

Letter of Transmission

20 April 2026

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Associate Professor

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Subject : Submission of an internship report “Determinants of Capital Adequacy Ratio of State owned Commercial Banks in Bangladesh”

Honorable Sir,

This is my pleasure to submit my internship report on Determinants of Capital Adequacy Ratio of owned state Commercial Banks in Bangladesh” Study on State owned Commercial Banks in Bangladesh” that has been prepared to fulfil my degree requirement. The enclosed report has been developed to provide a comprehensive overview of determinants of Banks Profitability of state-owned banks. I have completed my internship attachment period with Janata Bank Ltd. In order to prepare this research, I have gathered data from every source that is accessible in the most reputable and practical manner.

This report greatly assists me in applying my theoretical knowledge and concepts to an analysis of the mentioned topic, thereby refining my perspectives, ideas, and capacity to conduct additional research. I tried my hardest to prepare this report according to your instructions.

I sincerely thank you for your careful guidance and cooperation. I anticipate that you will acknowledge and value my endeavor. I would greatly appreciate your kind approval of this report.

Sincerely Yours,

.....

Ayesha Siddika Ripty

ID No:12117061

Session: 2020-2021

Department of Finance & Banking

Comilla University, Cumilla

Certificate of Supervisor

I am pleased to declare that Ayesha Siddika Ripty bearing the ID No: 12117061, Registration No: 12117061, a student of Finance and Banking Department at Comilla University was advised to perform a study on “Determinants of Capital Adequacy Ratio of Commercial Banks in Bangladesh” for writing an Internship Report.

This student has reviewed all the relevant materials and has conducted efforts practically in “Janata Bank Ltd” for three months to achieve practical knowledge regarding banking sector in Bangladesh. I have supervised her study from the very beginning as well as the preparation of the final report.

I also knowingly certify that the Internship Report is an original one and has not been submitted elsewhere previously for publication in any form.

.....

MD Amdadul Hoque

Associate Professor

Head of the Department

Department of Finance and Banking

Declaration of student

As a student enrolled in the Department of Finance and Banking at Comilla University, I, Ayesha Siddika Ripty, hereby affirm that the internship report entitled "Determinants of Capital Adequacy Ratio of Commercial Banks in Bangladesh" A Study on State-Owned Commercial Banks in Bangladesh" is an authentic piece of work that I have completed under the guidance and supervision of Amdadul Hoque, Associate Professor of the Department of Finance and Banking at Comilla University. I affirm that this report is a product of my own efforts. This report, in its current form, has not been submitted for any other degree or qualification in this or any other university or institution of learning. This internship report is submitted in partial fulfillment of the requirements for the completion of the Degree of Bachelor of Business Administration (BBA) at Comilla University. I hereby declare that the aforementioned work is a result of my individual endeavor and represents an original contribution.

I further declare that the information presented in this report is true and accurate to the best of my knowledge and belief. I understand that any false claim or deviation from these statements may lead to disciplinary actions as per the norms and regulations of Comilla University.

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Acknowledgement

At the very beginning I would like to express my deepest gratitude to Almighty for giving me the strength and the composure to finish the report. The submission of an internship report holds significant importance within the Bachelor of Business Administration (BBA) curriculum. It is a great pleasure to prepare an internship report on “Determinants of Capital Adequacy Ratio of Commercial Banks in Bangladesh”: A Study on State-Owned Commercial Banks in Bangladesh”. Foremost, I express my deepest gratitude to my supervisor MD Amdadul Hoque, Associate Professor, Department of Finance and Banking, Comilla University, whose guidance and insights were invaluable throughout the development of this re-port. In every phase of preparing the report, her supervision helped me a lot to complete this report.

Executive Summary

State-owned commercial banks (SOCBs) are of significant importance in numerous economies, particularly those in the developing world. The profitability of these banks is a topic of considerable interest due to its implications for the financial sector, government policy, and overall economic stability. This report, titled "Determinants of Capital Adequacy Ratio of Commercial Banks in Bangladesh" A Study on State-Owned Commercial Banks in Bangladesh", provides an in-depth analysis of the factors affecting the Capital Adequacy of state-owned banks in Bangladesh, a sector crucial for the country's financial stability and economic growth. Given the crucial role of these banks in the country's financial system and economy, understanding the factors influencing their profitability is of paramount importance. The main objective of this study is to analyze the impact of bank specific and macroeconomic factors on Capital Adequacy ratio of state-owned commercial banks in Bangladesh. This study focuses on a single dependent variable, namely Capital adequacy ratio which serves as an indicator of banks' Capital Adequacy Ratio. It also focuses on Five independent variables which are Return on Asset, Bank Size, Liquidity coverage ratio, Loan Growth, Loan to deposit ratio, financial risk and management efficiency as an indicator of bank specific factors.

The initial section of the report, referred to as the introduction, encompasses the chapter one and encompasses many components such as the background, problem statement, significance, scope, objectives, and limitations of the study. Chapter two of this study presents a literature review, which is an essential component. A compilation of the most pertinent and consequential scholarly works pertaining to the subject matter is assembled with the aim of offering a full examination of the discourse surrounding the topic and its respective authors. Chapter three provides an over-view of Janata Bank PLC. This chapter encompasses the bank's background, vision, mission, functions, objectives, management structure, values, and the range of services it offers. Additionally, the bank's corporate profile is encompassed within the aforementioned content. Chapter four of the study presents the methodology and conceptual framework of the study. This research is grounded in secondary data obtained from yearly reports, several journals, many web pages, as well as the websites of reputable institutions such as the World Bank, International Monetary Fund (IMF), and Bangladesh Bank. Data were collected from the financial statements of the selective state-owned commercial banks in Bangladesh from 2015-2024. In chapter five the study, the financial analysis and findings are presented. This chapter presents a range of statistical techniques, including descriptive statistics, correlation analysis, multicollinearity testing, and heteroscedasticity testing. The Hausman Test has been employed to determine the perfect model for analyzing the panel data of the given sample. Hence, the random effect regression model is deemed appropriate for the inquiry. From the regression analysis, it can be stated that capital adequacy ratio, Liquidity coverage ratio, Loan growth and Loan to deposit ratio have significant relationship with profitability of SOCBs in Bangladesh. Other variables have no significant relationship with profitability of SOCBs. The results and recommendations are presented in Chapter six's conclusion section. The study's results will also help the regulatory body to make suggestions about how SOCBs should run, which is important for maintaining Capital adequacy ratio and keeping the financial sector stable in Bangladesh. Several recommendations are provided that could potentially improve the current situation.

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Chapter 1

Introduction

The banking sector, a cornerstone of economic stability and growth, plays an instrumental role in the financial landscape of any country. In Bangladesh, this sector is particularly significant due to its direct impact on the nation's economic development and social progress. Among the various types of banking institutions operating within the country, state-owned commercial banks (SOCBs) hold a special place, not only due to their size and market share but also because of their unique challenges and opportunities.

