such as profitability, asset quality, bank size and management of liquidity. Such bodies of knowledge are especially critical in the case of Bangladesh, as differences among banks within the same setting with respect to governance quality and credit risk exposure/ operational efficiency can lead to substantially different degrees of adherence towards regulatory capital standards. The results for this study help to explain the impact of internal financial and managerial decisions on capital strength and, subsequently, bank safety.

A. Profitability

Profitability was considered as one of the major bank-specific determinants for capital adequacy, while it captures the importance of internal profit helping to support capital cushions. Respondents' perceptions of profitability.

Table 2. Profitability as a Determinant of Capital Adequacy

Statement	Mean	SD	Interpretation
Higher profitability enables banks to maintain adequate capital buffers.	4.12	0.68	Agree
Retained earnings significantly contribute to capital adequacy.	4.05	0.72	Agree
Banks with stable profits face fewer capital shortfalls.	4.08	0.70	Agree
Profitability dimension (average score)	4.08	0.70	Agree

Table 2 shows that, the three items for measuring the respondents' perception on profitability are based on the contribution by earnings stability, retained profits as well as overall financial performance towards capital adequacy. The descriptive analysis demonstrated that a majority of respondents disagreed with the statement that greater profitability has significantly less impact on whether a bank can maintain sufficient capital. The profitability-related items yielded mean scores above the mid-point score: Of capital formation by earning was generally recognized as an averagely important matter in the eyes of banking professionals. The results imply that banks with stable and adequate profit generation were regarded as in a better position to build up capital via retained earnings than by using external source of finance (e.g. equity interest) or regulatory forbearance. Respondents also highlighted that steady profitability takes the pressure off of capital needs by absorbing surprise losses from credit defaults or market gyrations. This explanation is consistent with the regulatory focus by Bangladesh Bank on sustainable earnings for capital strength under Basel III. In terms of speculative compliance, these findings are also consistent with earlier empirical work that found profitability (proxied by return on assets and return on equity) to be a strong positive influence factor of capital adequacy. In the backdrop of a developing country like Bangladesh where high NPL and operational inefficiency frequently restrict earnings, profitability has an important role to maintain regulatory capital ratios (Veil, 2024). Low profitability banks are more sensitive to wear down of capital through provisions and unstable income. Thus, the findings provide an impetus to close the gap in operational efficiency and credit risk management as well as enrich income sources from profitability standpoint that will lead to capital adequacy. In general, the results verify that profitability continues to be an important variable for capital robustness and it helps to strengthen and stabilize the banking industry in Bangladesh.

B. Asset Quality

The quality of assets like NPLs and the system of risk management had been considered as one of the decisive factors for bank-specific capital adequacy.

Table 3. Asset Quality

Statement	Mean	SD	Interpretation
Higher profitability enables banks to maintain adequate capital buffers.	4.12	0.68	Agree
Retained earnings significantly contribute to capital adequacy.	4.05	0.72	Agree
Banks with stable profits face fewer capital shortfalls.	4.08	0.70	Agree
Profitability dimension (average score)	4.08	0.70	Agree

Table 3 represents that, three questions explored respondents’ beliefs about how loan performance, credit risk assessment and asset diversification affect a bank’s capacity to maintain an adequate level of capital. In the descriptive analysis, it was found that a majority of respondents agreed that a high quality of assets would positively affect capital adequacy. The average responses for the asset quality variables were in the >4 range, indicating high degree of consensus by banking professionals that bad asset quality does undermine capital reserve while good risk management and spread in loans reinforces it. The results show that the higher a bank’s NPL ratio, the more its capital is at risk of being undermined by provisions on account of a decline in retained earnings and hence, the level of capital. According to respondents, the bank’s strict credit evaluation and monitoring are buttressed by a diversified competencies with various lending portfolios protect it from unanticipated losses and regulatory intervention. This finding is consistent with previous research conducted in both the emerging and developed countries that have established negative impact of NPLs on capital adequacy, and the positive effect of sound credit management on capital soundness. Bangladesh is no exception, where the state-owned banks continue to grapple with high level of NPLs because of poor governance, political persuasion and inefficiency in loan recovery and asset quality remains a key concern to keep regulatory capital ratios at credible levels. Private and foreign banks, having sound credit appraisal mechanisms, were found to have better levels of capital adequacy (Tasneem & Ahmad, 2024). The findings highlight the fact that focusing on asset quality improvement by better risk management and suitable loan approval protocols, followed by proper recovery leads to both higher capital adequacy and banking soundness in Bangladesh. In general, the study provides evidence that asset quality is an important internal factor contributing to a bank’s ability to absorb and withstand financial shocks and meet Basel III capital standards.

