

**This Report is Submitted for partial fulfillment of the requirements for the
Degree of Bachelor of Business Administration (BBA)**



An Internship Report

On

“Impact of Credit Risk on Financial Soundness of Commercial Bank in Bangladesh”

Supervised By:

Dr. Mohammad Jashim Uddin

Lecturer

Department of Finance and Banking

Comilla University, Cumilla.

Prepared BY

Habibulla Ekram

Class ID: 12117021

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Department of Finance and Banking,

Comilla University, Cumilla

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Department of Finance and Banking

Comilla University, Cumilla

Letter of Transmittal

20th April 2026

Dr. Mohammad Jashim Uddin

Lecturer and Supervisor

Department of Finance & Banking

Faculty of Business Studies

Comilla University, Cumilla

Subject: **“Impact of Credit Risk on Financial Soundness of Commercial Banks in Bangladesh”**

Respected Sir,

With due respect, I am reporting your giving titled **“Impact of Credit Risk on Financial Soundness of Commercial Banks in Bangladesh”** assigned as my topic and it is a mandatory requirement for BBA program. I have tried my best to do the report properly considering every trifle thing you advised and make the report in a fascinating way. Finally, I would like to express my sincere appreciation and thanks for your help while preparing the report. I shall be glad to answer any queries that you may have in this regard.

Sincerely Yours,

Habibulla Ekram

Class ID: 12117021

Session: 2020-21

Bachelor of Business Administration

Department of Finance and Banking

Comilla University, Cumilla

Acknowledgement

Firstly, I would like to express my deep gratitude to all mighty Allah for keeping me physically fit and mentally alert to prepare this report.

I would like to express my sincere gratitude & appreciation to my supervisor Dr. Mohammad Jashim Uddin Lecturer, Department of Finance & Banking Comilla University, Cumilla, who has been glad to give me right approach, guidance and support which helped me a lot in writing this report. I am grateful to him for her constant help and supervision, proposals. Without her help and guidelines, it is difficult for me to complete the report.

Next to him, my parents, whom I am greatly indebted to me, brought up with love and encouragement on this stage. Without their contribution, it would not be possible for me to complete the project report as well as my BBA program also.

It was not the easiest task to complete the report on “Impact of Credit Risk on Financial Soundness of Commercial Banks in Bangladesh”, where all the information needs to be gathered properly, analyzed, and represent in a descriptive manner. There are so many individuals who have helped and encouraged to complete the report successfully.

Finally, I pay my obligation to those websites that helped me by providing a lot of information. Without this help, it will be so tough for me to complete my report or to reach my destination.

Student Declaration

Myself, Habibulla Ekram , student of Bachelor of Business Administration, Department of Finance and Banking, Comilla University, do hereby declare that the Internship Report on “**Impact of Credit Risk on Financial Soundness of Commercial Banks in Bangladesh**” uniquely prepared by me after the completion of three months working at Sonali Bank PLC. I also confirm that the report is only prepared for my academic requirements and didn't submit this report any other place before. I also assure you that; this report was not submitted for any other degree.

Habibulla Ekram

Class ID: 12117021

Session: 2020-21

Bachelor of Business Administration

Department of Finance and Banking

Comilla University, Cumilla

Supervisor's Certificate

This is to certify that Habibulla Ekram , ID NO- 12117021, a student of the Bachelor of Business Administration (BBA) Program at Comilla University, has completed the internship report under my supervision. He has worked at Sonali Bank PLC as an intern and completed the report entitled — **“Impact of Credit Risk on Financial Soundness of Commercial Banks in Bangladesh”** as a partial requirement for obtaining a Bachelor of Business Administration (BBA) Degree. He has completed the report by himself. He has been permitted to submit the report.

I wish his success.

.....

Dr. Mohammad Jashim Uddin

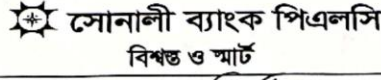
Lecturer

Department of Finance and Banking

Faculty of Business Studies

Comilla University, Cumilla

Certificate



Ref: SBPLC/Com.Corp/Internship 1674
Date: 19/04/2026

To Whom It May Concern

This is to Certify that Habibulla Ekram (Reg: 12117021), Student of BBA Program at Comilla University, Cumilla has successfully completed internship Program from our branch. The title of his internship program is "*Impact of Credit risk on Financial soundness of Commercial Bank in Bangladesh*". It is to be mentioned that he started his internship on 18/01/2026 and completed the same on 18/04/2026.

We wish him every success in life.

(Kazi Syedur Rahman)
Assistant General Manager
Sonali Bank PLC.
Cumilla Corporate Branch,
Cumilla.

www.sonalibank.com.bd

কুমিল্লা কর্পোরেট শাখা, কুমিল্লা। সোনালী ব্যাংক ভবন, মনোহরপুর, কোতয়ালী, কুমিল্লা
01730092496, 02334437512, E-
mail: comillacorp@sonalibank.com.bd

হটলাইন: ১৬৬৩৯,
+৮৮০৯৬১০০১৬৬৩৯

Executive Summary

This study examines the impact of credit risk on the financial soundness of commercial banks in Bangladesh using panel data analysis with the STATA software. Financial soundness is primarily measured by Return on Equity (ROE), while key credit risk indicators include Non-Performing Loans (NPL), Loan Loss Provision Ratio (LLPR), and Loan-to-Deposit Ratio (LDR). In addition, Capital Adequacy Ratio (CAR), Capital to Risk-Weighted Assets Ratio (CRAR), and macroeconomic condition represented by GDP growth are incorporated to provide a comprehensive assessment.

The analysis is based on secondary data collected from annual reports of selected commercial banks over a specified time period. The study applies econometric techniques such as descriptive statistics, correlation analysis, and regression modeling to identify the relationship between credit risk variables and bank performance.

The findings suggest that credit risk has a significant influence on the financial stability of banks. Specifically, higher levels of NPL and LLPR negatively affect ROE, indicating that poor credit quality reduces profitability and weakens financial soundness. On the other hand, LDR shows a mixed effect, implying that while increased lending can enhance returns, excessive lending may expose banks to higher risk. CAR and CRAR are found to have a positive relationship with financial soundness, highlighting the importance of maintaining adequate capital buffers to absorb potential losses. GDP growth also plays a supportive role, as favorable economic conditions contribute to improved loan performance and overall banking stability.

Overall, the study concludes that effective credit risk management is crucial for ensuring the financial health of commercial banks in Bangladesh. Banks should strengthen their loan monitoring systems, maintain optimal capital levels, and adopt prudent lending policies to minimize default risk. The results of this study provide useful insights for bank management, policymakers, and regulators in formulating strategies to enhance the resilience and sustainability of the banking sector.

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Chapter One

Introduction

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1.1 Introduction

The banking sector plays a crucial role in supporting the economic progress of Bangladesh by facilitating savings, mobilizing funds, and channeling investments into productive activities. As key financial intermediaries, commercial banks contribute significantly to economic stability and growth. However, their overall performance and sustainability largely depend on how effectively they manage different types of financial risks, particularly credit risk. Credit risk arises when borrowers fail to meet their repayment obligations within the agreed terms, which directly affects a bank's income, liquidity position, and overall financial condition. In recent years, the increasing level of non-performing loans (NPLs) has emerged as a major challenge for the banking industry in Bangladesh. A higher volume of defaulted loans not only reduces profitability but also weakens the confidence of investors and depositors, thereby threatening the stability of the financial system (Islam, 2018; Noman et al., 2015).