This report, titled "Determinants of Capital Adequacy Ratio of State owned Commercial Banks in Bangladesh": A Study on State-Owned Commercial Banks in Bangladesh", develop into the crucial aspect of capital adequacy within these banks. This capability empowers organizations to enhance the quality of their services, make more substantial contributions to the economy, and exhibit resilience in the face of financial crises. In the context of Bangladesh, the attainment and sustenance of capital adequacy for state-owned commercial banks (SOCBs) is not solely a corporate goal, but also a crucial requirement for ensuring national economic stability. The measurement of bank capital adequacy ratio holds significant importance for several purposes, such as -evaluating the bank's operational effectiveness, pinpointing potential areas of enhancement, and facilitating well-informed decision-making in the realm of business. Scholars and professionals from various regions worldwide have shown keen interest in the subject of bank Capital adequacy ratio and its underlying determinants. Banks can achieve sustainable development and profitability by focusing on improving their performance in areas that are identified as the primary determinants of Capital adequacy ratio. This study aims to examine how macroeconomic determinants and bank-specific factors influence the performance of state-owned commercial banks in Bangladesh. According to Bangladesh Bank (Central Bank of Bangladesh), there are 3 SOCBs which are fully or majorly owned by the Government of Bangladesh. This study aims to examine the relationship between multiple factors and the capital adequacy of a selected of state-owned commercial banks in Bangladesh. The efficiency or profitability of a bank may be influenced by various internal and external factors. The internal determinants mostly center around bank-specific characteristics and are primarily shaped by the management decisions and policy objectives of a bank. The external variables, including the macroeconomic characteristics, are not directly associated with bank management. However, they do encompass the economic and legal environment that impacts the functioning and effectiveness of financial institutions. The report is organized in a manner that initially establishes a theoretical foundation by relying upon existing research pertaining to bank capital adequacy. Subsequently, this study provides an examination of diverse internal and external factors that may exert an impact on the adequacy ratio of State-Owned Commercial Banks (SOCBs) in Bangladesh. These factors encompass the capital adequacy ratio, loan growth, liquidity coverage ratio, bank size, loan to deposit, Non performing loan, ROA. This study adopts a thorough methodology that incorporates quantitative data analysis in order to gain a comprehensive understanding of the landscape of capital adequacy. The aim is to identify the

main factors that influence the capital of specific state owned commercial banks in Bangladesh throughout the period spanning from 2015-2024.

In conclusion, the report aims to offer valuable recommendations for bank managers, policymakers, and other stakeholders in the banking sector, aimed at enhancing the profitability and, consequently, the robustness of state-owned commercial banks in Bangladesh.

1.1 Background of the Study

State-owned commercial banks, in particular, have a significant presence in the financial landscape of Bangladesh, serving as key drivers of financial inclusion and economic development initiatives. Over the years, state-owned commercial banks in Bangladesh have faced numerous challenges and have been subject to various reforms and policy changes. While they have made substantial contributions to the nation's financial inclusion goals and socioeconomic development, there have been concerns regarding their capital adequacy and financial sustainability. A combination of external and internal factors influences the Capital adequacy of state-owned commercial banks. Funds from surplus units to deficit units in a nation's economy are typically mobilized in the banking industry. Since a bank is a financial intermediary, making money is its primary goal. Typically, the expression of bank profitability relates to both internal and external factors. The internal or bank specific variables which mostly determine bank profitability includes capital adequacy ratio, loan to deposit, liquidity coverage ratio etc. Although the profitability of the banking industry has been the subject of much research, studies that are particularly focused on SOCBs in Bangladesh are conspicuously lacking. The majority of current research either concentrates on private and foreign banks or tends to generalize findings across various bank types. Nonetheless, a focused study on SOCBs in Bangladesh is required due to their unique characteristics and difficulties. This study aims to address these concerns and fill the existing knowledge gap by examining the various factors that influence the profitability of state-owned banks in Bangladesh. By conducting a systematic analysis of these determinants, the study seeks to provide valuable insights that can inform policy decisions, regulatory reforms, and strategic initiatives aimed at enhancing the financial sustainability and profitability of state-owned banks in Bangladesh. As a mandatory requirement of the Degree of Bachelor of Business Administration (BBA), I was assigned to do my internship in Janata Bank PLC for a period of three months. From the practical knowledge, it has been possible to get an idea regarding banking operations. This report, “Determinants of capital adequacy ratio : A Study on State-Owned Commercial Banks in Bangladesh”, has been prepared to fulfill the partial requirement of the Degree of BBA as a mean of Internship Program. While preparing this report, it was not a difficult task to have in depth knowledge regarding this topic. The ultimate objective is to provide actionable insights that can contribute to the enhancement of profitability and efficiency in the SOCBs of Bangladesh, thereby supporting their role in the broader economic context of the country.

1.2 Problem Statement

The economic progress of Bangladesh is significantly influenced by the banking sector, wherein state-owned commercial banks (SOCBs) assume a central role. Nevertheless, these financial

institutions have had ongoing difficulties in upholding and improving their profitability. The significance of this matter is of utmost importance as it not only impacts the stability and efficacy of financial institutions but also carries wider ramifications for the overall national economy. State owned commercial banks in Bangladesh typically have development objectives, alongside doing similar operations as their private counterparts. As state-owned commercial banks are dominant in the financial sector of Bangladesh, capital adequacy is the essential element for development of the financial sector of the country as a whole.

Despite the importance of capital adequacy for the long-term sustainability of banks, there is a noticeable gap in understanding the specific factors and macroeconomic factors that influence the capital adequacy of SOCBs in Bangladesh. Therefore, it is essential to evaluate which bank-specific and macroeconomic determinants have more impact on the capital of as in the case of state-owned commercial banks. Several internal factors, such as capital adequacy ratio, loan growth, loan to deposit ratio, liquidity coverage ratio along with external factors like inflation rate, GDP growth rate, and real interest rate, are presumed to play significant roles. However, the nature and scope of a portion of their influence remain obscure. The absence of clarification in this matter impedes the capacity of policymakers and bank management to formulate efficient approaches to augment capital adequacy. Moreover, most existing studies on bank capital adequacy have predominantly focused on private or international banking sectors, leaving a research void concerning state owned banks in developing countries like Bangladesh. Given the unique challenges faced by SOCBs, it is essential to explore these determinants within the specific context of Bangladesh.

Therefore, this study aims to fill this gap by systematically investigating the determinants of capital adequacy ratio for state-owned commercial banks in Bangladesh. By identifying and analyzing these factors, the study seeks to contribute valuable insights that can aid in formulating more effective management strategies and policy interventions to bolster the profitability, financial performance and overall health of these crucial institutions in the Bangladeshi banking sector.

1.3 Significance of the Study

State-Owned Commercial Banks (SOCBs) play a vital role in the financial system of Bangladesh. Their capital adequacy is directly linked to the country's economic stability and growth. A study in this area can provide insights into the health of these banks, which are essential for the nation's economic development.

