“Impact of NPL on Bank’s Profitability: A Study on State-Owned Commercial Banks in Bangladesh”

An Internship Report submitted in partial fulfillment of the requirements for the Degree of Master of Business Administration (MBA)

Submitted To

Md. Amdadul Hoque

Associate Professor and Head of the Department

Department of Finance & Banking

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Submitted By

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MBA ID: 22317010, Session: 2022-23

Department of Finance and Banking,

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Date of Submission

26th May, 2025

Department of Finance and Banking,

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Letter of Transmittal

To

Date: 26/05/2025

Md. Amdadul Hoque,
Internship Supervisor,
Associate Professor and Head of the Department,
Department of Finance& Banking,
Comilla University, Cumilla-3500.

Subject: Submission of Internship Report On "Impact of NPL on Bank's Profitability: A Study on State-Owned Commercial Banks in Bangladesh."

Dear Sir

It's my honor to let you know that I have furnished a report based on my practical experience under your supervision; during the internship period I had the opportunity to gather experience in **Janata Bank PLC, Shashidal Bazar Branch, Cumilla**. My topic has been decided **"Impact of NPL on Bank's Profitability: A Study on State-Owned Commercial Banks in Bangladesh."**I have tried to write this report on the basis of my experience in the Bank.

I therefore, pray and hope that you would be kind enough to accept this report as fulfillment of the requirement of my MBA program.

Sincerely yours,

.....

Tanha Akter Dina

MBA ID: 22317010, Session: 2022-23

Department of Finance and Banking,

Comilla University.

Supervisor's Certificate

This is to certify that the internship report on **"Impact of NPL on Bank's Profitability: A Study on State-Owned Commercial Banks in Bangladesh"** for the degree Master's of Business Administration (MBA) major in Finance & Banking from Comilla University carried out by **Tanha Akter Dina, MBA ID: 22317010,** under my supervision. No part of the internship report has been submitted for any degree diploma, title, or recognition before.

She is permitted to submit the internship report.

…….

Md. Amdadul Hoque,
Internship Supervisor,
Associate Professor and Head of the Department,
Department of Finance& Banking,
Comilla University, Cumilla-3500.

Declaration

I do hereby solemnly declare that the work presented in this Internship report has been carried out by me and has not been previously submitted to any other university/college/organization for an academic qualification/certificate/degree.

The work does not any existing copyright regulation. Information derived from the published and unpublished work of others has been acknowledged in the text and references.

I further undertake to indemnify the department as well as university against any loss or damage arising from breach of the foregoing obligations.

…….

Tanha Akter Dina

MBA ID: 22317010, Session: 2022-23

Department of Finance and Banking,

Comilla University.

Experience Certificate

জনতা ব্যাংক পিএলসি.

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জনতা ব্যাংক পিএলসি **প্রধান কার্যালয়: জনতা ভবন**

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Ref: MKH/0594/internship/Tanha/25/01 Date: 25/05/2025

TO WHOM IT MAY CONCERN

This is to certify that Mrs. **TANHA AKTER DINA** , D/O: Mr. Md. Ullah Patowary & Mrs. Rahima Khatun Bithi, student of Master of Business Administration (MBA) program, Exam Roll No. 22317010, Finance and Banking Department under Business Faculty of Comilla University has been conducting her 03 (Three) months' long Internship program from our Branch since 23rd April, 2025.

During her internship period, she is working with different departments of our branch. So far, She has gathered practical knowledge which will help her to cope with real-world business practices.

We wish her all success in life.

MD. KABIR HOSSAIN
P.A NO: 16401
Manager
Janata Bank PLC.
Shashidal Bazar Br Cumilla.

Acknowledgement

I would like to express my deep gratitude to all those who have been helpful in the preparation of this internship report. It certainly would not have been possible without the help of many people and I would like to acknowledge my pleasure to all those who had helped me during this entire process.

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 task. Internship report is an essential part of the MBA program and to complete the process I have worked in **Janata Bank PLC, Shashidal Bazar Branch, Cumilla**. It is a great pleasure to prepare internship report on **"Impact of NPL on Bank's Profitability: A Study on State-Owned Commercial Banks in Bangladesh"**. On this manner I would like to express my deepest gratitude to my honorable academic supervisor, **Md. Amdadul Hoque**, Department of Finance and Banking, Comilla University for permitting and guiding me to prepare the report.

I want to thank my organizational supervisor Mr. Md.Kabir Hossain, Head of Branch, Janata Bank PLC, Shashidal Bazar Branch, Cumilla :for permitting me to work at Janata Bank PLC, Shashidal Bazar Branch, Cumilla. I would like to express my thanks to Credit Administration Department of Janata Bank PLCfor providing valuable information which helped me to make my report more authentic.

Executive Summary

A loan that is in default or almost in default is considered non-performing. Non-performing loans (NPLs) have a negative impact on both the national economy and the banking industry. The central bank's standards require banks to maintain provisions against non-performing loans, which have a significant impact on the profitability of the bank. The purpose of this study is to examine the effects of non-performing loans over the previous 5 years in order to determine if they have had a notable effect on the profitability of the four banks that were chosen. It also aims to identify the many reasons why non-performing loans occur in Bangladesh's banking industry. Return on Assets was chosen as the study's dependent variable. Secondary data for this analysis was gathered from these banks' annual reports during a 5-year period, from 2019 to 2023. Statistical methods are applied to the data analysis. concentrating on determining if the factors employed in this study have any link at all. As expected, the data analysis revealed a considerable influence of NPL on profitability.