The relationship between credit risk and financial soundness has therefore become a significant area of concern for both policymakers and financial institutions. Financial soundness is often evaluated using indicators such as Return on Equity (ROE), which reflects how efficiently banks utilize shareholders' funds to generate profits. A decline in asset quality due to rising credit risk can negatively influence these performance indicators and weaken overall financial stability (Poudel, 2018; Kithinji, 2010). This study aims to examine the effect of credit risk on the financial condition of commercial banks in Bangladesh by considering several key risk indicators. Credit risk is measured through variables such as Non-Performing Loans (NPL), Loan Loss Provision Ratio (LLPR), and Loan-to-Deposit Ratio (LDR). In addition, factors such as Capital Adequacy Ratio (CAR) and economic growth, represented by GDP growth rate, are incorporated to capture both internal financial strength and external economic conditions. These variables collectively provide a comprehensive framework for evaluating the determinants of bank performance (Abbas et al., 2014; Tan et al., 2012).

The study adopts a quantitative research approach using panel data and econometric techniques, with analysis conducted through STATA software. Secondary data are collected from the annual reports of selected commercial banks over a specified time period. By applying statistical methods, the study seeks to identify the nature and extent of the relationship between credit risk and financial performance. The findings of this research are expected to offer valuable insights for bank

management, regulators, and policymakers. Understanding how credit risk influences financial soundness can support the development of more effective risk management strategies, strengthen regulatory policies, and contribute to the long-term stability of the banking sector in Bangladesh.

1.2 Background of The Study

Banking in Bangladesh has gone through tremendous growth in the recent decades and is the main contributor to trade, investment and general economic growth. Commercial banks are the heart of the financial system as they facilitate the transfer of money between the savers and borrowers. But with this growth, the industry has had its own challenges especially in its credit risk management which is one of the most demanding risks to the stability of a bank. Credit risk arises because of the likelihood that there is a possibility of borrowers defaulting on their loans.

The ever increasing number of non-performing loans (NPLs) in Bangladesh has cast a dark cloud on the effectiveness and financial stability of the banking sector. Poor monitoring, weak credit appraisal systems, political interference, and poor risk management practices are some of the factors that have contributed immensely to the rising number of default loans. As a result, a large number of banks experience a decrease in profitability, deteriorating quality of assets, and financial fragility. Financial soundness is a property of banks to stand firm, survive, and even be profitable in unfavorable economic times. Indicators such as Return on Equity (ROE) and Capital Adequacy Ratio (CAR) are commonly used to assess this stability.

Meanwhile, indicators of Loan-to-Deposit Ratio (LDR), Loan Loss Provision Ratio (LLPR), and macroeconomic indicators like GDP growth will give more insight into the efficiency of the work and external factors that impact the performance of banks. Over the past few years, the regulatory authorities in Bangladesh have focused on increasing capital requirements and enhancing risk management frameworks to increase the resilience of banking sector. Irrespective of these efforts credit risk remains a thorn in the flesh. Thus, there is a need to do empirical research to examine its influence on financial performance and general banking stability. This research is carried out to analyse the correlation between credit risk and financial stability of commercial banks in Bangladesh. Through the application of econometric methods to examine pertinent financial indicators within a given time frame, the research will incorporate a better idea of the extent to

which credit risk affects bank performance, as well as suggest what can be done to enhance the overall wellbeing of the banking industry.

1.3 Problems of The Study

The financial sector of Bangladesh is now undergoing a number of intertwined problems that jeopardize its financial health and sustainability. The continuous growth in non-performing loans (NPLs) is one of the most serious issues. An increasing amount of default loans indicates poor credit risk management policies, poor loan screening as well as poor loan recovery policies. This not only decreases profitability but also undermines asset quality and overall financial soundness of banks. The other significant challenge is the lack of efficiency in credit risk assessment and monitoring systems.

Some banks, especially in the commercial sector, tend to base their decision to grant loans on non-financial factors and appropriate risk analysis is not always guaranteed. Moreover, inadequate post-disbursement monitoring of loan further amplifies chances of loan default that impacts negatively on the key performance indicators like Return on Equity (ROE) and financial performance. Loan Loss Provision Ratio (LLPR) is also critical concern. Poor provisioning against bad loans may result in opaque financial risks and a lack of transparency. Most banks do not have enough provisions and are therefore exposed to further vulnerability in times of economic pressure. Moreover, there are unequal Loan-to-Deposit Ratio (LDR) that causes additional difficulties. The lending in excess of deposits can cause liquidity deficiencies and too conservative lending can inhibit income generation and profitability.

Thus, it is necessary to ensure that there is an optimal LDR to balance the risk and the return. Another issue in the banking sector is capital adequacy. Despite the regulatory requirements that banks should maintain a minimum Capital Adequacy Ratio (CAR), a number of banks are unable to comply with the standards as the credit risk increases and quality of assets continues to worsen. The weak capital status lowers the capacity of banks to absorb any unexpected losses and leads to more financial instability. In general, the issues discussed above indicate that credit risk management and high-quality regulatory supervision are urgently needed to achieve stability and sustainability of the banking industry in Bangladesh.

1.4 Objectives of The Research

General Objective

The main purpose of this research is to explore the influence of credit risk on the financial stability and performance of commercial banks operating in Bangladesh.

Specific Objectives

1. To investigate how the level of non-performing loans (NPL) affects the profitability and overall financial condition of commercial banks.

To assess the impact of loan loss provision ratio (LLPR) on banks' earnings and their ability to maintain financial stability.

To analyze the relationship between loan-to-deposit ratio (LDR) and the financial strength of banks, particularly in terms of liquidity and profitability.

To examine the role of capital adequacy ratio (CAR) in strengthening the resilience and performance of commercial banks.

To evaluate how macroeconomic factors, especially GDP growth, contribute to the financial stability of the banking sector.

To measure the joint effect of major credit risk indicators—such as NPL, LLPR, and LDR—on return on equity (ROE) as an indicator of financial soundness.

To suggest practical and effective strategies that can help improve credit risk management practices within the banking industry of Bangladesh.

1.5 Scope of The Study

This study focuses on analyzing the impact of credit risk on the financial soundness of commercial banks in Bangladesh. It is founded on a sample of the chosen commercial banks, which work in the country and is based on the secondary data gathered by means of publications of annual reports and financial statements.

The study is limited to the main variables as far as financial and credit risks are concerned such as Non-Performing Loans (NPL), Loan Loss Provision Ratio (LLPR), Loan-to-Deposit Ratio

(LDR), Capital Adequacy Ratio (CAR), and GDP growth. The credit risk exposure and macroeconomic influence are measured using these variables, and Return on Equity (ROE) is the primary indicator of financial soundness.

The analysis is time-based, i.e. it utilises a particular period as per the data availability and employs the quantitative methods with the aid of the STATA software. To analyze the relationships between the variables of interest, different econometric tools including descriptive statistics, correlation analysis, and regression models are used to analyze the relationship among the variables of interest.

The research is also confined to the banking sector of Bangladesh and excludes foreign banks and non-bank financial institutions. Conceptually, the study is mainly based on credit risk and its effects on financial soundness without a detailed discussion of other risks like market risks, operational risks or liquidity risks. Thus, the focus of this study is limited to an empirical study of credit risk variables and its impact on the financial performance of sampled commercial banks in Bangladesh.

Chapter Two

Literature Review

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2.1 Literature Review

The credit risk management has recently become a major issue in contemporary banking since lending activities are the main source of revenue to commercial banks and at the same time subject them to the risk of default. Poor credit risk management may have a serious negative impact on the financial soundness by raising non-performing loans (NPLs), lowering profitability, and weakening capital stability. The recent literature insists that proper credit risk practices are a key to the long-term financial sustainability and resilience of the banking industry (Basel Committee on Banking Supervision, 2017; Bitar et al., 2018; Ozili, 2019).