The study has some theoretical and practical significance. The theoretical significance of this study lies in adding to the existing body of literature on the determinants of bank capital adequacy ratio. This study will contribute to understanding how bank-specific factors such as capital adequacy ratio, loan growth rate, loan to deposit ratio, Liquidity coverage ratio and

macroeconomic factors such as inflation rate, GDP growth rate, and real interest rate impact the capital of state-owned commercial banks in Bangladesh. Furthermore, the practical significance of this study lies in its ability to provide insights that can be found from the findings of this study, that will offer valuable insights for the executives and managers of SOCBs.

Understanding the key factors that drive capital can guide strategic decision-making, operational improvements, and policy formulation, ultimately leading to enhanced efficiency and performance in these

The maintenance of public trust necessitates the presence of transparency in the financial performance of state-owned banks. Through the identification of factors that influence profitability, this study has the potential to enhance accountability and transparency in the operations of these organizations. The research has the potential to contribute to the existing body of knowledge in the subject of banking and finance. This might function as a point of reference for future research attempts and scholarly investigations in related fields. The long-term viability of state-owned banks relies heavily on the attainment of sustainable capital. Gaining insight into the factors that influence capital adequacy is crucial for ensuring the sustained longevity and contribution of organizations to the nation. A study on the determinants of banks' capital adequacy in state-owned banks in Bangladesh has far reaching implications for the country's economy, financial stability, policy formulation, risk management, and the well-being of its citizens. It can pave the way for informed decisions that strengthen the banking sector and contribute to Bangladesh's overall economic development.

1.4 Scope of the Study

The primary focus of the study is to identify and analyze the various determinants that influence the capital adequacy of state-owned commercial banks in Bangladesh. This report incorporates the impact of bank specific factors such as capital adequacy, loan growth ratio, liquidity coverage ratio, Bank size, ROA, Non performing loan and macro-economic factors such as real interest rate, GDP growth rate, inflation rate on profitability of SOCBs. It also consists of my observation and the experience I gained during the internship period. The study's scope and delimitations provide a framework for the researchers to ensure that they focus on the relevant factors that affect the return on equity of state-owned banks in Bangladesh. The following are the elements of scope and delimitations of the study of a comprehensive analysis of the determinants of state-owned bank profitability in Bangladesh. These elements define the boundaries and extent of the research and are critical to the study's success.

The study aims to identify the relationship between bank-specific and macroeconomic factors and the capital adequacy of state-owned banks in Bangladesh. The study considered data from selected state-owned banks from the financial statements of four state-owned banks in Bangladesh from 2015 to 2024. The main data sources for this research will primarily consist of secondary data sources. The study did not consider other banking systems or banks operating in other countries. The study is also limited to the period during which data is collected, and the findings may not be generalizable beyond this period.

1.5 Research Questions

1) What is the impact of Capital Adequacy Ratio (CAR) on the financial performance of commercial banks?

Answer: Capital Adequacy Ratio (CAR) plays a crucial role in determining the financial stability and performance of commercial banks. A higher CAR indicates that a bank has sufficient capital to absorb potential losses, which enhances depositor confidence and reduces the risk of insolvency. This financial strength allows banks to operate more efficiently and sustain profitability, often reflected through improved Return on Assets (ROA). However, excessively high CAR may limit banks' ability to invest in income-generating assets, potentially reducing profitability. Therefore, maintaining an optimal level of CAR is essential for balancing risk and return.

2) How does Capital Adequacy Ratio (CAR) influence the risk management and loan quality of banks?

Answer: Capital Adequacy Ratio (CAR) significantly influences a bank's risk management practices and loan quality. Banks with higher CAR are generally more cautious in their lending decisions, which leads to better credit risk management and a lower level of Non-Performing Loans (NPLs). Strong capital buffers enable banks to withstand financial shocks and reduce vulnerability during economic downturns. As a result, an adequate CAR contributes to improved asset quality, enhanced financial resilience, and overall banking sector stability.

1.6 Objectives of the Research

1.6.1 General objective

The main objective of this study is to analyze the impact of bank specific and macroeconomic factors on Capital Adequacy of selected State-Owned Commercial Banks (SOCBs) in Bangladesh.

1.6.2 Specific Objective

To assess the relationship between Capital Adequacy and Return on Asset of State-owned Commercial Banks (SOCBs) in Bangladesh.

- 1) To explore the relationship between Loan growth ratio and Capital Adequacy Ratio of State owned Commercial Banks (SOCBs) in Bangladesh.
- 2) To examine the relationship between Loan to deposit ratio and the Capital Adequacy of State-owned Commercial Banks (SOCBs) in Bangladesh.
- 3) To evaluate the relationship between liquidity coverage ratio and the Capital adequacy ratio of State owned Commercial Banks (SOCBs) in Bangladesh.
- 4) To assess the impact of Bank size on Capital Adequacy of State-owned Commercial Banks (SOCBs) in Bangladesh.

5) To evaluate the impact of non performing loan on capital adequacy of state owned banks in Bangladesh.

1.7 limitations

This study considers only a few selected commercial banks (e.g., Agrani, Janata, Sonali), which may not fully represent the entire banking sector of Bangladesh. So, the findings might not be generalizable to all banks. The analysis is based on data from 2015–2024 only. Changes outside this period are not captured, and recent economic shocks (like post-COVID effects) may not be fully reflected. All data are collected from annual reports.

Chapter 2

Literature review

Analyzing the impact of economic and bank-specific factors on bank capital adequacy has become a focal point in banking literature, especially in developing countries. Research scholars have approached this issue from different methodologies and inconclusive results (Obeid 2023). A substantial body of empirical research has examined the determinants of bank performance, particularly in relation to capital adequacy and Loan growth. Financial performance is commonly proxied by Return on Assets (ROA), while key explanatory variables include Capital Adequacy Ratio (CAR), loan-to-deposit ratio (LDR), loan growth, bank size, and liquidity indicators. These variables reflect banks' financial stability, operational efficiency, and risk exposure, which collectively influence capital adequacy.

To explore the relationship between capital adequacy and bank performance, Berger and Bouwman (2013) found that well-capitalized banks tend to perform better during both normal and crisis periods. Their study highlighted that higher capital levels enhance banks' resilience and positively impact Capital adequacy, indicating a strong link between CAR and ROA.

Similarly, Athanasoglou et al. (2008) analyzed bank-specific determinants of profitability and found that capital adequacy and bank size significantly influence financial performance. Larger banks benefit from economies of scale, which leads to improved efficiency and higher returns. The study also indicated that excessive risk-taking, reflected through loan expansion, may negatively affect profitability.

In the context of developing economies, Flamini et al. (2009) examined African banks and reported that liquidity and capital strength play a crucial role in determining profitability. Their findings suggest that higher liquidity levels reduce financial risk, while strong capital positions improve investor confidence and operational stability.