C. Bank Size

Bank size was examined as an important driver of capital adequacy in terms of the impact of operational scale, availability of resources and market positioning on a bank’s ability to sustain regulatory capital cushions.

Table 4. Descriptive Statistics for Bank Size

Statement	Mean	SD	Interpretation
Larger banks are better positioned to maintain capital adequacy.	4.00	0.69	Agree
Economies of scale positively influence capital adequacy ratios.	3.88	0.72	Agree
Smaller banks face greater challenges in meeting capital requirements.	3.85	0.74	Agree
Bank Size dimension (average score)	3.91	0.72	Agree

Table 4 illustrates that, the respondents' perceptions were assessed using three statements associated with bank size, capital adequacy and financial soundness. The descriptive statistics indicated that, the highest proportion agreed that big banks were better placed to hold higher capital based on economies of scale, diversified operations and having more financial resources. The items concerning bank size had an average level of agreement ranging from moderate to strong, with the mean scores on these statements being all above 3.8. The findings indicate that large banks (particularly for private and foreign commercial banks in Bangladesh) become acceptably capitalized as they have wide capital bases, higher operational efficiency and strong risk management practice to adapt themselves with the regulatory compliance. Smaller banks, including local and some state-owned entities, generally struggle to build up capital as they have limited money at their disposal and receive less revenue. This observation is consistent with the global empirical

literature that concludes that there is a positive correlation between bank size and capital adequacy, even though some studies also warn of excessive risk-taking by large banks based on “too-big-to-fail” anticipation. In the context of Bangladesh, the results reveal that bank size interacts with internal management quality, governance and profitability to influence capital adequacy (Rashid & Gürkan, 2022). While scale has its benefits, good internal controls and risk management coupled with sound financial practices are needed in order to maintain healthy capital buffers. In general, the findings reveal that bank size positively adds to capital adequacy; however, it should be accompanied by prudent financial and operational practices in order to guarantee sustainable banking stability.

D. Liquidity Management

The bank specific determinant of capital adequacy examined was liquidity management, which is indicative of the ability to meet short term commitments without taking a toll on the banks' level of capitalization.

Table 5. Liquidity Management

Statement	Mean	SD	Interpretation
Strong liquidity positions support capital adequacy.	4.10	0.66	Agree
Poor liquidity management increases capital risk.	4.05	0.69	Agree
Banks with high liquidity buffers are more resilient to shocks.	4.12	0.65	Agree
Liquidity Management dimension (average score)	4.09	0.67	Agree

Table 5 shows that, respondents' perceptions were captured via three items with the concept of liquidity buffers being linked to capital adequacy and resilience to financial shocks. Descriptive statistics on Likert scale revealed that the largest proportion of respondents agreed that maintaining high levels of liquidity would enhance capital adequacy. For the liquidity-related items, mean scores are greater than 4.0 indicating that banking professionals agree with the importance of liquidity management in maintaining a level of capital resources to having sufficient levels on hand. The results indicate that banks able to rely on a buffer of liquid assets are better positioned to absorb unexpected financial shocks and deposits withdrawals and resist forced asset sales that erode capital. After a lengthy discussion, respondents agreed that lack of control over liquidity resulted in greater risk of losing capital, especially during the uncertain economic environment or high demand for credit. Bangladesh: in Bangladesh, liquidity pressures have arisen on occasion as a result of a high degree of deposit concentration, strong loan growth, and external economic stress. Good treasury management, cash-flow forecasting and holding good-quality liquid assets were seen as key means of ensuring liquidity and capital adequacy.