An emerging empirical literature speaks of the negative impact of bad loans on bank performance. An increase in NPL diminishes interest income and raises credit loss provisions, which negatively impacts on profitability ratios like Return on Assets (ROA) and Return on Equity (ROE). As an example, Poudel (2018) and Islam (2018) conclude that NPLs negatively affect the profitability of banks. Likewise, Ozili (2019) and Noman et al. (2015) affirm that poor asset quality has continued to be one of the biggest predictors of decreasing financial performance, especially in developing economies.

Another essential indicator that is highly utilized in the determination of quality in credit risk management is the loan loss provision ratio (LLPR). The increased provisioning indicates the expected losses in the loans and the provisioning usually decreases the net income and has a negative impact on the financial performance. Recent research including Islam (2018), Siddique et al. (2020), and Ozili (2019) shows strong negative correlation between LLPR and profitability. These results indicate that the greater provisioning is usually an indicator of worsening asset quality and increasing exposure to credit risk.

Recent literature is inconclusive when it comes to the relationship between loan-to-deposit ratio (LDR) and bank performance. There are studies that a higher LDR would boost profitability through the increment of lending activity and interest earnings whereas others bring out the risks involved. According to Rahman et al. (2020) and Sufian (2016), the high level of lending may cause liquidity strains and default risk, which will lead to the financial soundness. In addition, Khan et al. (2021) discover that aggressive lending policies can enhance short-term returns but increase credit risk in the long-term.

Bank financial soundness is usually measured in terms of the profitability indicators like ROA and ROE. According to the recent empirical findings, the variables of credit risk have a substantial impact on these performance indicators. Menicucci and Paolucci (2016) and Al-Homaidi et al. (2018) discover that low quality of assets, which is manifested in the increase of NPL and provisioning, decreases ROA and ROE. These results support the need to effectively manage credit risks to ensure the stability of the banking sector.

The macroeconomic conditions including the increase in GDP also have a crucial role in determining the credit risk and the performance of the bank. The overall effect of economic growth is that the borrowers have an increased ability to repay, and thus the number of defaults is minimized, and bank profitability is increased. The recent works of Tan (2016), Trujillo-Ponce (2017) and Ozili (2019) have shown that GDP growth positively influences the performance of banks. On the other hand, economic recessions are likely to raise credit risk and undermine financial stability.

In Bangladesh, recent research shows that credit risk is a significant issue affecting commercial banks. Uddin and Akhter (2019), Rahman (2021), and Hossain et al. (2020) discover that increasing NPLs and poor risk management practices have a significant negative impact on the profitability of banks. According to these studies as well, it is usually regulatory requirements that shape the provisioning practices instead of active risk assessment that postpones the identification of credit issues.

Although there is a great deal of research, the empirical evidence on the connection between credit risk and financial performance is not uniform. A few studies indicate a negative relationship is strong, but some report mixed or context specific findings. Current studies of Bitar et al. (2018), Ozili (2019), and Khan et al. (2021) propose that variations in regulatory frameworks, institutional quality, and macroeconomic conditions may mediate the observed relationship. This implies that empirical analysis in each country and updated empirical analysis is necessary.

Thus, the study will add value to the existing literature by assessing the significance of key credit risk indicators, such as NPL, LDR, and LLPR, and macroeconomic variables (GDP growth) on the financial soundness of commercial banks in Bangladesh based on recent panel data. The study is expected to offer a more detailed and contextual perspective on credit risk dynamics in the banking industry by concentrating on more up-to-date data and various risk indicators at the same time.

2.2 Conceptual Framework

The conceptual framework of this study is constructed to demonstrate the connection between credit risk factors and financial soundness of commercial banks in Bangladesh. The framework is based on the notion that the performance of the bank directly depends on the effectiveness of handling the credit risk, as well as the backup of capital strength and macroeconomic environments.

Return on Equity (ROE) is taken as the dependent variable in this study to indicate the financial soundness of the banks. ROE is the ratio of efficiency of the banks in using the shareholders money to earn profit and shows the general financial stability.

Key credit risk indicators are the main independent variables. Non-Performing Loans (NPL) are a quality indicator of the loan portfolio whereby a high ratio is an indicator of poor credit management which is likely to have a negative impact on the financial performance. In the same manner, the Loan Loss Provision Ratio (LLPR) is an indicator of the anticipated losses of risky loans; when this variable increases, net income will decrease and hence financial soundness will be weakened. Loan to Deposits Ratio (LDR) is used to show the level of lending of the available deposits. As moderate lending can enhance profitability, excessive lending could raise the liquidity risk and hurt stability.

The model has control variables besides the credit risk variables to capture other influencing variables. Capital Adequacy Ratio (CAR) is added to determine the financial soundness of the bank and capability to absorb the possible losses. Increased CAR is likely to have a positive impact on financial soundness. Additionally, a macroeconomic variable is the rate of GDP growth that indicates the general economic climate. Good economic performance increases the ability of borrowers to repay and hence better performance of banks.

According to these associations, the conceptual framework presumes that credit risk variables (NPL, LLPR, and LDR) directly determine financial soundness (ROE) with CAR and GDP growth as facilitating variables that reinforce or temper the association.

Conceptual Relationship (Summary Form):

Variables of Credit Risk (NPL, LLPR, LDR)

→ Financial Soundness (ROE)

Control Variables (CAR, GDP Growth)

→ Influence & strengthen the relationship

This framework offers a systematic foundation of empirical study and offers an explanation of how internal risk management and external economic environment would co-exist in influencing the financial status of banks.

2.3 Research Questions

- 1.What is the impact of Non-Performing Loans (NPL) on the financial soundness of commercial banks in Bangladesh?
- 2.How does the Loan Loss Provision Ratio (LLPR) affect the profitability and stability of commercial banks?
- 3.What is the relationship between Loan-to-Deposit Ratio (LDR) and the financial performance of commercial banks?
- 4.To what extent does Capital Adequacy Ratio (CAR) influence the financial soundness of banks?
- 5.How does GDP growth affect credit risk and financial stability of commercial banks in Bangladesh?
- 6.What is the overall effect of credit risk indicators (NPL, LLPR, and LDR) on Return on Equity (ROE) of commercial banks?
- 7.How effective are current credit risk management practices in ensuring the stability of the banking sector in Bangladesh?

Chapter Three

Organisational Profile

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3.1 Sonali Bank PLC

Sonali Bank PLC is the largest state-owned commercial bank in Bangladesh and plays a central role in the country's financial system. It was established in 1972 through the nationalization of several commercial banks after the independence of Bangladesh. Since its establishment, the bank has functioned as a key financial institution responsible for supporting economic development, implementing government financial policies, and ensuring financial inclusion across all regions of the country.

The bank operates with an extensive branch network covering urban, semi-urban, and rural areas, making it one of the most widely accessible banking institutions in Bangladesh. In addition to domestic operations, Sonali Bank also maintains limited international branches and provides foreign remittance and trade-related services, contributing to international financial transactions of the country.

Sonali Bank PLC is engaged in a wide range of banking activities, including deposit mobilization, credit distribution, foreign exchange operations, trade finance, SME financing, agricultural credit, and government treasury functions. It plays a dual role by operating both as a commercial bank and as an agent of the government for various financial and development programs.

As a state-owned institution, the bank is also responsible for implementing policy-based banking services, including disbursement of government salaries, social safety net payments, and public sector fund management. Despite its dominant position, the bank faces challenges such as high non-performing loans, credit risk exposure, and operational inefficiencies, which are common concerns in large public sector banks in developing economies.