Furthermore, Tan and Floros (2012) investigated the impact of bank-specific variables on Capital adequacy and found that loan growth has a mixed effect. While moderate loan growth enhances income generation, excessive growth may increase default risk and reduce Capital adequacy. This highlights the importance of maintaining an optimal loan growth strategy.

Research by Sufian and Habibullah (2009) emphasized the role of the loan-to-deposit ratio (LDR) in bank performance. Their findings indicate that a higher LDR can improve Capital adequacy by increasing interest income; however, excessively high LDR levels may create liquidity risk and negatively affect financial stability.

Additionally, Vodová (2013) focused on liquidity determinants and found that liquidity coverage plays a significant role in ensuring bank stability and performance. Adequate liquidity buffers reduce the likelihood of financial distress and support sustainable Capital adequacy.

Despite the extensive literature, most prior studies have either focused on a limited set of variables or short-term datasets. There is a lack of comprehensive analysis incorporating capital

adequacy alongside variables such as loan-to-deposit ratio, loan growth, bank size, and liquidity coverage ratio, ROA and Non performing loan using recent panel data.

Therefore, this study aims to fill this research gap by examining the determinants of capital adequacy and their impact on financial performance (ROA) using panel data from 2015 to 2024. The study considers three state owned commercial banks—Agrani Bank, Janata Bank, Shonali Bank—with a total of 30 observations. By incorporating key independent variables including loan-to-deposit ratio, Return on Asset, loan growth, bank size, and liquidity coverage ratio, Non performing loan this research provides a comprehensive and updated analysis of bank performance in the context of Bangladesh. The findings are expected to contribute to both academic literature and policy-making by offering insights into the factors influencing banking sector stability and Capital adequacy.

Despite the extensive body of literature on bank profitability and capital adequacy, several important gaps remain unaddressed. First, most previous studies have primarily focused on developed economies or have used data from a single country without emphasizing the specific context of Bangladesh. Although a few studies have examined Bangladeshi banks, they often rely on older datasets or short time periods, limiting the relevance of their findings in the current financial environment.

Second, prior research has largely analyzed the impact of capital adequacy and profitability separately, with limited integration of other important bank-specific variables such as loan-to-deposit ratio, loan growth, bank size, and liquidity coverage ratio within a single comprehensive framework. As a result, the combined effect of these variables on financial performance (ROA) remains insufficiently explored.

Third, many earlier studies have employed cross-sectional or short panel data, which may not adequately capture the dynamic nature of banking performance over time. There is a lack of recent panel data analysis covering an extended period such as 2015–2024, which includes significant economic fluctuations and regulatory changes in the banking sector.

Finally, very limited studies have simultaneously examined multiple commercial banks—particularly a mix of state-owned and private banks—in a unified panel framework. This creates a gap in understanding how different types of banks respond to capital adequacy and other financial determinants.

Therefore, this study aims to fill these gaps by using panel data from 2015 to 2024 across three state owned commercial banks in Bangladesh, incorporating key variables such as capital adequacy ratio, loan-to-deposit ratio, loan growth, bank size, and liquidity coverage ratio to provide a more comprehensive and updated analysis of bank performance.

Chapter 3

Organizational Overview

3.1 Background of Janata Bank PLC



a) History of Janata Bank

With the emergence of Bangladesh as an independent, sovereign state in 1971 after a devastating nine-month war against the West Pakistani occupation army, a war, full of blood and tears, trauma and pain of millions of our beloved ones, the legacy of rebuilding the already broken financial base of the country was felt as an urgent call of the day against a collapsed economic reality of a newly born state.

b) Creation of the bank

In this backdrop, in order to rebuild the country's economy, measures had been taken to merge a number of banks previously operated in this region and make new banks and this initiative led to formation of Janata Bank in 1972 by combining the erstwhile United Bank Limited and Union Bank Limited under the Banks Nationalization Order (President's Order No. 26) of 1972.

c) Corporatization

In 15 November, 2007 Janata Bank got registered with the Joint Stock of Registrars and restructured it as a public limited company with the name Janata Bank Limited.

d) Roundup

Including overseas branches in United Arab Emirates Janata Bank runs its business with branches across the country having a big family of employees with its head office located at Janata Bhaban at Motijheel C/A, the heart of the capital city, Dhaka. Janata Bank PLC, a corporate body trusted over the years, the 2nd largest (in respect of Deposits/Assets) commercial bank in Bangladesh, has been playing pivotal role in overall financial activities of the country and is possessing a long heritage of discharging laudable services to the society since her embankment immediately after the emergence of this verdant rich alluvial soil as a sovereign, independent state. The contribution of the Bank to the national economy and social reform has set standard bar so high that others in this business can't help aspire touching the benchmark of success earned by JBL. More so a matter of great honor is that the contribution, commitment and success of the Bank have been recognized with a number of prestigious awards by national and international organizations of repute.

3.2 Vision of Janata Bank

The corporate vision of Janata Bank PLC is to become the largest commercial bank in Bangladesh to support the socio-economic development of the country and be a leading bank in South Asia.

3.3 Mission of Janata Bank

The corporate mission of Janata Bank PLC to be an efficient commercial bank that will maintain a stable growth strategy, providing high quality of financial products, offering brilliant customer service through a highly experienced management team and promising good corporate governance at every step of the banking network.

3.4 Functions of Janata Bank PLC

1. Deposit series from customers.
2. Cash transactions via client's current account.
3. Attending payments of tread and draft of customers
4. Account sanction
5. Loan sanction
6. Money transfer
7. Bills & Remittance sanction
8. Check & Clearing Services
9. Foreign Exchange Activities
10. Collecting extraordinary changes, activity dividends, rents, pension
11. Provide online services to the customers, etc.

3.5 Objectives of the Janata Bank PLC

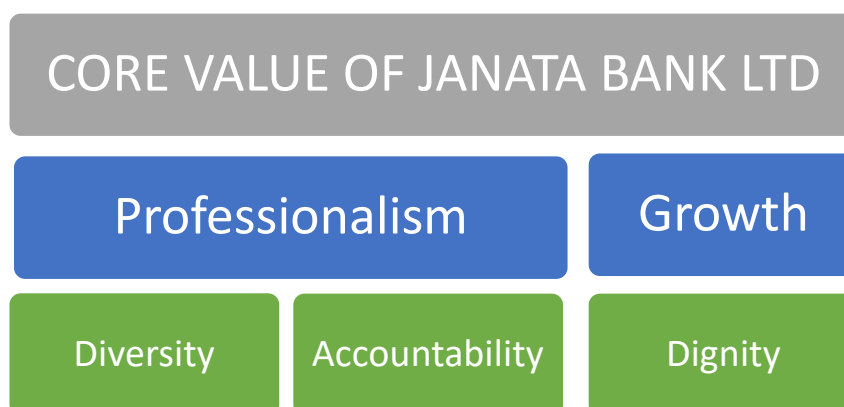
1. To earn customer satisfaction though diversified banking activities and introduction of innovation banking.