From a dialogue viewpoint, these findings are in line with previous empirical studies which confirm that the liquidity during good times is a complementing factor for capital strength. Sufficient liquidity is conducive to regulatory conformity and strengthens the immunity of banks facing crises, thereby decreasing the likelihood that a bank suffers from capital deficiency (Akhter, 2023). In Bangladesh, robust liquidity management is especially important given the relatively high levels of nonperforming loans and sector concentration risks. In general, the evidence suggests that proper liquidity management are crucial for banks to keep a reasonable level of capital buffers and ensure long-run financial stability for more sustainable condition in banking sector.

4.1.3. Regulatory and Macroeconomic Determinants

Regulatory and macroeconomic factors were considered the external forcing of banks' capital adequacy in Bangladesh. Regulatory determinants were compliance to Basel III standards, supervisory monitoring and capital related regulatory policies by Bangladesh Bank, whereas, macroeconomic determinants were economic growth, inflation and interest rate stability.

Table 6. Regulatory and Macroeconomic Determinants of Capital Adequacy

Item	Statement	Mean	SD	Interpretation
Regulatory Factors	Basel III guidelines significantly influence capital adequacy levels.	4.18	0.64	Agree
	Regulatory supervision ensures banks maintain sufficient capital.	4.12	0.66	Agree

Item	Statement	Mean	SD	Interpretation
	Stricter capital regulations improve overall bank stability.	4.05	0.68	Agree
Macroeconomic Factors	Economic growth positively affects banks' capital adequacy.	4.00	0.70	Agree
	Inflation negatively impacts capital adequacy levels.	3.95	0.72	Agree
	Interest rate volatility influences banks' capital planning.	3.92	0.73	Agree
Overall	Regulatory & Macroeconomic Determinants (average score)	4.03	0.69	Agree

Respondents' perceptions were assessed using six items of questionnaire, concerning how these external factors influence the bank ability to buffer its capital. Results of the descriptive analysis indicated that respondents in general agreed that regulatory and macroeconomic conditions affect capital adequacy, where most of the mean scores are higher than 4 (which is a strong consensus) (table 6). In terms of regulatory reasons, respondents noted that having to comply with tough Basel III capital ratios and robust supervisory scrutiny force banks to maintain both higher quality and minimum required levels of capital. Banks who acted in advance of regulation was seen to better be able to maintain sufficient capital and absorb financial shocks. The reason is consistent with the prior literature that strict regulations will improve capital adequacy, reduce the degree of risk and promote stability in banking. Basel III is in the process of being adopted in Bangladesh though respondents felt that level of compliance with Basel III differed among banks and as a result posed challenges to bank stability. At the macroeconomic level, positive economic growth is noted by the respondents to be supportive of capital strength via increased profitability and lower credit risk, while high inflation and interest rates volatility add uncertainties in the environment that may weaken capital cushions. There was a belief that volatility in macroeconomic variables directly impinged on banks' capital plans, provisioning plans and risk exposures. This result is consistent with prior empirical evidence in emerging countries where banking sector risks are negatively affected by macroeconomic instability, and vulnerability to financial crises grows.

In general, it can be said that regulatory supervision and macro-economic environment does matter as the external factors influencing capital adequacy in Bangladesh. Strong law enforcement procedures, in conjunction with a well-regulated environment and macroeconomic stability, enable banks to hold sufficient capital buffers, keep depositors' trust, and strengthen the resilience of the banking sector as a whole (Hossin & Hamid, 2024). These results emphasize that regulatory policies should be aligned with macroeconomic conditions in order to maintain capital adequacy and stability in the financial system.