One of the study's primary conclusions focuses on the fundamental causes of the rising number of categorized loans. There are several important steps that may be made to soften the situation. This study may help in understanding how rising non-performing loans (NPLs) affect bank performance and in taking proactive measures to manage them.

According to the report, non-performing loans (NPLs) have been the main issue facing Bangladesh's banking industry over the past few decades. The non-performing loan (NPL) rate is substantially higher in our nation than the 2 percent international guideline. It has been shown that as time goes on, the NPL ratio increases progressively. Therefore, Bangladesh Bank should place more of an emphasis on the NPLs of state owned commercial banks in its capacity as a credit regulating body.

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Chapter: ONE

Introduction

1. Introduction

A robust and efficient banking sector is essential for sustaining the economic development of a country like Bangladesh. Banks play a pivotal role in mobilizing savings and channeling them into productive investments. However, the rising burden of non-performing loans (NPLs) continues to undermine the strength and stability of the sector, particularly in state-owned commercial banks (SOCBs). Despite reforms and regulatory efforts, NPLs remain a significant challenge, representing a persistent weakness in credit risk management and lending practices.

Non-performing loans are loans for which the borrower has failed to make scheduled payments of principal or interest for 90 days or more. Such loans erode bank profitability, reduce lending capacity, and adversely affect investor and depositor confidence. In Bangladesh, the increasing volume of NPLs has not only jeopardized financial performance but also raised concerns about the overall health of the banking system. From BDT 427.3 billion in 2012 to BDT 1560 billion in 2023, the sharp rise in NPLs has sparked interest among researchers and policymakers seeking to identify its causes and consequences.

This study aims to examine how NPLs influence the profitability of SOCBs in Bangladesh over a recent five-year period (2019–2023). By incorporating key bank-specific variables such as Capital Adequacy Ratio (CAR), Loan to Asset Ratio (LAR), and Bank Size (BS), the research evaluates the impact of NPLs on Return on Assets (ROA), a widely accepted measure of bank performance.

1.1 Background of the Study

Bangladesh classifies NPLs into substandard, doubtful, and bad/loss categories based on the aging of arrears. Despite ongoing regulatory interventions, the persistent increase in NPLs remains a matter of serious concern. Numerous studies suggest that NPLs are both a symptom and a cause of banking sector crises. Poor credit assessments, political influence in lending, inadequate loan monitoring, and structural inefficiencies have all contributed to the problem.

The performance of SOCBs, which handle a substantial share of public funds, is critical for financial system stability. However, these institutions frequently report high NPL

levels, reflecting inefficiencies in operations and risk management. While private commercial banks have made notable progress in asset quality improvement, SOCBs continue to struggle.

By focusing on SOCBs and analyzing recent data, this research aims to uncover patterns in NPL behavior and its direct and indirect effects on profitability, especially through ROA.

1.2 Problem Statement

Despite repeated initiatives by the government and the central bank, Bangladesh's SOCBs continue to suffer from high levels of NPLs. These bad loans impair bank performance, reduce capital adequacy, and limit the scope for new investments. Previous studies have often failed to establish a robust linkage between NPLs and bank profitability, particularly in the context of state-owned banks.

This study seeks to bridge that gap by focusing on the extent to which NPLs impact ROA, while considering other influential variables like Capital Adequacy Ratio, Total loan to Total Asset Ratio, Bank Size. The goal is to determine the nature and strength of these relationships and propose recommendations for improving profitability and asset quality in SOCBs.

1.3 Research Questions

The following inquiries were posed in order to fulfill the study's overall objective:

1. What is the impact of non-performing loans on the profitability of state-owned commercial banks in Bangladesh?
2. To what extent do variables like CAR, LAR, and BS influence the relationship between NPLs and ROA?

1.4 Research Objectives

1.4.1 Broad objectives

The main objective of this study is to explore the impact of non-performing loans on the profitability of State-Owned commercial Banks(SOCBs) in Bangladesh.

1.4.2 Specific objectives

i. To evaluate the relationship between NPL and ROA.
ii. To examine how CAR, LAR, and Bank Size influence ROA in the presence of NPLs.
iii. To provide policy suggestions to reduce NPLs and improve SOCBs' profitability.

1.5 Scope of the study

This report is mainly performed for evaluate the effect of non-performing loan on profitability and return on asset of selected top four govt. commercial banks in Bangladesh. The time duration is set on the 5 years from 2019 to 2023. Panel (balance) data of 20 observations have been used in that study. Results and pertinent suggestions are derived from the analysis. When assessing performance, a few performance characteristics are taken into account to keep things simple. Those who are interested for getting information about non performing loan of commercial banking sector and its impact on firm's profitability and return on asset, this report could help them in various aspects. Moreover, the study would focus on the following areas of banking sector in Bangladesh.