2. To improve the customer services in recent times by introducing a number of it based reform measure.
3. To maintain adequate liquidity to meet maturing obligation and commitments.
4. To remain one of the best banks in Bangladesh in terms of profitability and assets quality.
5. To maintain a healthy growth of business with desired image.
6. To ensure optimum utilization of all available resources.
7. To maintain adequate control systems and transparency in procedures.
8. To create medium of exchange and the increase the capital formation.
9. To expand trade and commerce.

3.6 Management

The management of the bank is vested on a Board of Directors, subject to overall supervision and directions on policy matters by the board that is constituted in terms of Bangladesh Bank (Nationalization) Order 1972. Board of Directors, constituted by 13 (Thirteen) members, has authority to organize, operate and manage its affairs on commercial consideration within the Board Policy of government. There are directors appointed by the government. Other members of the Board including M.D are also government appointed out of that at least three have the experience in the field of Finance, Banking, Trade, Commerce, Industry and Agriculture. The managing director is the chief executive of bank.

3.7 Values of Janata Bank



3.8 Corporate profile of Janata Bank PLC

FEATURES	VALUES
NAME	JANATA BANK
Genesis	Janata Bank PLC, the 2nd largest State Owned Commercial Bank (SCB) in Bangladesh, is playing pivotal role in overall financial activities of the country. The Bank emerged as 'Janata Bank' by combining the erstwhile United Bank Limited and Union Bank Limited under the Banks Nationalization Order (President's Order- 26) of 1972 and was restructured as a limited company in November, 2007. Since inception in 1972 the Bank has commendably contributed to the socio economic development of Bangladesh and helped structuring solid financial ground of the country as well. Janata Bank runs its business with 912 branches across the country including 4 overseas branches in United Arab Emirates.
Registered Address	Janata Bhaban, 110, Motijheel Commercial Area Dhaka - 1000, Bangladesh.
Legal status	Public limited company
Chairman	Dr .S.M. Mahfuzur Rahman
CEO and managing director	Md Abdul Jabbar
Company Secretary	Mansur-Ul Haque Md. Jahangir
Date of Incorporation	21 may 2007
Authorized Capital	BDT 30000 milion

Paid up Capital	BDT 23140 million
Face value per capital	BDT 100 per share
Shareholding pattern	100% share owned by the government of Bangladesh
Number of Employees	12745
Banking license obtained from Bangladesh Bank	31 may 2007
Phone	+88 02-223380029, +88 02-223380042, +88 02-223385042, +88 02223386142, +88 02-223350193
E-mail	md@janatabank-bd.com

Chapter 4

Methodology of the study

4.1 Sampling & Data Collection

The data included in the study has been gathered from both internal and external sources. I have conducted this study on selective state owned commercial banks in Bangladesh. One dependent and six independent variables have been selected. Data were collected from the annual reports of the selective state-owned commercial banks in Bangladesh from 2015 to 2024 and some external sources. The selected banks are Sonali Bank PLC, Janata Bank PLC, BASIC Bank Limited, Agrani Bank Limited.

4.2 Data Sources

The main data sources for this research were primarily consist of secondary data sources. Banks specific data were collected from internal sources of state-owned commercial banks in Bangladesh. Data were collected from the annual reports of the banks. Macroeconomic data were obtained from external sources, specifically the websites of the World Bank, International Monetary Fund (IMF), and Bangladesh Bank ,Langka bangla.

4.3 Method of Data Analysis

To analyze and present the numerical data and values associated with this study, STATA 15 software have been used. To analyze the data and present the result descriptive statistics and correlation matrix among the variables have been used and finally fit a regression model which will give the appropriate result about the study. The multicollinearity test has evaluated whether predictor variables are correlated, the Breusch-Pagan test for heteroscedasticity has been used to determine autocorrelation in the model. The Hausman Test has been used to specify the model. Finally, the random effects regression model has been used to estimate the effect of intrinsic characteristics of individuals in the panel data set. The specific model has been established to express the relationship between dependent variable and independent variables taken for the study.

4.4 Model Development

The general model attempted to measure the relationship between the dependent variable (bank Capital adequacy ratio) and the independent variables (bank specific and macroeconomic factors). The specification of bank specific and macroeconomic determinants of profitability of state owned commercial banks were formulated through the following equation:

$$CAR_it = \beta_0 + \beta_1 LG_it + \beta_2 LDR_it + \beta_3 LCR_it + \beta_4 ROA_it + \beta_5 NPL_it + \varepsilon_it$$