3.2 Corporate Profile of Sonali Bank PLC

Features	Values
Name	Sonali Bank PLC
Genesis	Sonali Bank PLC., the largest State Owned Commercial Bank (SCB) in Bangladesh. The Bank emerged as ‘Sonali Bank’ by combining the erstwhile National Bank of Pakistan, Bank of Bahawalpur, and Premier Bank branches operating in East Pakistan under the Banks Nationalization Order 1972, and was later restructured as a public limited company in November 2007. Since its inception in 1972, the Bank has commendably contributed to the socio-economic development of Bangladesh and helped in building a strong financial foundation of the country. Sonali Bank PLC operates its business through more than 1,200 branches across the country, including 2 overseas branches in the United Arab Emirates.
Registered Address	35-42, 44 Motijheel Commercial Area, Dhaka, Bangladesh  Sonalibank.
Legal Status	Public Limited Company
Chairman	Mohammad Muslim Chowdhury
Managing Director	Md. Shawkat Ali Khan
Company Secretary	Tauhidul Islam
Date of Incorporation	03 june, 2007
Authorized Capital	BDT 60,000 Million
Paid Up Capital	BDT 45,300,140 Million
Face Value Per Share	BDT 100 per Share
Shareholding Pattern	100% share owned by the Government of Bangladesh
Number of Employees	18000(As on 30.09.2023)
Bank license obtained from the Bangladesh Bank	05 June 2007
Phone	+88 02-9560000, 9566020,
Fax	88-02-9554460, 9553329, 9552078
SWIFT	BSONBDDH
Website	http://www.sonalibank.com.bd
E-mail	mailto:itd@sonalibank.com.bd

3.3 Organizational Structure of Sonali Bank PLC

It is at the top management's discretion to make all the significant decisions regarding the company, according to SBL. The board of directors is the highest level of the organizational structure and is therefore closely involved in the formulation as well as implementation of policies. The duty was given to the management committee. The major responsibility for the objectives and policies of the bank rests with the board of directors. These are the chairman, directors, chief executive officer, managing director, and company secretary. The CEO offers recommendations to the managers and employees. The organizational structure of Sonali Bank Ltd is depicted in the following chart-



Figure 3.1: Organizational Structure

3.4 Vision and Mission of Sonali Bank PLC

3.4.1 Vision:

The vision of Sonali Bank PLC is to establish itself as a leading and trusted state-owned commercial bank in Bangladesh by ensuring financial stability, providing high-quality banking services, and contributing significantly to the country's overall economic development. The bank aims to promote financial inclusion by extending its services to all segments of society, including rural and underserved areas, while maintaining excellence in customer service and operational efficiency. Through continuous improvement, innovation, and commitment to national development, Sonali Bank strives to achieve a strong and sustainable position in the banking sector.

3.4.2 Mission:

The mission of Sonali Bank PLC is to deliver efficient, reliable, and customer-focused banking services by utilizing modern technology and professional expertise. The bank is committed to mobilizing savings and allocating resources effectively to support economic growth and development in Bangladesh. It aims to maintain sound financial management by ensuring proper liquidity, capital adequacy, and risk control while adhering to regulatory guidelines.

3.5 Objectives of Sonali Bank PLC

The main objectives of Sonali Bank PLC are aligned with both commercial banking goals and national economic priorities. As a government-owned financial institution, the bank plays a dual role in ensuring profitability while supporting socio-economic development.

The key objectives include:

- ❶ To provide efficient, reliable, and accessible banking services to individuals, businesses, and government entities.
- ❷ To mobilize savings from all segments of society and channel them into productive investment activities.
- ❸ To support industrial, agricultural, SME, and trade sector development through appropriate credit facilities.

- ❶ To contribute to the implementation of government financial policies and development programs.
- ❷ To promote financial inclusion by expanding banking services to rural and underserved areas.
- ❸ To maintain financial stability, improve profitability, and strengthen risk management practices.
- ❹ To enhance operational efficiency through modernization, digital banking, and technological advancement.
- ❺ To ensure compliance with regulatory requirements and maintain sound governance practices.

3.6 Business Areas of Sonali Bank PLC

Sonali Bank operates in several key business areas:

- Retail Banking
- Corporate Banking
- SME Banking
- Agricultural & Rural Credit
- International Banking & Foreign Exchange
- Government Banking Services
- Investment and Treasury Operations

3.7 Products of Sonali Bank PLC

Deposit and Cards	Loans
1. Current Deposit 2. Savings Account 3. Term (Fixed) Deposits 4. Special Notice Deposit 5. Monthly Savings Schemes 6. New Gen. Double Benefit Scheme 7. Credit Card	1. Personal Loan 2. House Building/Flat Loan 3. Agriculture Loans 4. Working Capital Loan 5. Green Financing 6. Rural Credit 7. Tannery Trading

	8. Sonali Bank Limited Commercial Real Estate Loan 9. Sonali Bank Limited Single House 10. Construction Loan and Apartment Buying Loan 11. Consumers Loan 12. Education Loan 13. Sonali Care Health Service Loan 14. Sonali Support Pension Specialized Loan
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3.8 SWOT Analysis

During my observation and research, I highlighted some major strengths and weaknesses of Sonali Bank Ltd and some opportunities and threats at the industrial level, such as competitor pressures and other forces like technological and economic shifts, globalization, changes in the trends of the industry, changes in the needs of the customers, and so on.

Strengths	Weakness
1. Top management consisting of an efficient management group. 2. Company reputation with a positive image in the banking industry. 3. Many branches to satisfy customer needs. 4. Various products and services for clients. 5. Corporate Culture.	1. Heavily depended on the head office for decision-making. 2. Absence of an upgraded package. 3. Low remuneration package. 4. Not fully computerized. 5. Low promotional campaign.

Opportunities	Thread
1. Product line proliferation for more branches. 2. Introducing a special corporate scheme. 3. Developing new products and services.	1.The default risks of all terms of the loan have to be minimized to survive in the financial market. Because of default risk. 2.Leads the organization towards bankruptcy. 3.The low compensation package of the employees from mid-level to lower-level positions threatens employee motivation. 4.Some commercial/foreign as well as private banks.

Table: SWOT Analysis of Sonali Bank

Chapter Four

Research Methodology

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4.1 Research Design

This study follows a quantitative research approach to investigate how credit risk influences the financial soundness of commercial banks in Bangladesh. The nature of the research is explanatory, as it seeks to identify and measure the cause-and-effect relationship between selected credit risk variables and bank performance.

The analysis is based on secondary data collected from the published annual reports of selected commercial banks, along with other reliable financial sources. The dataset is structured in panel form, combining both cross-sectional data (multiple banks) and time-series data (several years). This panel structure allows for a more comprehensive and accurate analysis by capturing variations across both entities and time.

In this study, Return on Equity (ROE) is used as the dependent variable to represent financial soundness. The main independent variables include key credit risk indicators such as Non-Performing Loans (NPL), Loan Loss Provision Ratio (LLPR), and Loan-to-Deposit Ratio (LDR). Additionally, Capital Adequacy Ratio (CAR) and GDP growth rate are incorporated as control variables to reflect the effects of capital strength and overall economic conditions.

To analyze the data, various econometric techniques are applied using STATA software. These methods include descriptive statistics to summarize the data, correlation analysis to examine relationships among variables, and regression analysis to estimate the impact of credit risk on financial performance. Panel data regression models, including fixed effects and random effects approaches, are employed to ensure robust and reliable results.