1.6 Significance of the Study

The growing NPL problem in Bangladesh poses a direct threat to the financial health and credibility of SOCBs. This research provides timely insights into the nature of this problem and its implications for bank profitability. By empirically analyzing the relationship between NPLs and ROA—along with other vital variables like Capital Adequacy Ratio, Total loan to Total Asset Ratio, Bank Size —the study contributes to existing literature and supports informed decision-making. It also highlights the importance of effective credit risk management and strong governance in sustaining financial performance.

Chapter: TWO

Literature Review

2.1 Introduction

This literature review gives an overview of existing knowledge related to commercial bank's financial performance, non-performing loan and return on asset.

This literature review summarizes, analyses, evaluates and synthesizes the relevant literature within commercial banking field of research. It sheds light on how knowledge has changed in the field of commercial banking by emphasizing what has been done, what is widely acknowledged, what is new, and how people are now thinking about the subject.

2.2 Literature Review

Kingu et al. (2018) used the information asymmetry theory and the poor management hypothesis to investigate how non-performing loans (NPLs) affect a bank's profitability. According to the study, Tanzanian commercial banks' profitability is inversely correlated with the number of non-performing loans (NPLs).

Adebola, Wan Yousaff and Dahalan (2011) think the increasing rate of NPL is not only a threat for a country but also all over the world. Therefore it is important to identify the factors affecting NPL is banks internal factors which influence the banks performance about how they manage their disbursed loan.

Podder (2012) analyzed 30 PCBs in Bangladesh between 2001 and 2010 and found that the following significant variables were associated with bank profitability: NPL, Advance/Deposit ratio, Total Asset, and Equity/Total Asset ratio.

Lata (2015) used a few ratios and an econometric linear regression model to illustrate the general situation of NPIs, their increase, and the impact of excess NPIs on bank performance. She looks at the substantial relationship that exists between Non-Performing Loans (NPLs) and the SCBs' profitability in Bangladesh. She said in her research's conclusion that it is one of the key elements affecting banks' profitability and that, during the study years, it had a statistically significant negative influence on SCBs' net interest income.

According to research by ***Balango&Rao K. (2017)***, there is a strong correlation between profitability and the quantity of NPL. The analysis's findings indicated that, for Ethiopia's commercial banks, NPL has a negative and considerable impact on ROA whereas CAR has a positive but comparatively small impact.

The impact of NPI credit risk fluctuations on bank performance in Nigeria was investigated by ***Somoye (2010)***. Using banking factors such total assets, total loans, non-performing loans, equity capital, profit-before-tax, etc., the research evaluated the performance of Nigerian banks.
According to ***Hossain (2018),*** non-performing loans have grown more noticeable in Bangladesh in recent years. Political will, a lack of sound governance, and structural weakness are the primary causes of the bank industry's decline.

The factors influencing non-performing loans (NPLs) in the Chinese banking sector were empirically tested by ***Bashir, Yu, Hussain, Wang, and Ali (2017)***. The researchers discovered that although strong competition in the banking industry raises NPLs, high banking system transparency lowers NPLs—but not in the case of government-owned banks. NPLs are significantly impacted by macroeconomic factors, particularly real GDP, real interest rates, and inflation. Last but not least, factors unique to individual banks, such size and profitability, have a big impact on NPLs.

Chimkonoet al. (2016) looked at how the non-performing loan ratio and other factors affected the commercial banks in Malawi's financial performance. The average lending interest rate, cost efficiency ratios, and non-performing loan ratio, according to the author, all significantly impacted Malawian banks' profitability.

Adebisi and Matthew (2015) looked at how nonperforming loans affected Nigerian banks' bottom lines. Through the use of a regression model, the authors discovered a strong negative association between Non-performing Loans (NPI) and Return on Assets (ROA); on the other hand, they discovered a positive but negligible relationship between NPI and Return on Equity (ROE) of Nigerian banks.

According to ***Stuti&Bansal (2013),*** a nation's non-performing asset (NPA) ratio is the best measure of the soundness of its banking sector. Bank performance is reflected in nonperforming loans. Improvement in the asset quality of both public and private sector banks is shown by a decline in the ratio of nonperforming loans. Conversely, commercial

banks should be concerned about an increase in the percentage of nonperforming loans to total loans. The improvement in both sector banks' loan portfolios is indicated by the fall in gross non-performing assets (NPAs) relative to gross advances. The relationship between gross non-performing assets and total assets directly affects the bank's liquidity and risk management.

In a 2019 study titled "A Comparative Analysis on Non-Performing Loans (NPLs) In the Banking Sectors of Bangladesh," ***Sarker S. K.*** examined the relative positions of the four banking categories with regard to non-performing loans in Bangladesh and looked into the various reasons why non-performing loans occur in Bangladeshi banking sectors.

Chapter: THREE

Organizational Profile

3. Organizational Profile

Information about all the commercial banks related to the study including Janata Bank PLC, Agrani Bank PLC, Rupali Bank PLC, Sonali Bank PLC.

3.1 Janata Bank PLC

Bangladesh's state-owned commercial bank, Janata Bank PLC, was founded in 1972. Bangladesh's capital city of Dhaka, or Motijheel, is home to the organization's headquarters. In Bangladesh, it is the second-biggest commercial bank. The highest-ever fiscal deficit of any bank in Bangladesh was recorded by Janata Bank in 2019 at 82.56 billion taka. It is Bangladesh's top-performing state bank.