Where,

Explanation

CAR = Capital Adequacy Ratio of bank i at time t

β_0 = Constant term

$\beta_1 - \beta_5$ = Coefficients of independent variables

LG $_{it}$ = Loan Growth

LDR $_{it}$ = Loan to Deposit Ratio

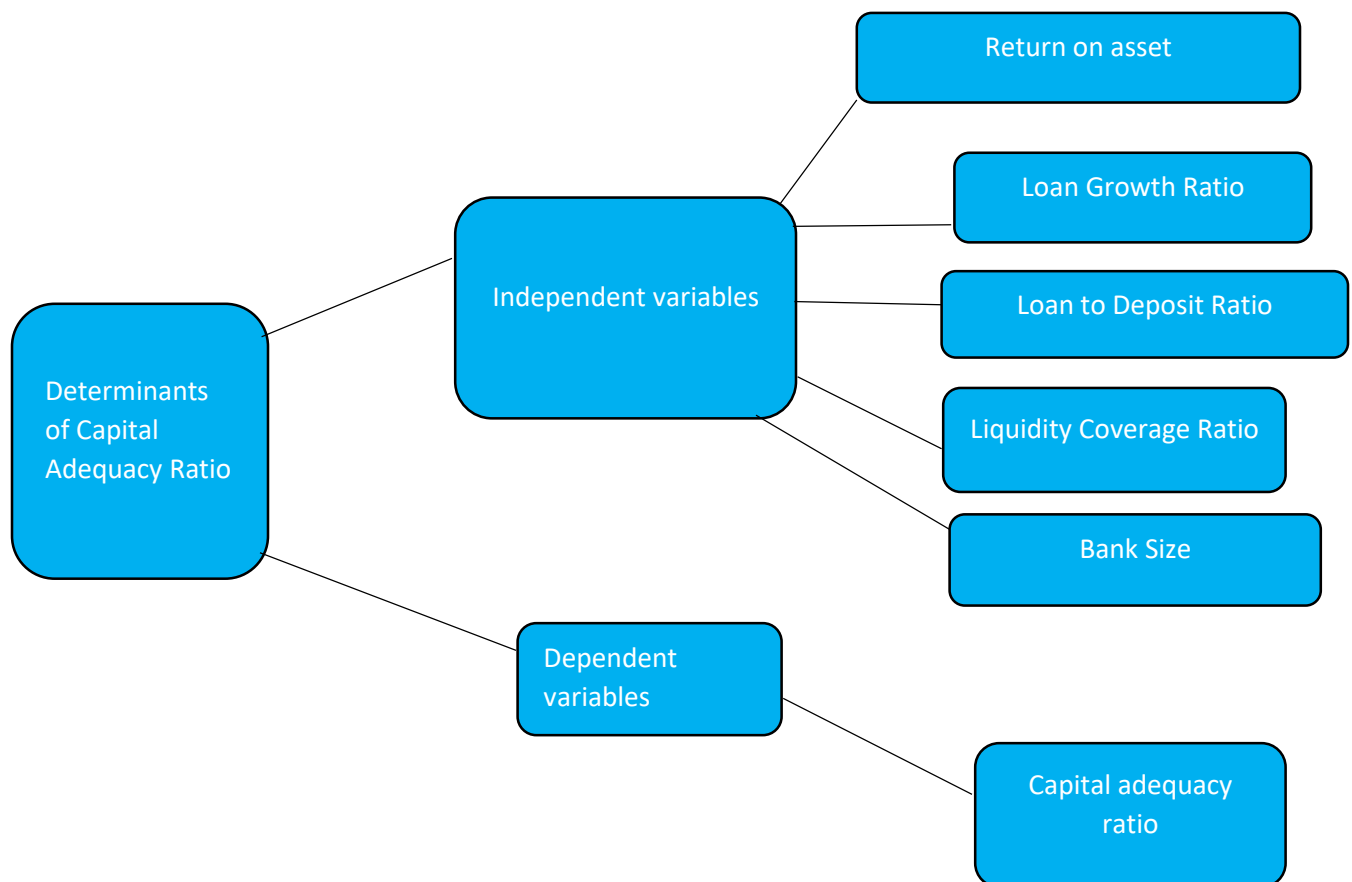
LCR $_{it}$ = Liquidity Coverage Ratio

ROA $_{it}$ = Return on Assets

NPL $_{it}$ = Non-performing Loan Ratio

ϵ_{it} = Error term

4.5 Conceptual Framework



Description of variables

Capital Adequacy Ratio (CAR) = Measures a bank's capital strength to absorb risk.

Loan Growth Ratio (LGR) = Indicates the rate of increase in bank lending.

Loan to Deposit Ratio (LDR) = Shows the proportion of loans given from deposits.

Liquidity Coverage Ratio (LCR) = Measures the ability to meet short-term obligations.

Bank Size= Represents the total assets of the bank.

Return on Assets (ROA) = Measures how efficiently a bank generates profit from assets.

4.6 Research Hypothesis

To get a clear sense of determinants of banks Capital adequacy of the selected state-owned banks in Bangladesh, the study is examining the six hypotheses that were generated based on existing results in the literature. Here the dependent variable ROE is taken as proxy of the profitability of banks. Therefore, the study investigates the seven following hypotheses:

H_{1a}: Capital adequacy ratio has a significant effect on ROA.

H_{1b}: Loan growth ratio has a significant effect on ROA.

H_{1c}: Loan to deposit ratio has a significant effect on ROA.

H_{1d}: Liquidity coverage ratio has a significant effect on ROA.

H_{1e}: Bank size has a significant effect on ROA

Chapter 5

5.1 Description Statistics

The study presents the descriptive statistics of the variables utilized, including return on asset, non-performing loan ratio, Bank size, Loan to deposit, Liquidity coverage ratio and Capital adequacy ratio. These statistics encompass the mean and standard deviation of the selected variables, derived from the data collected between 2015 and 2024. The table below presents the summary statistics for a set of 30 observations. A summary of descriptive statistics of seven factors have been determined using STATA 15.

Summery Statistics

	Mean
Wcar	8.934
Wlg	12.7
Wldr	75.437
Wlcr	279.81
Wsize	11.646
Wroa	.452
Wnpl	16.777

Stats	Wcar	Wlg	Wldr	Wlcr	Wsize	wroa	Wnpl
Mean	8.934	12.69967	75.437	279.8103	11.64633	.452	16.77667
Max	10.69	34.83	108.33	539.08	12.11	.68	25.2
Min	1.86	2.21	40	102.09	11.04	.25	7.5
SD	2.389306	9.290317	18.41528	140.5088	.3460565	.1182458	6.034595
Range	8.83	32.62	68.33	436.99	1.17	.43	17.7
Kurtosis	6.021651	3.062238	2.377062	2.030608	2.092933	2.351591	1.672032
Skewness	- 2.016454	.8155118	.01473	.5063567	- .0973544	.2581835	- .2396771
P5	10.045	11.265	77.445	235.715	11.695	.45	18

Source : stata calculation

Interpretation: Here dependent variable is Capital adequacy ratio and independent variables are Return on Asset (ROA), Non-Performing Loan Ratio (NPLR), Bank size (BS), Liquidity Coverage Ratio(LCR), Loan to Deposit ratio (LDR) and data are collected from 2015-2024 of selected state-owned commercial banks in Bangladesh.

We know that, a low SD indicates that the values tend to be close to the mean or expected value. On the other hand, a higher SD indicated the value are spread out over a wide range. Descriptive statistics are conducted to state the mean differences among the variables within the observed period; and the descriptive results of these measures are reported and the mean value of CAR is 8.934; while the standard deviation is 2.389306. Here the higher SD indicated the value are spread out over a wide range.

From the above result we can see the mean of CAR is 8.934 and its standard deviation is 2.389306

The mean of NPI is 16.77667 and its standard deviation is 6.034595, meanwhile, the mean of ROA is .452 and its standard deviation is .1182458 . On the other hand, the mean of BS is 11.64633 and its standard deviation is .3460565 . From the above result we can also see the mean of macroeconomic factors like LCR is .3460565 and its standard deviation is .3460565 , meanwhile, the mean of LG is 75.437 and its standard deviation is 9.290317. On the other hand, the mean of CAR is 8.934 and its standard deviation is 2.389306.

5.2 Correlation Analysis

Correlation analysis is a statistical method used to quantify the extent of the relationship between variables. The numerical metric presented above characterizes the extent of correlation between two variables.