Overall, this research design provides a structured and empirical framework for examining the relationship between credit risk and the financial performance of commercial banks in Bangladesh.

4.2 Target Population and Sample Size

Target Population:

The target population of this study consists of all commercial banks operating in Bangladesh. These banks are selected because they play a major role in the country's financial system and are directly exposed to credit risk through their lending activities.

Sample Size:

From the total population, a sample of 10 commercial banks is selected for analysis based on data availability and consistency. The selected banks include: Sonali Bank PLC, Janata Bank PLC, Agrani Bank PLC, Mutual Trust Bank PLC, BRAC Bank PLC, The City Bank PLC, IFIC Bank PLC, Pubali Bank PLC, Eastern Bank PLC (EBL), and United Commercial Bank PLC (UCB).

The study covers a period of 10 years (2015–2024), resulting in a balanced panel dataset. Therefore, the total number of observations is:

Total Observations = 10 banks $\times$ 10 years = 100 observations

The sample is selected using a purposive sampling technique, as banks with available and reliable data are chosen to ensure accuracy and consistency in the analysis.

4.3 Data Collection and Analysis**Data Collection:**

This study is based on secondary data, which are collected from reliable and publicly available sources. The main data sources will be the annual reports of the sampled commercial banks in Bangladesh, publications of Bangladesh bank and other financial databases. The data include the year 2015 to 2024 and some of the most important financial metrics, including ROE, NPL, LLPR, LDR, and CAR. Moreover, national and international economic reports are used to gather the data on GDP growth rate. The use of secondary data ensures consistency, reliability, and cost-effectiveness for the research.

Data Analysis:

The data obtained are examined in STATA software with panel data. In the beginning, we summarize the basic characteristics of the variables using descriptive statistics. Then, correlation analysis is conducted to examine the relationships among variables and to check for multicollinearity.

The study uses the panel regression analysis technique to determine the effect of credit risk on financial soundness, since Return on Equity (ROE) is the dependent variable, whereas NPL, LLPR, LDR, CAR, and GDP growth are the independent variables. Models like Fixed Effects Model

(FEM) and Random Effects Model (REM) are applied and Hausman test is applied in order to select the most appropriate model. On the whole, this approach permits a methodological and empirical analysis of the impacts of credit risk on financial performance and stability of commercial banks in Bangladesh.

4.4 Variables and Justification

This study examines the impact of credit risk on the financial soundness of commercial banks in Bangladesh by using one dependent variable and several independent variables. The selection of these variables is based on their relevance in existing literature and the availability of data in banks' annual reports.

Serial No	Variables Name	Variables Explanation
Dependent variable		
1.	Return on Equity (ROE)	The dependent variable of this study is Return on Equity (ROE). ROE is used as a proxy for financial soundness because it measures how efficiently a bank uses shareholders' equity to generate profit. A higher ROE indicates better performance and stronger financial stability, making it a suitable indicator for this research.
Independent Variables		
2.	Capital Adequacy Ratio (CAR)	CAR measures a bank's capital in relation to its risk-weighted assets. It indicates the bank's ability to absorb financial losses. A higher CAR strengthens financial stability, so it is expected to have a positive effect on ROE.
3.	Non-Performing Loans (NPL)	NPL represents the portion of loans that are not being repaid as scheduled. It is a key indicator of credit risk and asset quality. A higher NPL ratio

		reflects poor credit management and is expected to have a negative impact on ROE.
4.	Loan-to-Deposit Ratio (LDR)	LDR shows the proportion of loans issued relative to deposits collected. It reflects lending efficiency and liquidity management. While a higher LDR can increase income through lending, excessive lending may increase risk. Therefore, its effect on ROE can be either positive or negative.
5.	Loan Loss Provision Ratio (LLPR):	LLPR measures the amount of funds set aside by banks to cover potential loan losses. It indicates expected credit risk. Higher provisioning reduces net income, so LLPR is expected to have a negative relationship with ROE.
6.	GDP Growth Rate:	GDP growth reflects the overall economic condition of the country. Higher economic growth improves borrowers' repayment capacity and reduces default risk, which positively influences bank performance. So GDP growth is expected to have a positive impact on ROE.

Justification of Variables:

These variables are selected because they capture key dimensions of credit risk (NPL, LLPR, LDR), capital strength (CAR, CRAR), and macroeconomic conditions (GDP growth). Together, they provide a comprehensive framework to analyze the effect of credit risk on the financial soundness of commercial banks in Bangladesh.

4.5 Model Specification of the Study

To examine the impact of credit risk on the financial soundness of commercial banks in Bangladesh, the study uses a panel data regression model.

Econometric Model:

$$ROE_it = \beta_0 + \beta_1 CAR_it + \beta_2 NPL_it + \beta_3 LDR_it + \beta_4 GDPG_t + \beta_5 LLPR_it + \varepsilon_it$$

Where:

ROE_it = Return on Equity of bank i at time t (Dependent Variable)

CAR_it = Capital Adequacy Ratio

NPL_it = Non-Performing Loans ratio

LDR_it = Loan-to-Deposit Ratio

GDPG_t = GDP Growth Rate

LLPR_it = Loan Loss Provision Ratio

β_0 = Constant term

β_1 – β_5 = Coefficients of independent variables

ε_it = Error term

i = Individual bank

t = Time period (year)

Explanation of the Model:

This model represents a multiple linear regression using panel data, where ROE is the dependent variable and NPL, LLPR, LDR, CAR, and GDP growth are independent variables. The model is used to examine how credit risk and other factors affect the financial soundness of commercial banks.

The estimation will be conducted using Fixed Effects Model (FEM) or Random Effects Model (REM) in STATA, based on the Hausman test.

4.6 Hypotheses of the Study

Based on the research variables, the following hypotheses are developed:

H1: Non-Performing Loans (NPL) have a significant negative impact on ROE.

H2: Loan Loss Provision Ratio (LLPR) has a significant negative impact on ROE.

H3: Loan-to-Deposit Ratio (LDR) has a significant impact on ROE.

H4: Capital Adequacy Ratio (CAR) has a significant positive impact on ROE.

H5: GDP Growth has a significant positive impact on ROE.

Chapter Five

Data Analysis

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5.1 Descriptive Statistics Analysis

The descriptive statistics of the selected variables, namely Return on Equity (ROE), Capital Adequacy Ratio (CAR), Non-Performing Loan Ratio (NPL), Loan to Deposit Ratio (LDR), GDP Growth Rate (GDPGR), and Loan Loss Provision Ratio (LLPR), provide an overview of the data distribution and variability among the sampled commercial banks in Bangladesh.

Stats	OB	Min.	Max.	Mean	Std, Dev.	Skewness	Kurtosis
ROE	100	1.2	17.8	11.1266	4.90006	-.54696	2.233522
CAR	100	7.27	15.4	12.6915	2.249446	.956919	3.170976
NPL	100	2.8	22.69	8.8683	6.789073	.9181723	2.17053
LDR	100	60.11	93.5	78.874	7.967618	.396548	3.20865
GDP GR	100	3.4	7.88	6.408	1.441182	-1.03416	2.744055
LLPR	100	3.6	12.3	6.892	3.030374	.5666242	1.723446

Source : Authors Calculation by Stata 18

The mean value of ROE is 11.13%, indicating a moderate level of profitability among the banks. The maximum value of 17.8% and minimum value of 1.2% suggest that all banks remained profitable during the study period, although at varying levels. The standard deviation (4.90) reflects moderate variability in profitability. The negative skewness (-0.55) indicates that most banks achieved relatively higher profitability, with fewer observations at the lower end. The kurtosis value (2.23) suggests a relatively normal distribution without extreme outliers.