4.1.4. Risk Management Practices

Risk management behavior was investigated as an essential factor affecting the capital adequacy and overall soundness of banks in Bangladesh. This dimension was based on internal risk management policies, stress testing systems and internal risk assessment frameworks.

Table 7. Risk Management Practices as a Determinant of Capital Adequacy

Statement	Mean	SD	Interpretation
Effective risk management policies enhance capital adequacy.	4.15	0.63	Agree
Stress testing helps banks maintain adequate capital buffers.	4.10	0.66	Agree
Internal risk assessment frameworks strengthen capital planning.	4.08	0.68	Agree
Risk Management Practices dimension (average score).	4.11	0.66	Agree

Table 7 illustrates that, the majority of the respondents indicated that strong risk management is crucial in order to enable a bank to maintain sufficient capital buffers. The average of all items of the risk management of the banks was greater than 3 which shows positive and stable understandings about the necessity and importance to this systematic risk control in their capital plan. The findings revealed that banks possessing robust risk management structures were seen to be better able to recognize, calculate and limit different types of risks such as credit, market and operational exposure. Respondents stressed the value of routine stress

tests and scenario analysis, which banks use to anticipate where capital would potentially fall short in a downturn – and remedy proactively. The significance of these practices was especially noted in the concept of Bangladesh, who banks are facing high credit concentration risks, sector-specific risk and macroeconomic uncertainty. In terms of discussion, the results are in line with earlier empirical researches which argued that there is strong positive association between efficacious risk management and capital levels. Cross-country evidence indicates that banks with strong risk governance frameworks hold higher levels of capital and are more resilient during times of financial stress. In Asia, for example, in Bangladesh, the regulatory mandates from Bangladesh Bank has stressed on enterprise risk management, internal capital adequacy assessment processes (ICAAP), and also stress testing under Basel III. The findings of this research add value to these regulatory measures by indicating that efficient risk management can increase capital adequacy and financial stability of the banking sector (Adib, 2025). In general, the results corroborate the importance of having strong internal risk management systems for maintaining adequate capitalization levels and improving the overall long-term health of the Bangladeshi banking industry.

4.1.5. Capital Adequacy and Banking Stability

Capital adequacy and its implications for banking stability were considered as the main focus of this paper, how far these capital buffers are helping in terms of banks sustainability and resilience under Bangladesh Scenario. This construct was operationalized with four items encompassing the risk absorbing capability, crisis resistance, confidence of the depositors and long-term stability.

Table 8. Capital Adequacy and Banking Stability

Statement	Mean	SD	Interpretation
Adequate capital reduces the likelihood of bank failure.	4.20	0.61	Agree
Well-capitalized banks are more resilient during financial crises.	4.18	0.63	Agree
Capital adequacy improves depositor and investor confidence.	4.15	0.65	Agree
Strong capital positions enhance long-term banking stability.	4.22	0.60	Agree
Capital Adequacy & Banking Stability (average score)	4.19	0.62	Agree

The descriptive analysis indicated that the majority of the respondents agreed that capital adequacy affects stability significantly, as observed by positive means in each case substantially above neutral (table 8). Results suggest that well-capitalized banks were perceived as less likely to become financially distressed and to possess a higher capacity to cope with unexpected losses due to credit defaults, market price volatility or operational disruptions. Respondents stressed the importance of a solid capital base for depositor and investor confidence, an issue of particular relevance in Bangladesh, where confidence in the banking system has at times been undermined by non-performing loans and governance issues. Solvent banks were also seen to have been better able to continue lending in periods of an economic down-turn, thereby supporting financial intermediation and hence stability.