- **Vision of Janata Bank PLC:** To become Bangladesh's largest operational commercial bank in order to promote the nation's socioeconomic growth and establish itself as a preeminent financial institution in South Asia.

- **Mission of Janata Bank PLC:** With a steady expansion plan, superior financial products, a management team with years of expertise, outstanding customer service, and sound corporate governance throughout the whole banking network, Janata Bank PLC. will be a successful commercial bank.

- **Services Provided by JanataBhaban Corporate Branch**

1. The creation of an account

2. SME's banking
3. Western Union money transfers cash deposit
4. Award bond
5. payments with credit cards
6. Opening and closing an account
7. Delivery of cards and checks
8. updating customer data
9. Locker service
10. Debit card assistance
11. Credit card provider,
12. Declarative wording and certifications,
13. Transfer funds

- **Slogan:** "Your committed partner in progress."

- **Strategic Objective :**With a friendly board of directors and excellent internal and external governance, the bank is able to effectively accomplish its goals of offering nationwide services to individuals across the nation at the lowest possible cost while maintaining the highest quality of service.

- **Core Values :**The bank's core values are being a good neighbor to its clients and other stakeholders, prioritizing them always, being professional at all times, seeking to improve the services it offers, keeping a healthy capital base, providing services that uphold ethical standards, and doing other things that help the bank provide financial services efficiently.

3.2 Agrani Bank PLC

Following the Bangladesh Banks (Nationalization) Order 1972 via President's Order No. 26 of 1972, which rebranded the old Habib Bank Limited and Commerce Bank Limited as Agrani Bank, Agrani Bank became a Nationalized Commercial Bank. On May 17, 2007, the Bank was established in accordance with the Companies Act of 1994 as a State-owned Commercial Bank. Through a vendor's agreement signed on November 15, 2007, between the Board of Directors of ABL and the Ministry of Finance of the People's Republic of Bangladesh, Agrani Bank PLC acquired the business, assets, liabilities, rights, and obligations of Agrani Bank on a going concern basis, with retroactive effect from July 1, 2007.

- **Vision of Agrani Bank:** To become Bangladesh's top-performing, state-owned commercial bank, with a focus on quality, efficiency, sound management, strong liquidity, and outstanding customer service on a global scale.

- **Mission of Agrani Bank:** To uphold the strict guidelines established by our regulators while conducting business in an ethical and equitable manner. To develop our company policies and processes for the benefit of our employees and clients by incorporating ideas and lessons learned from best practices.

➢ Services Agrani Bank PLC provides:

1. Utility bills :
    - T&T Authority phone bills sans service fees
    - invoices from Grameen Phone Ltd. that include extra fees and a service charge
    - REB's electricity bill
    - free of service fees DESA electric bills that don't include service fees PDB's electricity bill without any service fees DESCO's electricity bill
    - free of service fees Railway bills that don't need a service fee Titas Gas
    - T& D Co. Ltd.'s gas bill sans service fees Bakhrabad Gas Co. Ltd.'s gas bill sans service fees
    - The MeghnaPetrolium Co. Ltd.'s oil bill.
2. Savings Certificates sold or cashed Selling or Buying of Prize Bonds Army/civil pension payment
3. Payment of the government component of the Madrasha teachers benefit (non-government primary, secondary, college, and institute)
4. Payment of elementary school teachers' salaries by the government
5. Honoraria paid to freedom fighters stipend payment for female students attending secondary and postsecondary educational institutes
6. Government allowances paid to DosthoMohila, Bidava and Bayaskastipend payments to elementary school pupils,ShishuKallyan.
7. Trust is paid a stipend in metropolitan areas.200 branches are used to maintain the BADC payout account.

3.3 Rupali Bank PLC

On March 26, 1972, under the Bangladesh Banks (Nationalization) Order 1972, three former commercial banks—Muslim Commercial Bank Limited, Australasia Bank Limited, and Standard Bank Limited—that operated in what was then East Pakistan merged to become Rupali Bank PLC. Up until December 13, 1986, Rupali Bank operated as a commercial bank that was nationalized. The Government still owns the majority of the shares in the Bank even after it went public. Rupali Bank has 586 branches across its operations.

- **Vision of Rupali Bank PLC:**Establish ourselves as the go-to financial partner that consistently goes above and beyond for clients in order to grow our devoted clientele.

- **Mission of Rupali Bank PLC**

• Create enduring relationships that support our clients' financial success

• Provide fulfilling career opportunities and foster employee dedication.

•Uphold moral principles, respond to clients' financial demands in the quickest and most suitable manner, and keep up inventive efforts to develop excellent human resources, a cutting-edge infrastructure, and service offerings.

- **Services provided by Rupali Bank PLC**

1. Division of Agri and Rural Credit.
2. Loans through Bank-NGO Linkage
3. CMSME Loan Products. Products for Deposit, BabsahiRin.