In terms of capital adequacy, the mean CAR is 12.69%, which indicates that, on average, banks maintain sufficient capital in line with regulatory requirements. The minimum value (7.27%) shows that some banks are closer to the lower threshold, while the maximum value (15.4%) reflects strong capital positions in others. The negative skewness (-0.96) suggests that lower values are more extreme, whereas most banks maintain higher capital adequacy. The kurtosis (3.17) indicates a slightly peaked distribution.

The average NPL ratio is 8.87%, which indicates a relatively high level of credit risk in the banking sector. The wide range between the minimum (2.8%) and maximum (22.69%) values highlights significant differences in loan quality among banks. The positive skewness (0.92) suggests that

while most banks maintain lower NPL levels, a few banks experience considerably higher default rates. The kurtosis (2.17) indicates moderate distribution without extreme concentration.

The LDR has a mean value of 78.87%, suggesting that banks maintain a relatively balanced liquidity position. The standard deviation (7.97) indicates moderate variability in liquidity management. The slight negative skewness (-0.40) implies that most banks operate with relatively higher LDR values. The kurtosis (3.21) suggests a near-normal distribution.

Regarding macroeconomic conditions, the GDP growth rate has a mean of 6.41%, with low variability (standard deviation 1.44). This indicates a stable economic environment during the study period. The negative skewness (-1.03) suggests that higher growth rates were more frequent, while the kurtosis (2.74) indicates a fairly normal distribution.

Finally, the LLPR has an average value of 6.89%, indicating that banks maintain provisions to cover potential loan losses. The variation (standard deviation 3.03) reflects differences in provisioning practices across banks. The positive skewness (0.57) suggests that some banks maintain higher provisions compared to others. The kurtosis (1.72) indicates a relatively flatter distribution.

Overall, the descriptive statistics reveal that capital adequacy and macroeconomic conditions remain relatively stable, while credit risk and provisioning practices show noticeable variation across banks. The moderate level of profitability alongside a relatively high NPL ratio suggests that credit risk continues to be a key challenge for the banking sector. These findings indicate that credit risk factors, particularly NPL and LLPR, are likely to have a significant impact on the financial soundness of commercial banks in Bangladesh.

5.2 Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROE	1.000					
(2) CAR	0.872 (0.000)	1.000				
(3) NPL	-0.833 (0.000)	-0.878 (0.000)	1.000			
(4) LDR	0.378 (0.000)	0.325 (0.001)	-0.463 (0.000)	1.000		
(5) GDP GR	0.252 (0.011)	0.100 (0.324)	-0.035 (0.731)	-0.050 (0.620)	1.000	
(6) LLPR	-0.683 (0.000)	-0.743 (0.000)	0.786 (0.000)	-0.436 (0.000)	0.049 (0.626)	1.000

Source : Authors Calculation by Stata 18

The correlation matrix presents the pairwise relationships among the selected variables, including Return on Equity (ROE), Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), Loan-to-Deposit Ratio (LDR), GDP Growth Rate (GDPGR), and Loan Loss Provision Ratio (LLPR). This analysis helps to understand the direction and strength of relationships among variables and to detect potential multicollinearity issues.

The correlation between ROE and CAR is 0.872, which is positive and statistically significant. This indicates that higher capital adequacy is associated with increased profitability of banks, suggesting that well-capitalized banks are more financially sound.

In contrast, ROE has a strong negative correlation with NPL (-0.833), which is also statistically significant. This implies that an increase in non-performing loans reduces bank profitability, highlighting the adverse effect of credit risk on financial performance.

Similarly, ROE is negatively correlated with LLPR (-0.683), indicating that higher loan loss provisions reduce profitability. This is expected, as increased provisioning reflects deteriorating loan quality and higher credit risk exposure.

The relationship between ROE and LDR is 0.378, which is positive and significant. This suggests that efficient utilization of deposits through lending activities contributes positively to bank profitability.

ROE also shows a positive correlation with GDP growth (0.252), indicating that a favorable macroeconomic environment supports better financial performance of banks, although the relationship is relatively weaker compared to other variables.

Among the independent variables, CAR and NPL have a strong negative correlation (-0.878), which suggests that banks with higher capital adequacy tend to have lower levels of non-performing loans. Similarly, LLPR is positively correlated with NPL (0.786), indicating that higher credit risk leads to increased provisioning.

The correlation between LDR and NPL (-0.463) is moderately negative, suggesting that higher lending activity may be associated with better loan performance, although this relationship is not very strong.

GDP growth shows weak correlations with most variables, indicating that macroeconomic conditions have a limited direct relationship with bank-specific risk indicators in this dataset.

◆ Overall Interpretation

Overall, the correlation results strongly support the hypothesis that credit risk negatively affects financial performance and soundness. Specifically:

- ❖ Higher NPL → Lower profitability (ROE)
- ❖ Higher NPL → Higher provisioning (LLPR)
- ❖ Strong capital (CAR) → Better profitability
- ❖ GDP growth → Limited impact

These findings indicate that credit risk is a critical determinant of bank performance in Bangladesh.

5.3 Multicollinearity Test

To ensure the reliability of the regression results, the study conducts a multicollinearity test using the Variance Inflation Factor (VIF). Multicollinearity occurs when independent variables are highly correlated with each other, which can distort the estimated coefficients and reduce the validity of the model.

5.3.1 VIF Analysis

Variables	VIF	1/VIF
NPL	5.830	0.118
CAR	4.850	0.131
LLPR	2.850	0.546
LDR	1.360	0.579
GDP GR	1.050	0.906
Mean VIF	3.190	

Source : Authors Calculation by Stata 18

The VIF results show that the values for all independent variables are within an acceptable range. Specifically, the VIF value for Non-Performing Loans (NPL) is 5.83, which is slightly above the commonly accepted threshold of 5 but still below the critical level of 10. This indicates a moderate level of multicollinearity associated with NPL, possibly due to its strong relationship with other variables such as CAR and LLPR.

The VIF value for Capital Adequacy Ratio (CAR) is 4.85, which is close to 5 but still within the acceptable limit, suggesting no serious multicollinearity concern. Similarly, Loan Loss Provision Ratio (LLPR) has a VIF of 2.85, indicating a low level of correlation with other independent variables.

The VIF values for Loan-to-Deposit Ratio (LDR) and GDP Growth Rate (GDPGR) are 1.36 and 1.05, respectively, which are very low and indicate that these variables are not correlated with other explanatory variables in the model.

The mean VIF value is 3.19, which is well below the threshold of 10, confirming that the overall model does not suffer from severe multicollinearity.

In addition, the tolerance values (1/VIF) for all variables are above 0.10, further supporting the absence of serious multicollinearity issues in the dataset.

Overall, the VIF results suggest that multicollinearity is not a significant problem in this study. Although NPL shows a relatively higher VIF compared to other variables, it remains within an acceptable range and does not require elimination from the model. Therefore, all selected independent variables are retained, ensuring a robust analysis of the impact of credit risk on the financial soundness of commercial banks in Bangladesh.

5.4 Regression Analysis (Pooled OLS)

This study examines the impact of credit risk on the financial soundness of commercial banks in Bangladesh by using Return on Equity (ROE) as a proxy for financial performance. The regression results obtained from the pooled Ordinary Least Squares (OLS) model indicate that the overall model is statistically significant and provides strong explanatory power.