In terms of discussion, our results in general confirm the theoretical and empirical literatures arguing that capital adequacy is a key element for banking stability. Consistent with Basel III in terms of the nature of capital buffers, higher-quality capital buffer Bangladesh; which result to a lesser probability of banks failure including systemic failure (Fidrmuc & Lind, 2020). For Bangladesh, a country where banks continue to grapple with asset quality issues and macroeconomic stress test additional capital would play the role of bulwark against financial shocks. The results indicate that banks with higher levels of capital above minimum regulation are more capable to survive over the long run. In sum, the study validates that capital adequacy is not a regulatory compliance issue but an essential component of banking stability in Bangladesh.

4.2. Discussions

The findings of this study provide strong empirical support for the role of both bank-specific and external factors in shaping capital adequacy and, ultimately, banking stability in Bangladesh. First, the results confirm that bank-specific determinants, namely profitability, asset quality, liquidity management, and bank size, have a significant positive influence on capital adequacy. This aligns with prior literature suggesting that profitable banks are better able to accumulate retained earnings, thereby strengthening their capital base. At the same time, improved asset quality reduces the burden of non-performing loans (NPLs), which otherwise erode capital through provisioning requirements. Liquidity management also emerges as a critical factor, as banks

with adequate liquidity buffers are less likely to liquidate assets under distress, thus preserving capital. While bank size shows a positive relationship, the findings suggest that size alone is not sufficient; rather, it must be supported by effective financial and risk management practices.

Second, regulatory frameworks, particularly the implementation of Basel III and the supervisory role of Bangladesh Bank, are found to significantly enhance capital adequacy. This indicates that stricter capital requirements, along with consistent monitoring, play a vital role in ensuring that banks maintain sufficient capital buffers. However, the findings also implicitly highlight the importance of reducing regulatory forbearance to ensure uniform compliance across different types of banks, including public, private, and Islami institutions.

Third, macroeconomic conditions such as GDP growth, inflation, and interest rate fluctuations are shown to have a substantial impact on banks' capital adequacy. Favorable economic conditions generally support profitability and loan performance, thereby strengthening capital positions. Conversely, adverse macroeconomic shocks can weaken banks' balance sheets, emphasizing the need for forward-looking capital planning and stress testing.

Furthermore, the study demonstrates that effective risk management practices—such as stress testing and internal risk assessment frameworks, significantly enhance banks' ability to maintain adequate capital buffers. This highlights the importance of proactive risk identification and mitigation in sustaining financial resilience, particularly in a dynamic and uncertain economic environment. Most importantly, the findings confirm a strong positive relationship between capital adequacy and banking stability. Banks with higher capital adequacy ratios are better equipped to absorb financial shocks, reduce the likelihood of failure, and maintain depositor confidence. This reinforces the view that capital adequacy is not merely a regulatory requirement but a fundamental pillar of a stable and resilient banking system.

Based on these findings, several important implications emerge. Strengthening regulatory enforcement is essential to ensure full compliance with Basel III standards and to minimize capital shortfalls. Banks should prioritize improving asset quality through stricter credit assessment, continuous loan monitoring, and effective recovery strategies to control NPL levels. Enhancing profitability through operational efficiency and cost management is equally important, as it provides a sustainable source of internal capital generation. In addition, banks need to adopt robust liquidity management frameworks, including maintaining high-quality liquid assets and implementing effective asset-liability management practices. Institutionalizing comprehensive risk management systems, such as enterprise risk management (ERM), regular stress testing, and Internal Capital Adequacy Assessment Process (ICAAP), is also crucial to anticipate and mitigate risks that may impact capital.

Finally, both policymakers and bank management should incorporate macroeconomic indicators into capital planning and strategic decision-making. Strengthening corporate governance and accountability, particularly in state-owned banks, is essential to ensure prudent capital management and long-term financial stability. Overall, this study underscores that capital adequacy is shaped by a combination of internal performance, regulatory discipline, and external economic conditions, and remains a central determinant of banking sector stability in Bangladesh.