4. Home Loan under the Rupali Double Benefit Scheme (RDBS).
5. Employee House Building Loan from the Bangladesh Power Development Board and Other Items.
6. Banking Account for Rupali School (RSBA)

3.4 Sonali Bank PLC

Sonali Bank PLC is the largest state-owned commercial bank in Bangladesh. According to the Bangladesh Bank (Nationalization) Order 1972, Presidential Ordinance No. 26, 1972, 'Sonali Bank' was established with the National Bank of Pakistan, Bank of Bahawalpur and Premier Bank. In order to further accelerate banking activities by improving management efficiency and service quality, the company was registered with the Registrar of Joint Stock Companies and Firms on June 3, 2007 under the name "Sonali Bank Limited" and after the issuance of a banking license in favor of Sonali Bank Limited by Bangladesh Bank on June 5, 2007, the Government of the People's Republic of Bangladesh and Sonali Bank Limited entered into a "Vendor Agreement" and Sonali Bank Limited started banking activities as a company from November 15, 2007.

- **Vision:** A leading bank dedicated to the socio-economic development of the country through efficient, inclusive, modern technology-based, creative and accountable banking services.

- **Mission:**To contribute to the socio-economic development efforts of the country by improving the quality of life of the people by increasing institutional

efficiency, strengthening transparency and accountability, implementing the principles of integrity, consolidating good governance and ensuring proper utilization of resources.

- **Slogan:** "Trusted and Smart"

- **Services provided by Sonali Bank PLC**

1. **Savings and Current Accounts:** Basic banking services for individuals and businesses.
2. **Loans and Advances:** Lending facilities for various purposes, including personal loans, business loans, and agricultural loans.
3. **Fixed Deposits:** Term deposits for saving and earning interest.
4. **Debit and Credit Cards:** Payment and banking tools for transactions and withdrawals.
5. **ATM Services:** Access to cash and other banking functions at ATMs.
6. **Bill Payments:** Online and offline bill payments for utilities, taxes, and other services.
7. **Tax Collection:** Facilitating government tax payments, including income tax, VAT, and customs duty.
8. **International Banking:** Providing services for international trade, including import and export finance.
9. **Remittance Services:** Facilitating the transfer of money from abroad to Bangladesh.
10. **Locker Services:** Secure storage for valuable items in designated lockers.
11. **Digital Services:** E-wallet, internet banking, mobile banking, and online payment options.
12. **SMS Banking:** Transaction alerts and other banking information via SMS.
13. **Islamic Banking:** Offering Islamic banking services at selected branches.

Chapter: FOUR

Methodology

4.1 Sources & Collections of Data

The study analyzes secondary data, all of which were gathered from these chosen Banks' annual reports between 2019 and 2023. Annual reports are retrieved from these three particular Banks' websites. Five years' worth of data from these chosen banks have been used in this investigation. I have utilized data from 2019 to 2023 because the most current and some earlier year's data were not available. For the analytical portion, we utilized **SPSS** software.

4.2 Research Design

Given that it aims to investigate the link between two variables' causes and consequences, this research is analytical in nature. This study uses a quantitative technique to assess and evaluate the variables. The fact that this study depends on secondary data and certain other empirical works makes it an empirical research.

4.3 Variables Selection

4.3.1 Dependent Variable

- **Return on Asset Ratio (ROA):** Return on assets (ROA), a financial statistic, indicates a company's profitability relative to its total assets.

4.3.2 Independent Variable

Commercial Bank’s financial performance indicators have been used in the study as independent variables.

- **Total Loan to Total Asset Ratio (TLTAR):**The entire amount of outstanding loans is expressed as a proportion of total assets via the loan to asset ratio. The greater this ratio, the more leveraged and less liquid a bank is.
- **Non-Performing Loan Ratio (NPLR):**The non-performing loan (NPL) ratio is used to determine the level of credit risk and quality of the bank's existing loans..
- **Capital Adequacy ratio (CAR):** The amount of capital that a bank has on hand is expressed as a percentage of its risk-weighted credit exposures and is known as the capital adequacy ratio, or CAR.

- **Bank Size:** In research related to the banking sector, bank size is often used as an independent variable. It's a factor that researchers manipulate or observe to see how it impacts a dependent variable, such as profitability or risk-taking. Bank size is typically measured by total assets, total equity, or the number of employees.

Variables	Symbols	Measure
Dependent Variable		
Return on Asset	**ROA**	Net income/Total assets
Independent Variables		
Capital Adequacy Ratio	**CAR**	(Tier 1 capital + Tier 2 capital)/ Risk weighted assets
Total Loan to Total Asset Ratio	**TLTA**	Total loan/Total assets
Non-performing Loan Rate	**NPLR**	The ratio of non performing loans to total loans
Bank Size	**Size**	Logarithm of total assets

4.4 Hypothesis

4.4.1Joint hypothesis

Null hypothesis (H0)	There is no significant impact of commercial bank's financial performance on ROA .
Alternative hypothesis (H1)	There is significant impact of commercial bank's financial performance on ROA .