Mean dependent var	11.127	SD dependent var	4.900
R-squared	0.817	Number of obs	100
F-test	83.949	Prob > F	0.000
Akaike crit. (AIC)	442.789	Bayesian crit. (BIC)	458.420

ROR	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
CAR	1.242	.212	5.87	0	.822 1.663	***
NPL	-.203	.077	-2.64	.01	-.355 -.05	***
LDR	.039	.032	1.23	.22	-.024 .102	
GDP GR	.646	.154	4.20	0	.341 .95	***
LLPR	-.033	.12	-0.27	.787	-.272 .206	
Constant	-9.837	4.737	-2.08	.041	-19.242 -.432	**

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

Source : Authors Calculation by Stata 18

The value of R-squared (0.817) suggests that approximately 81.7 percent of the variation in ROE is explained by the included independent variables, namely Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), Loan to Deposit Ratio (LDR), GDP Growth (GDPGR), and Loan Loss Provision Ratio (LLPR). Additionally, the F-statistic is highly significant (Prob > F = 0.000), confirming that the model is jointly significant.

Among the explanatory variables, Capital Adequacy Ratio (CAR) shows a positive and highly significant relationship with ROE at the 1 percent level. This finding implies that banks with higher capital strength tend to achieve better financial performance, as strong capital buffers enhance their ability to absorb risks and operate efficiently.

In contrast, Non-Performing Loans (NPL) exhibit a negative and statistically significant effect on ROE at the 5 percent level. This result indicates that an increase in credit risk, as reflected by a higher proportion of non-performing loans, leads to a deterioration in bank profitability. It highlights the adverse impact of poor loan quality on financial soundness.

On the other hand, Loan to Deposit Ratio (LDR) has a positive but statistically insignificant coefficient, suggesting that variations in lending relative to deposits do not have a meaningful impact on profitability within this model. Similarly, the Loan Loss Provision Ratio (LLPR) shows a negative but insignificant relationship with ROE, indicating that provisioning policies do not significantly influence financial performance in this context.

Furthermore, GDP Growth (GDPGR) demonstrates a positive and statistically significant effect on ROE at the 1 percent level. This suggests that favorable macroeconomic conditions contribute to improved bank performance, as economic expansion generally enhances borrowing capacity and reduces default risk.

Overall, the results suggest that credit risk, particularly through non-performing loans, plays a crucial role in determining the financial soundness of banks. However, since the pooled OLS model does not account for unobserved bank-specific heterogeneity, the findings should be interpreted with caution, and further analysis using panel data techniques such as fixed or random effects models is recommended.

6.4.1 Regression Analysis (Fixed-effects)

Mean dependent var	11.127	SD dependent var	4.900
R-squared	0.504	Number of obs	100
F-test	17.277	Prob > F	0.000
Akaike crit. (AIC)	406.144	Bayesian crit. (BIC)	421.775

Regression results

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CAR	1.171	.223	5.26	0	.728	1.614	***
NPL	.058	.112	0.51	.61	-.166	.281	
LDR	-.063	.042	-1.51	.134	-.147	.02	
GDP GR	.644	.137	4.71	0	.372	.916	***
LLPR	.23	.154	1.49	.14	-.077	.537	
Constant	-4.955	4.84	-1.02	.309	-14.579	4.669	

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

Source : Authors Calculation by Stata 18

The fixed effects regression analysis, selected following a significant Hausman test, examines the impact of credit risk on the financial soundness of commercial banks in Bangladesh, with Return on Equity (ROE) serving as the dependent variable. The model demonstrates a good overall fit, explaining approximately 50.4% of the variation in ROE (R-squared = 0.504) and is statistically significant at the 1% level (F-statistic = 17.277, $p = 0.000$). Among the credit risk indicators, the Non-Performing Loans (NPL) ratio and Loan Loss Provision Ratio (LLPR) exhibit positive but statistically insignificant coefficients. This suggests that, within individual banks over time, changes in credit risk levels do not have a significant direct influence on banks' financial soundness as measured by ROE. Similarly, the Loan-to-Deposit Ratio (LDR) shows a negative but insignificant relationship, indicating that higher lending intensity relative to deposits does not meaningfully affect profitability in this sample.

In contrast, the Capital Adequacy Ratio (CAR) emerges as a strong and highly significant positive determinant of ROE. The coefficient of 1.171 implies that a one percentage point increase in CAR is associated with a 1.171 percentage point rise in ROE, highlighting the critical role of sufficient capital buffers in enhancing the financial soundness of Bangladeshi commercial banks. This

finding underscores that while direct credit risk measures may not significantly impair performance, maintaining strong capital positions effectively supports profitability and acts as a safeguard against potential credit risks. Additionally, GDP growth rate displays a robust positive and highly significant effect on ROE, suggesting that favorable macroeconomic conditions play a more substantial role in driving bank performance than bank-specific credit risk factors during the study period.

Overall, the results indicate that credit risk, as proxied by NPL and LLPR, does not exert a statistically significant impact on the financial soundness of commercial banks in Bangladesh once unobserved bank-specific heterogeneity is controlled for through fixed effects. Instead, capital adequacy and broader economic growth appear to be the primary drivers of ROE. These findings contribute to the existing literature by suggesting that regulatory emphasis on capital requirements under Basel frameworks has been effective in mitigating the adverse effects of credit risk on bank soundness in the Bangladeshi context. However, the insignificance of credit risk variables should be interpreted cautiously, as it may reflect improved risk management practices, data characteristics, or the specific time frame analyzed.

5.5 Hausman Specification Test

	Coef.
Chi-square test value	10.987
P-value	.027

Source : Authors Calculation by Stata 18

The Hausman test result (Chi-square = 10.987, p-value = 0.027) indicates that the null hypothesis is rejected at the 5% level of significance. Therefore, the Fixed Effect Model is considered more appropriate than the Random Effect Model, as it accounts for unobserved heterogeneity across banks that is correlated with the explanatory variables.

Chapter Six

Findings and Discussions, Conclusion & Recommendation

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6.1 Findings and Discussions

The study investigates the impact of credit risk on the financial soundness of commercial banks in Bangladesh using panel data analysis. Based on descriptive statistics, correlation analysis, VIF test, Hausman test, and fixed-effects regression results, several important findings have emerged.

First, the descriptive analysis indicates that the banking sector maintains a moderate level of profitability, as reflected by the average Return on Equity (ROE). However, the relatively high mean value of Non-Performing Loans (NPL) suggests that credit risk remains a persistent issue. This highlights that despite earning profits, banks are still exposed to significant default risk, which can threaten long-term stability.

Second, the correlation analysis shows a strong negative relationship between NPL and ROE, as well as between Loan Loss Provision Ratio (LLPR) and ROE. This implies that higher credit risk and provisioning reduce profitability. At the same time, Capital Adequacy Ratio (CAR) shows a strong positive relationship with ROE, indicating that well-capitalized banks are more financially stable and profitable. Loan-to-Deposit Ratio (LDR) demonstrates a moderate positive relationship with ROE, suggesting that efficient lending contributes to profitability.

Third, the multicollinearity test confirms that there is no serious multicollinearity problem among the independent variables, ensuring the reliability of the regression model. Although NPL has a slightly higher VIF, it remains within acceptable limits and does not distort the model.

Fourth, the Hausman test result indicates that the Fixed Effects Model is more appropriate than the Random Effects Model. This suggests that individual bank characteristics significantly influence financial performance and must be controlled in the analysis.

Fifth, the regression results provide deeper insights. Capital Adequacy Ratio (CAR) and GDP growth have a statistically significant positive impact on ROE. This indicates that strong capital structure and favorable macroeconomic conditions play a crucial role in enhancing financial soundness. On the other hand, NPL, LLPR, and LDR are found to be statistically insignificant in the fixed-effects model, although their expected signs are consistent with theory.