Pairwise Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) wcar	1.000						
(2) wlg	0.182 (0.33)	1.000					
(3) wldr	-0.140 (0.46)	0.081 (0.66)	1.000				
(4) wlcrr	0.462 (0.01)	0.190 (0.31)	-0.316 (0.08)	1.000			
(5) wsize	-0.184 (0.33)	0.042 (0.82)	0.750 (0.00)	-0.083 (0.66)	1.000		
(6) wroa	0.224 (0.23)	-0.056 (0.77)	-0.631 (0.00)	0.259 (0.16)	-0.706 (0.00)	1.000	
(7) wnpl	0.404 (0.02)	-0.052 (0.78)	0.534 (0.00)	0.130 (0.49)	0.558 (0.00)	-0.590 (0.00)	1.000
***p<0.01, **p<0.05, *p<0.1							

The table represents the correlation between the independent variables and the dependent variable. The matrix of correlation coefficients shows that the strength and direction of the linear relationship among the study variables, including the dependent variable (WCAR) and the independent variables (WLG, WLDR, WLCR, WSIZE, WROA, and WNPL). The results indicate that WCAR has a positive correlation with WLG ($r = 0.182$) and WROA ($r = 0.224$), suggesting that higher loan growth and profitability are associated with higher capital adequacy. However, these relationships are statistically insignificant. In contrast, WCAR shows a statistically significant positive correlation with WLCR ($r = 0.462$, $p < 0.05$) and WNPL ($r = 0.404$, $p < 0.05$), indicating that liquidity coverage and non-performing loans have a meaningful positive association with capital adequacy.

On the other hand, WCAR is negatively correlated with WLDR ($r = -0.140$) and WSIZE ($r = -0.184$), although these relationships are not statistically significant. This implies that loan-to-deposit ratio and bank size may have a weak inverse relationship with capital adequacy.

Among the independent variables, several notable relationships are observed. WSIZE has a strong positive correlation with WLDR ($r = 0.750$, $p < 0.01$), indicating that larger banks tend to have higher loan-to-deposit ratios. Additionally, WROA is significantly negatively correlated with WLDR ($r = -0.631$, $p < 0.01$) and WSIZE ($r = -0.706$, $p < 0.01$), suggesting that higher bank size and loan intensity may reduce profitability.

Furthermore, WNPL is positively and significantly correlated with WLDR ($r = 0.534$, $p < 0.01$) and WSIZE ($r = 0.558$, $p < 0.01$), while it is negatively correlated with WROA ($r = -0.590$, $p < 0.01$). This implies that higher non-performing loans are associated with lower profitability and higher lending exposure.

Overall, the correlation results indicate that while some variables exhibit moderate relationships, there is no evidence of severe multicollinearity among the independent variables, as most correlation coefficients are below the threshold of 0.80. Therefore, the variables are suitable for further regression analysis.

5.3 Data testing

5.3.1 Multicollinearity test

The Variance Inflation Factors (VIF) Test is used to assess the presence of multicollinearity in the gathered data. In order to evaluate the necessity of addressing multicollinearity, it is essential to ascertain the variables that are influenced by it and the extent of their association. Fortunately, researchers have the ability to assess multicollinearity in their regression models with a simple test. The variance inflation factor (VIF) determines the strength of the association between independent variables. If the VIFs are less than 10 which mean it there will be no multicollinearity.

Variance Inflation Factor

VIF	1/VIF
3.260	0.307
3.180	0.315
2.730	0.367
2.190	0.457
1.710	0.584
1.160	0.865
2.370	

According to the test, there will be no multicollinearity if the VIF value becomes less than 10. Hence, the base is 10 in this case. If the VIF value becomes greater than 10, there will be multicollinearity. Based on the VIF test results shown in the table, there is no evidence of multicollinearity.

5.4 Multiple regression analysis and interpretation

A multiple linear regression model has been used to conduct the determinants of Capital adequacy of selected state owned banks in Bangladesh. Capital adequacy is considered a proxy of Capital adequacy as a dependent variable (Y) and an independent variable as Loan to deposit, non-performing loan ratio, Loan growth, Liquidity coverage ratio, inflation rate, Bank size and Return on Asset ($x_1, x_2, x_3 \dots$) consecutively. To achieve the objective of the report, the following model is used for the regression:

$$Y (\text{CAR}) = a + \beta_1(\text{ROA}) + \beta_2(\text{NPLR}) + \beta_3(\text{BS}) + \beta_4(\text{LDR}) + \beta_5(\text{LR}) + \beta_6(\text{LCR})$$

Linear regression

Wcar	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Wlg	.064	.035	1.81	.083	-.009	.136	*
Wldr	-.01	.029	-0.35	.728	-.071	.05	
Wlcr	.002	.003	0.78	.445	-.004	.008	
Wsize	-1.916	1.583	-1.21	.239	-5.191	1.359	
Wroa	9.618	4.24	2.27	.033	.847	18.39	**
Wnpl	.348	.074	4.67	0	.194	.502	***
Constant	20.42	18.162	1.12	.272	-17.15	57.99	
Mean dependent var		8.934	SD dependent var		2.389		
R-squared		0.628	Number of obs		30		
F-test		6.484	Prob > F		0.000		
Akaike crit. (AIC)		120.676	Bayesian crit. (BIC)		130.485		

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

5.4.1 Model Specification Test

Regression results

Wcar	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Wlg	.064	.035	1.81	.07	-.005	.133	*
Wldr	-.01	.029	-0.35	.725	-.068	.047	
Wlcr	.002	.003	0.78	.437	-.003	.008	
Wsize	-1.916	1.583	-1.21	.226	-5.019	1.187	
Wroa	9.618	4.24	2.27	.023	1.308	17.929	**
Wnpl	.348	.074	4.67	0	.202	.494	***
Constant	20.42	18.162	1.12	.261	-15.176	56.016	
Mean dependent var		8.934	SD dependent var		2.389		
Overall r-squared		0.628	Number of obs		30		
Chi-square		38.905	Prob > chi2		0.000		
R-squared within		0.579	R-squared between		0.910		

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

The regression results examine the impact of independent variables on CAR.

Loan Growth (LG) has a positive coefficient (0.064) and is statistically significant at the 10% level, suggesting a weak positive influence on CAR. Loan to Deposit Ratio (LDR) and Liquidity Coverage Ratio (LCR) are not statistically significant, indicating no strong impact on capital adequacy.

Bank Size (SIZE) shows a negative but insignificant effect, implying that larger banks do not necessarily maintain higher capital levels.

Return on Assets (ROA) has a positive and statistically significant effect ($p < 0.05$), indicating that more profitable banks tend to maintain higher capital adequacy.

Non-Performing Loans (NPL) have a strong positive and highly significant effect ($p < 0.01$), suggesting that banks increase capital buffers in response to higher credit risk.

The model explains 62.8% of the variation in CAR ($R^2 = 0.628$), and the overall model is statistically significant (Prob > F = 0.000).

Regression results

Wcar	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Wlg	.064	.033	1.94	.066	-.005	.133	**
Wldr	.013	.032	0.40	.691	-.054	.079	
Wlcr	.002	.003	0.63	.538	-.004	.007	
Wsize	-8.678	3.6	-2.41	.025	-16.164	-1.191	**
Wroa	-6.223	8.432	-0.74	.469	-23.758	11.312	
Wnpl	.224	.173	1.29	.21	-.136	.584	
Constant	106.791	45.649	2.34	.029	11.859	201.724	**
Mean dependent var		8.934	SD dependent var		2.389		
R-squared		0.649	Number of obs		30		
F-test		6.482	Prob > F		0.000		
Akaike crit. (AIC)		114.089	Bayesian crit. (BIC)		123.897		

5.4.2 Hausman Test

The Hausman Test has been used to select the perfect model to analyze the panel data of the sample. Therefore, to select appropriate model, a null hypothesis and an alternative hypothesis need to be determined as below.