5. Conclusion

The study finds that capital adequacy is a critical determinant influencing banking stability in Bangladesh; and it is affected by bank-specific, regulatory, as well as macroeconomic factors. The results showed that profit, asset quality, size of bank liquidity management and effective risk management were significant determinants of capital position within banks while the regulatory enforcement and macroeconomic domain also molded the capital adequacy output. Well-capitalized banks were found to be more resistant to financial shocks, better able to absorb loss and retain depositor confidence and long-run stability. This study also indicated the relevance of strong adherence to Basel III and vigilant regulatory oversight by Bangladesh Bank for a sound and stable banking system. On the whole, the findings suggested that capital adequacy has to be considered not only a regulatory mandate but also a strategic asset enhancing

resilience and sustainability, which pointed towards the policy-makers' and bank management's coordinated initiatives to improve existing capital structures so as to ensure long-run stability in Bangladesh banking.

References

- Abu-Dawas, M. (2024). Leveraging artificial intelligence for enhanced business operations: Challenges and opportunities. *Global Journal of Information Technology: Emerging Technologies*, 14(1), 14–21. <https://doi.org/10.18844/gjit.v14i1.9362>
- Adib, N. I. (2025). *Risk management in practice: analyzing capital adequacy and compliance under the Basel Accord at Bank Asia PLC*. Brac University.
- Adjei, A. A. F., Gatsi, J. G., Owusu Appiah, M., Abeka, M. J., & Owusu Junior, P. (2024). Financial globalization, governance and economic growth in Sub-Saharan Africa. *Journal of Financial Economic Policy*, 16(6), 801–824. <https://doi.org/10.1016/j.dsef.2025.100045>
- Agarwal, U. (2025). The Effect of Regulatory Changes on Banking Performance and Stability. *International Journal of Academic*, 1(2), 1–16. <https://doi.org/10.62823/mgm/ijaer/01.02.70>
- Agrawal, R., & Verma, A. K. (2024). Impact of digital payment systems on customer satisfaction in the banking industry: A study. *ShodhKosh Journal of Visual and Performing Arts*, 5(1), 2624–2633. <https://doi.org/10.29121/shodhkosh.v5.i1.2024.2777>
- Ahamed, F., & Chowdhury, M. A. R. (2025). Measuring the Macroeconomic and Financial Stability of Bangladesh. *ArXiv Preprint ArXiv:2507.20340*, 1(1), 53–66. [https://doi.org/10.57017/ajelg.v1.i1\(1\).03](https://doi.org/10.57017/ajelg.v1.i1(1).03)
- Akhter, N. (2023). Determinants of commercial bank's non-performing loans in Bangladesh: An empirical evidence. *Cogent Economics & Finance*, 11(1), 2194128. <https://doi.org/10.1080/23322039.2023.2194128>
- Akter, R., & Rahman, M. M. (2023). Capital market and its prospects and problems in Bangladesh. *Sch J Econ Bus Manag*, 10(03), 39–45. <https://doi.org/10.36347/sjebm.2023.v10i03.001>
- Alam, M. N., & Islam, K. M. Z. (2022). Profitability determinants of non-bank financial institutions under Basel regulations: Evidence from a frontier market. *Global Business Review*, 09721509221101102. <https://doi.org/10.1177/09721509221101102>
- Ambili, K. (2024). Strategic marketing interventions for sustainable economic development: a comprehensive analysis of innovative approaches and global case studies. *World J. Adv. Res. Rev*, 21, 1520–1528. <https://doi.org/10.30574/wjarr.2024.21.1.0046>
- Banerjee, P. K., Kayum, M. A., & Uddin, H. (2020). Financial sector development and its contribution to economic development of Bangladesh. In *Bangladesh's Economic and Social Progress: From a Basket Case to a Development Model* (pp. 147–178). Springer. https://doi.org/10.1007/978-981-15-1683-2_5
- Barai, M. K. (2020). Conclusion: Bangladesh's development—challenges to sustainability and the way forward. In *Bangladesh's Economic and Social Progress: From a Basket Case to a Development Model* (pp. 383–409). Springer. https://doi.org/10.1007/978-981-15-1683-2_13
- Baten, M. A. (2020). Recent Status of Capital Market Regulations in Bangladesh: Capital Market Regulations in Bangladesh. In *Foreign Direct Investments: Concepts, Methodologies, Tools, and Applications* (pp. 1464–1475). IGI Global Scientific Publishing. <https://doi.org/10.4018/978-1-7998-2448-0.ch065>
- Benink, H. (2020). Global bank capital and liquidity after 30 years of Basel accords. *Journal of Risk and Financial Management*, 13(4), 73. <https://doi.org/10.3390/jrfm13040073>
- De Souza, M. C. S., & De Souza, R. S. (2024). Law enforcement, social demands and reputation risks as drivers of compliance functions: a comparative analysis of the largest banks' disclosures in the UK and Brazil. *Crime, Law and Social Change*, 81(3), 255–280. <https://doi.org/10.1007/s10611-023-10116-8>
- Fidrmuc, J., & Lind, R. (2020). Macroeconomic impact of Basel III: Evidence from a meta-analysis. *Journal of Banking & Finance*, 112, 105359. <https://doi.org/10.1016/j.jbankfin.2018.05.017>