4.4.2 Individual hypothesis

1.	H0	There is no significant relationship between Total Loan to Total Asset Ratio (TLTAR) and ROA and NPL
	H1	There is significant relationship between Total Loan to Total Asset Ratio (TLTAR) and ROA
2.	H0	There is no significant relationship between Non-Performing Loan Ratio (NPLR) and ROA
	H1	There is significant relationship between Non-Performing Loan Ratio (NPLR) and ROA
3.	H0	There is no significant relationship between Capital Adequacy ratio (CAR) and ROA
	H1	There is significant relationship between Capital Adequacy ratio (CAR) and ROA
4.	H0	There is no significant relationship between Bank Size (Size) and ROA
	H1	There is significant relationship between Bank Size (Size) and ROA

4.5 Models of Analysis

To conduct regression analysis for selected commercial banks use multiple linear regression model. Here considered ROA as dependent variable (Y) and other related factors such as TLTA, NPLR, CAR, Size as independent variable **(x1,x2,x3,x4)** consecutively.

Multiple linear regression model equation is

$$\mathbf{Y= a + \beta 1x1+ \beta 1x2 + \beta 3x3 + \beta 4x4 + e}$$

Here,

Y – Dependent variable

x1, x2, x3, x4, x5 – Independent (explanatory) variables

a – Intercept

β1, β 2, β3, β4 & β 5 – Slopes

e – Residual (error)

To achieve the objective of the report, the following model is used

$$\mathbf{ROA= a + \beta 1\ (TLTA) + \beta 2\ (CAR) + \beta 3\ (NPLR) + \beta 4\ (Size) + e}$$

Where,

x1 = Total Loan to Total Asset Ratio(TLTA)

x2 = Capital Adequacy Ratio (CAR)

x3 = Non Performing loan ratio (NPLR)

x4 = Bank Size (Size)

Chapter: FIVE

Conceptual Framework

5.1 Non-Performing Loans (NPLs)

A loan that is not being paid back or almost not being paid back is called a non-performing loan (NPL). After not paying for 90 days, some loans are considered not good, but it depends on the agreement.

The International Monetary Fund says that Non-Performing Loans (NPL) are like this:

1. The money for the loan and the extra money is not paid for at least ninety days
2. Interest payments have been delayed, combined with the loan, or postponed for at least ninety-nine days
3. Even though the payments are not too late, there are good reasons to doubt if they will be paid in full

A loan that isn't being paid back on time or is close to not being paid back is called a non-performing loan (NPL). After not paying for 90 days, a lot of loans are considered not working well, but this can change depending on the agreement.

The International Monetary Fund says that NPL is like this:

1. The payments for interest and principal are late by at least three months
2. Interest payments have been added to the loan, changed, or postponed for at least ninety-nine days
3. Even though payments are not very late, there are still reasons to be unsure if they will be paid in full

Non-performing loans are loans that are not being repaid as scheduled, according to the rules set by the bank regulators.

1. Real estate that is owned because it was taken through foreclosure or by a deed given in place of foreclosure
2. Loans that are more than 90 days late in payments and are still getting charged interest
3. Loans that are not making any more money in interest are called nonaccrual loans

Non-performing loans are prevalent in India's agriculture sector, where farmers are unable to repay the loan balance or interest due to losses incurred from droughts or floods. NPL issues are typically resolved in one of two ways:

1. **Centralization:** Centralization is the result of an effort to find solutions by the government, banks, and regulators working together. Usually, this takes the shape of a centralized company or agency, like an asset management company.
2. **Decentralization:** This strategy entails actions made by the impacted banks. When it comes to bad loans that result from bad lending, the decentralized method is typical. With this strategy, the banks are granted incentives, legislative authority, or unique accounting or financial benefits, leaving them free to handle their own bad loans.

5.2 Non-Performing Loans in Bangladesh

In Bangladesh, the issue of loans not being repaid is not new. In reality, the government's policies that made it easier to borrow money helped the economy grow during the early years of the liberation period (1972-1981).Nominal credit growth occurred in the economy as a result of the expansion of credit policy, which was intended to distribute credit on somewhat easier terms. It produced a massive number of loan defaulters in the 1980s, which subsequently weakened the banks' financial stability due to the “sick industry syndrome”. The government wants banks to give money to state-owned businesses that are not making money. They have given limited rules about how to categorize and set aside money for these loans. The country's credit discipline was aligned until the end of 1989 as a result of the accrual accounting policies used to record the interest income of non-performing loans.

In order to bring back financial discipline to the nation, a wide-ranging financial initiative known as FSRP was implemented in the 1990s with assistance from the World Bank. The banking industry has since embraced "prudential norms." To make sure banks are careful with the money they lend, they have to follow extra rules and laws about how they classify loans and set aside money for potential losses. Some of these rules include the Money Loan Court Act, the Loan Ledger Account, the Lending Risk Analysis Manual, the Performance Planning System, and interest rate deregulation. The banking industry in Bangladesh was unable to escape the hold of non-performing loans (NPLs) despite numerous attempts to do so.

5.3 Causes of Non-Performing Loans

Several articles and journals about non-performing loans in Bangladesh show the reasons for these types of loans.