Overall, the findings suggest that while credit risk indicators negatively affect profitability at a general level, their impact becomes less significant when bank-specific factors are controlled.

Instead, capital strength and economic growth emerge as the key drivers of financial soundness in Bangladesh's banking sector.

6.2 Limitations of The Study

Although this study provides valuable insights into the relationship between credit risk and financial soundness, it is subject to several limitations that should be considered when interpreting the results.

Firstly, the study relies entirely on secondary data collected from annual reports of selected commercial banks. While these sources are reliable, they may contain reporting inconsistencies or differences in accounting practices across banks, which could affect the accuracy of the analysis.

Secondly, the sample size is limited to only 10 commercial banks over a 10-year period (2015–2024). This relatively small sample may not fully represent the entire banking sector of Bangladesh. As a result, the findings may have limited generalizability to all banks, especially smaller or newly established institutions.

Another limitation is that the study focuses only on selected variables, such as NPL, LLPR, LDR, CAR, and GDP growth. Other important factors like management efficiency, operational risk, interest rate fluctuations, and regulatory changes are not included in the model. The exclusion of these variables may lead to omitted variable bias.

Additionally, the study applies quantitative methods only, without incorporating qualitative insights such as managerial practices, policy decisions, or institutional behavior. These qualitative factors could provide deeper understanding of credit risk management but are beyond the scope of this research.

Moreover, the use of panel data regression models assumes certain statistical conditions, and any violation of these assumptions (such as heteroskedasticity or autocorrelation) may affect the robustness of the results, even though diagnostic tests are conducted.

Finally, the study is limited to the Bangladesh banking context, which means the findings may not be directly applicable to other countries with different financial systems, regulatory frameworks, or economic conditions.

6.3 Conclusion

This study examines the relationship between credit risk and the financial soundness of commercial banks in Bangladesh over the period 2015–2024. The analysis is conducted using panel data techniques, where Return on Equity (ROE) is used as a proxy for financial soundness, and key credit risk variables include NPL, LLPR, and LDR.

The results reveal that credit risk remains an important concern for the banking sector. Although the regression analysis shows that NPL and LLPR are not statistically significant in the fixed-effects model, their negative association with profitability is evident from correlation analysis and theoretical expectations. This indicates that credit risk still plays an indirect role in influencing financial performance.

More importantly, the study finds that Capital Adequacy Ratio (CAR) has a strong and significant positive effect on financial soundness. This confirms that maintaining adequate capital is essential for absorbing risks and ensuring stability. Additionally, GDP growth significantly improves bank performance, highlighting the importance of a stable macroeconomic environment.

In conclusion, the financial soundness of commercial banks in Bangladesh is influenced more by capital strength and economic conditions than by direct credit risk indicators in the short run. However, credit risk cannot be ignored, as it remains a fundamental threat to long-term sustainability. Therefore, effective credit risk management, along with strong regulatory frameworks, is essential for ensuring a stable and resilient banking sector.

6.4 Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. Strengthening Credit Risk Management

Banks should improve their credit appraisal and monitoring systems to reduce the level of Non-Performing Loans (NPL). Proper borrower evaluation, risk assessment, and regular loan monitoring can help minimize default risk.

2. Enhancing Loan Recovery Mechanisms

Effective recovery strategies should be implemented to manage existing bad loans. Legal frameworks and recovery units should be strengthened to ensure timely collection of overdue loans.

3. Maintaining Adequate Capital Levels

Since Capital Adequacy Ratio (CAR) has a strong positive impact on financial soundness, banks must strictly follow regulatory capital requirements. Maintaining sufficient capital buffers will help absorb unexpected losses.

4. Improving Provisioning Practices

Banks should adopt more realistic and forward-looking provisioning policies. Proper Loan Loss Provision Ratio (LLPR) management will increase transparency and reduce hidden financial risks.

5. Ensuring Optimal Loan-to-Deposit Ratio (LDR)

Banks should maintain a balanced LDR to avoid excessive lending or liquidity shortages. Efficient fund utilization can enhance profitability without increasing risk exposure.

6. Strengthening Regulatory Oversight

Regulatory authorities such as Bangladesh Bank should enhance supervision and enforce stricter credit risk policies. This will ensure discipline in lending practices and improve overall sector stability.

7. Promoting Economic Stability

Since GDP growth positively affects bank performance, policymakers should focus on maintaining a stable macroeconomic environment. Economic growth will improve borrowers' repayment capacity and reduce default risk.

6.4 References

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Appendix

Descriptive Statistics Analysis

Stats	OB	Min.	Max.	Mean	Std, Dev.	Skewness	Kurtosis
ROE	100	1.2	17.8	11.1266	4.90006	-.54696	2.233522
CAR	100	7.27	15.4	12.6915	2.249446	.956919	3.170976
NPL	100	2.8	22.69	8.8683	6.789073	.9181723	2.17053
LDR	100	60.11	93.5	78.874	7.967618	.396548	3.20865
GDP GR	100	3.4	7.88	6.408	1.441182	-1.03416	2.744055
LLPR	100	3.6	12.3	6.892	3.030374	.5666242	1.723446

Source : Authors Calculation by Stata 18

Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROE	1.000					
(2) CAR	0.872 (0.000)	1.000				
(3) NPL	-0.833 (0.000)	-0.878 (0.000)	1.000			
(4) LDR	0.378 (0.000)	0.325 (0.001)	-0.463 (0.000)	1.000		
(5) GDP GR	0.252 (0.011)	0.100 (0.324)	-0.035 (0.731)	-0.050 (0.620)	1.000	
(6) LLPR	-0.683 (0.000)	-0.743 (0.000)	0.786 (0.000)	-0.436 (0.000)	0.049 (0.626)	1.000

Source : Authors Calculation by Stata 18

Multicollinearity Test

VIF Analysis

Variables	VIF	1/VIF
NPL	5.830	0.118
CAR	4.850	0.131
LLPR	2.850	0.546
LDR	1.360	0.579
GDP GR	1.050	0.906
Mean VIF	3.190	

Source : Authors Calculation by Stata 18

Regression Analysis (Pooled OLS)

Mean dependent var	11.127	SD dependent var	4.900
R-squared	0.817	Number of obs	100
F-test	83.949	Prob > F	0.000
Akaike crit. (AIC)	442.789	Bayesian crit. (BIC)	458.420

ROR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CAR	1.242	.212	5.87	0	.822	1.663	***
NPL	-.203	.077	-2.64	.01	-.355	-.05	***
LDR	.039	.032	1.23	.22	-.024	.102	
GDP GR	.646	.154	4.20	0	.341	.95	***
LLPR	-.033	.12	-0.27	.787	-.272	.206	
Constant	-9.837	4.737	-2.08	.041	-19.242	-.432	**

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

Source : Authors Calculation by Stata 18

Regression Analysis (Fixed-effects)

Mean dependent var	11.127	SD dependent var	4.900
R-squared	0.504	Number of obs	100
F-test	17.277	Prob > F	0.000
Akaike crit. (AIC)	406.144	Bayesian crit. (BIC)	421.775

Regression results

ROE	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CAR	1.171	.223	5.26	0	.728	1.614	***
NPL	.058	.112	0.51	.61	-.166	.281	
LDR	-.063	.042	-1.51	.134	-.147	.02	
GDP GR	.644	.137	4.71	0	.372	.916	***
LLPR	.23	.154	1.49	.14	-.077	.537	
Constant	-4.955	4.84	-1.02	.309	-14.579	4.669	

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

Source : Authors Calculation by Stata 18

Hausman Specification Test

	Coef.
Chi-square test value	10.987
P-value	.027

Source : Authors Calculation by Stata 18