- Gazi, M. A. I., Nahiduzzaman, M., Harymawan, I., Masud, A. Al, & Dhar, B. K. (2022). Impact of COVID-19 on financial performance and profitability of banking sector in special reference to private commercial banks: empirical evidence from Bangladesh. *Sustainability*, 14(10), 6260. <https://doi.org/10.3390/su14106260>
- Hossin, M. S., & Hamid, M. K. (2024). Capital market performance and Bangladesh's economy: An empirical study. *Global Business Review*, 25(2_suppl), S165–S183. <https://doi.org/10.1177/0972150920982247>
- Kaya, P., Babuşcu, Ş., & Hazar, A. (2022). Basel II öncesi ve sonrası dönemde sermaye yeterliliğinin Türk mevduat bankalarının kârlılığı üzerindeki etkisi. *Afyon Kocatepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 24(2), 46–60. <https://doi.org/10.33707/akuiibfd.1128039>
- Kopteva, L., Ivanova, M., & Barinov, S. (2020). Staff education resource regarded as the capital asset of a company. *E3S Web of Conferences*, 210, 22037. <https://doi.org/10.1051/e3sconf/202021022037>
- Lyu, Y., & Wang, L. (2025). Assessing the Impact of Enhanced Capital Adequacy, Elevated Liquidity Ratios, Segregation of Banking Activities, and Restrictions on Bankers' Bonuses on Risk Management in Banks. *Frontiers in Business and Finance*, 2(01), 123–130. <https://doi.org/10.71465/fbf292>
- Sheikh, M. H. (2022). *How far has Basel III regulation affected the key banking sector variables in Bangladesh?* Nottingham Trent University (United Kingdom).
- Tasneem, S., & Ahmad, S. (2024). Economic Growth in Bangladesh: An Econometric Investigation. *International Journal of Research and Innovation in Social Science*, VIII(IIS), 2387–2400. <https://doi.org/10.47772/ijriss.2024.803175s>
- Veil, R. (2024). Efficient and Properly Functioning Capital Markets. *Regulating EU Capital Markets Union: Volume I: Fundamentals of a European Code*, 1, 123. <https://doi.org/10.1093/oso/9780192882660.003.0006>
- Yang, J. (2022). Deposit-lending synergies: Evidence from Chinese students at US universities. *Journal of Financial and Quantitative Analysis*, 57(5), 1960–1986. <https://doi.org/10.2139/ssrn.3073218>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).