H0: Random effect model is appropriate

H1: Fixed effect model is appropriate

As if p-value of chi2 becomes greater than 5%, then alternative hypothesis should be rejected.

Hence, null hypothesis will be accepted and vice versa.

Hausman (1978) specification test

	Coef.
Chi-square test value	4.534
P-value	.104

5.5 Major Findings and Discussion

The regression results examine the impact of independent variables on CAR.Loan Growth (LG) has a positive coefficient (0.064) and is statistically significant at the 10% level, suggesting a weak positive influence on CAR. Loan to Deposit Ratio (LDR) and Liquidity Coverage Ratio (LCR) are not statistically significant, indicating no strong impact on capital adequacy.

Bank Size (SIZE) shows a negative but insignificant effect, implying that larger banks do not necessarily maintain higher capital levels.

Return on Assets (ROA) has a positive and statistically significant effect ($p < 0.05$), indicating that more profitable banks tend to maintain higher capital adequacy. Non-Performing Loans (NPL) have a strong positive and highly significant effect ($p < 0.01$), suggesting that banks increase capital buffers in response to higher credit risk. The model explains 62.8% of the variation in CAR ($R^2 = 0.628$), and the overall model is statistically significant ($\text{Prob} > F = 0.000$).

H1: Loan Growth (LG) has a significant effect on CAR

The results show that LG has a positive but weakly significant effect (at 10% level) on CAR. Therefore, H1 is partially supported. This suggests that loan expansion slightly improves capital adequacy, but the effect is not strong.

H2: Loan to Deposit Ratio (LDR) has a significant effect on CAR

LDR is found to be statistically insignificant. Therefore, H2 is not supported. This indicates that lending relative to deposits does not significantly influence capital adequacy.

H3: Liquidity Coverage Ratio (LCR) has a significant effect on CAR

LCR does not show a significant relationship with CAR. Hence, H3 is rejected. This implies that liquidity strength does not directly impact capital adequacy.

H4: Bank Size (SIZE) has a significant effect on CAR

SIZE shows a negative effect and becomes significant in the final model. Thus, H4 is supported. This suggests that larger banks tend to maintain lower capital ratios, possibly due to greater risk-taking capacity or implicit support.

H5: Return on Assets (ROA) has a significant effect on CAR

ROA has a positive and statistically significant impact on CAR. Therefore, H5 is supported. This indicates that profitability strengthens capital adequacy through retained earnings.

H5: Return on Assets (ROA) has a significant effect on CAR

ROA has a positive and statistically significant impact on CAR. Therefore, H5 is supported. This indicates that profitability strengthens capital adequacy through retained earnings.

Decisions

Hypothesis	Decision
H01(Loan growth to CAR)	Weak significant relationship
H02 (Loan to deposit ratio to CAR)	No significant relationship
H03 (Liquidity coverage ratio to CAR)	No significant relationship
H04 (Bank size to CAR)	Significant Relationship
H05 (Return on Asset to CAR)	Significant Relationship
H06 (Non performing loan to CAR)	Significant Relationship

Chapter 6

6.1 Conclusion

In conclusion, this report on the determinants of bank Capital Adequacy Ratio, with a specific focus on selected state-owned commercial banks in Bangladesh, has provided significant insights. It has been established that factors such as capital adequacy, non-performing loan ratio, Return on Asset, Loan Growth, Loan to Deposit Ratio, Liquidity Coverage Ratio and Bank Size play a critical role in shaping the Capital Adequacy of these banks.

The study suggests that improving management practices, enhancing credit quality, reducing non performing loan and maintaining a robust capital base are essential for boosting Capital Adequacy. Moreover, the study underscores the importance of a stable macroeconomic environment, suggesting that policy interventions aimed at economic stability could positively impact the banking sector's performance.

From the results of regression analysis where the interactions of independent variables in relation with dependent variable are presented. It can be stated that there exists a significant relationship between bank-specific factors such as the ROA, non-performing loan ratio, and Liquidity coverage ratio, and the Capital Adequacy of state-owned commercial banks (SOCBs) in Bangladesh. However, it is observed that factors specific to banks, such as managerial efficiency, and macroeconomic determinants, such as the Loan to deposit, do not exhibit a statistically significant relationship with the Capital adequacy of state-owned commercial banks (SOCBs) in Bangladesh. In summary, while state-owned commercial banks in Bangladesh face distinct challenges, strategic measures focusing on internal efficiencies and external economic conditions could significantly enhance their Capital adequacy and contribute to the broader economic stability of the country. This report serves as a roadmap for policymakers, bank management, and stakeholders, offering actionable insights for driving growth and sustainability in the banking sector. The study's results will also help the regulatory body to make suggestions about how SOCBs should run, which is important for keeping the financial sector stable in Bangladesh.

6.2 Recommendations

Based on the findings on the determinants of Capital Adequacy Ratio (CAR) in Bangladesh, the following recommendations are proposed:

1) Improve Profitability (ROA)

Since ROA has a significant positive impact on CAR, banks in Bangladesh should enhance profitability through better asset utilization, cost efficiency, and diversification of income sources. Strong profitability will help banks maintain higher capital through retained earnings.

2) Reduce Non-Performing Loans (NPL)

NPL is a key determinant of CAR. Banks should strengthen credit risk management by implementing strict loan appraisal, continuous monitoring, and efficient recovery systems. Reducing NPL will improve financial stability and reduce pressure on capital.

3) Ensure Balanced Loan Growth

Although loan growth shows a weak effect, banks should avoid excessive or risky lending. Loan expansion should be based on proper risk assessment to maintain a stable capital position.

4) Manage Loan to Deposit Ratio (LDR) Efficiently

Even though LDR is not statistically significant, maintaining an optimal balance between loans and deposits is important. Banks should avoid excessive lending beyond deposit capacity to reduce liquidity risk.

5) Strengthen Liquidity Management (LCR)

Liquidity Coverage Ratio (LCR) does not directly affect CAR, but strong liquidity is essential for overall financial stability. Banks should maintain adequate high-quality liquid assets to meet short-term obligations.

6) Monitor Bank Size and Risk-Taking Behavior

Since bank size shows a negative relationship with CAR, larger banks in Bangladesh should be more cautious in risk-taking. Regulators should closely monitor large banks to ensure they maintain sufficient capital buffers.

7) Strengthen Regulatory Framework

Bangladesh Bank should ensure strict compliance with Basel III capital requirements. Regular monitoring, stress testing, and supervision should be enhanced to maintain adequate capital levels across banks.

8) Adopt Risk-Based Capital Planning

Banks should adopt forward-looking, risk-based capital planning strategies to align capital levels with risk exposure, ensuring long-term financial sustainability.

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