1. **Lack of business experience:** People who have never had a business before may start one after they retire. So, when it comes to starting a business, these people often fail and can't pay back the loans they got from banks.
2. **Lack of Business and lack of Institutional Training Background:** Young people often end up taking over their family's businesses. This means they are running a business without any experience or training beforehand. This could be a problem for the business, causing it to fail and not being able to repay loans.
3. **Unwillingness to pay:** This is a very well-known thing in Bangladesh culture. Some people do not want to give back the money. This could happen because the business isn't making enough money or because the person doesn't think it's a big deal if they don't pay back the loan.
4. **Lack of supporting facilities:** Sometimes, businesses need help from experts in the government. When the money coming in is increasing and the project is quiet, it needs support. If a company doesn't get better, it can become weak and have bad luck in the future.
5. **Non attractive industry:** Non attractive industries sometimes end up acting as a primary reason behind loans not being repaid. Due to poor financial performance, companies might get a low cash in-flow, which means the company has lower liquid cash, resulting in a loan default.
6. **Strong competition:** A lot of competition doesn't automatically cause a loan to not be repaid. They are sometimes an indirect reason. This is because of severe competitions from different firms in the same industry. When the in efficient firms fail to make enough profit, they somehow are low on liquid cash, and ultimately fail to repay the loan.
7. **Poor management capability:** Poor management capability If the companies have a lower management capability, then the chances of a loan default is comparatively higher. Banks usually check the management body of a firm before sanctioning a loan. If the management committee is strong, the loan sanction is a success, leading to lower probability of a loan default.

8. **Delayed assessment of loan proposal:** Banks in some cases make delay in surveying credit recommendations of the business firms. When the firm gravely needs cash, it does not get sufficient reserves because of postponed appraisal by the bank.
9. **Lack of proper monitoring:** Monitoring the loan that has been sanctions is a very important task that has to done and followed by the bank management. The bank needs to make sure that the loan has been used for the exact reason as to why it was taken. If the loan has been used for some other reason, it might lead to a default loan. The bank expects to get the installments and interests of the loan from the cash earnings of the business, whereas if the loan amount has been used for other purposes, then the bank will not get its money back, leading to a non performing or default loan.
10. **Delayed disbursements of fund:** Indeed, after appraisal of the proposition and taking positive choice, banks do not dispense funds until security documentation customs are completed. As a result, business does not get support when it really requires it. A few of the defaulters complained around subsequent disbursements.
11. **Lack of taking proper action:** Proper action can only be taken after proper monitoring has been done. If proper actions are taken, the chances of loan defaults decrease ultimately. For example, if a firm miss to pay a certain installment, the management should send someone in charge to have a look at the business condition.
12. **Changes in policy by the government:** Government is considered as the minor cause of the credit default as per the overview since it has a small effect on the local deals and conveyance of the items of the companies. Other causes such as defective loaning practice, need of investigation of business dangers, need of appropriate valuation of security or contract property, undue impact by borrowers, outside pressure, loan go Govt. organization. The organization of the Government is setting up a plan to pay back money borrowed, must be legally allowed.

5.4 Effects of NPLs in Bangladesh

Ceasing cash cycling, gaining diminishment, capital disintegration, increment in advance estimating, dissatisfaction etc. are a few of the common impact of NPL. Some of the usual results of NPL are:

This means that security is getting better, but the chances of a financial recession are also going up. NPL has bigger impacts when it's amplified. These amplifications are:

1. NPL can cause management problems for banks. Economists have found that banks in trouble are usually far away from where they can make the most money. This happens because banks don't make the best decisions about how much money to lend.
2. Non-performing loans hurt how well a business performs. An increase in non-performing loans affects the loans that are being paid back on time. It mostly happens when there is a bad choice made. Averse selection happens when one person knows more than the other person before making a deal.
3. NPL causes the Credit Crunch. The credit crunch happens when banks limit how much money they lend and how many new loans they make. This is meant to keep the banks safe, but it can also make things riskier. Banks think of loans like something valuable. They want something back from it. If loans are not paid back, banks may not have enough money to lend to other people, or they may have to lend money at higher interest rates. Customers need to give more money. Loans might not get paid back. The credit crunch also makes the rate of NPL go up.
4. NPL happens because people borrow money. When banks adjust their investments, they choose how much risk they are willing to take for a certain amount of profit, based on their preference for risk. This is because banks are required to keep 10% of their risky assets as capital, which is equal to 500 cores. Banks see loans as an investment that might be risky. If there is a lot of danger, banks will want a lot of money in return. When there are too many loans that are not being paid back, banks have a problem. This affects how they manage their money.
5. NPL increases when interest rates go up. When the number of bad loans (NPL) goes up, the loan that is seen as an asset becomes riskier. To make sure we can make enough money from the loan to cover the risk, we also need to raise the interest rate.
6. Money flow stops when NPL (non-performing loans) increase. The business suffers when there is not enough money coming in. While the NPL grows, the interest earned

stops. However, the expense of funding and the cost of control have not stopped. To keep track of how much money is being spent, we need to increase the current lending fees. Suddenly, the higher interest rate makes it hard for someone who borrowed money to pay it back to the bank. So the amount of money being invested will lower.

7. NPL impacts the ability to open a Letter of Credit. Global buyers always pick a strong and stable bank for the seller. The bank's poor health makes it harder to open new LCs. Banks don't make much money when there aren't many LCs.
8. NPL happens when people borrow money and then can't pay it back. Banks decide how much risk they are willing to take in order to make a certain amount of money. They do this to make sure they have enough money set aside in case something goes wrong. Banks see loans as a risky investment. If there is too much risk, banks will expect too much profit. When the number of loans that are not being paid back is too high, banks cannot accept them, and this affects the way banks manage their money. When non-performing loans reach their limit, they start to have a negative impact on lending.

5.5 Why NPLs Matter

Usually, commercial banks make their money by charging interest on the money they lend out. NPLs hurt a bank's earnings. NPLs make it difficult for banks to reach their goals in different ways. Balasubramaniam (2003) did a study and says that NPLs have many effects on what banks do.

First of all, controlling NPLs takes a lot of time and effort for administration. The time and effort spent on controlling NPLs could be used for better activities that would bring good results.

Second, if banks do not have specialized departments and financial engineers, they should be established. It is important to monitor NPLs, but it costs more money.

Thirdly, banks don't make money from NPLs anymore but they could have made money if they were used in other areas. NPLs make it hard to predict how much money a business will make in the future.

And finally, NPLs are loans that might not be paid back. To lower the chance of losing money, credit risk management tries to change the payment schedule for loans that are not being paid on time. But this can be expensive and may affect the company's progress and reputation. The bank's reputation is at risk because of non-performing loans. If a bank has too many bad loans, its credit rating could go down and it might not be able to work with other banks as much.

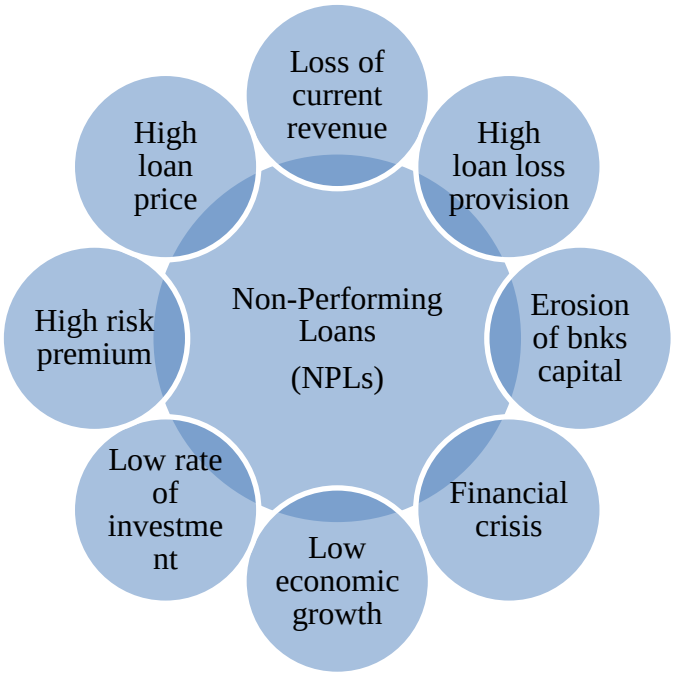
5.6 The Effects of NPLs on Profitability

Evaluating how well a bank is doing in making money is seen as the usual and common way. Simply put, when people don't pay back their loans, it hurts the bank's profits because they don't have as much money coming in, which makes their assets less valuable. So, when assets don't make money, it lowers the return on Assets (ROA). The loans that are not making money cost us because we could have used that money for something else that would make money. In addition, banks have to set aside money for loans that are not being paid back, which then reduces how much money they make.

As bad loans are increasing, banks are more focused on managing the risk of losing money instead of making profits from other parts of the bank. This is to prevent the situation from getting worse. Banks create plans to save their money and reduce losses. They use smart people to help them recover funds from bad loans. But they were able to focus on making more money and growing their business. Therefore, when banks have a lot of NPLs, it makes them perform worse and makes them less profitable.

NPLs make it hard for people to borrow money. Credit crunch happens when banks are careful with giving out loans and new credit to protect themselves, but it can also make things riskier. Loans are changed to a new payment plan with different interest terms. In this situation, people who borrowed money have to pay a higher interest rate for their old and new loans because their loan payment schedule has been changed. That eventually raises the rate of NPLs. Despite facing many challenges, banks are now choosing to invest in safer options to minimize their risks. To keep their business safe and make sure it doesn't fail, they use strategies that are not good for the economy to grow. In simple words, when banks have a lot of NPA (Non-Performing Assets) in their loan portfolio, it makes them less efficient. This affects their ability to make a profit, have enough cash on hand, and stay financially stable.

In 2005, Adhikary used pictures to show how NPLs can affect the economy and finances. The way NPLs affect things can be shown in a picture.



Banks are very important for our country's economy to grow. Banks make money by charging more interest to borrowers than they pay to people who have money saved in the bank. The picture shows that when a bank has NPLs, it loses the interest it could have earned. This results in a big loss of revenue. Because of this, the loan portfolio is filled with non-performing assets instead of assets that perform well. Additionally, in order to deal with the loss from non-performing loans, a large amount of money needs to be set aside from earnings as a provision. This could make it harder for banks to give out loans and can also cause a lack of money in the bank.

Therefore, to hide this bad situation and make more money, banks do aggressive banking by charging high fees, giving expensive loans, and lowering interest rates for deposits. It makes customers spend less money. In the end, when GDP goes down, it makes it harder for the economy to grow.

So, basically NPLs and provision make it harder for a business to make money, which can slow down the economy.

Chapter: SIX

Data Analysis

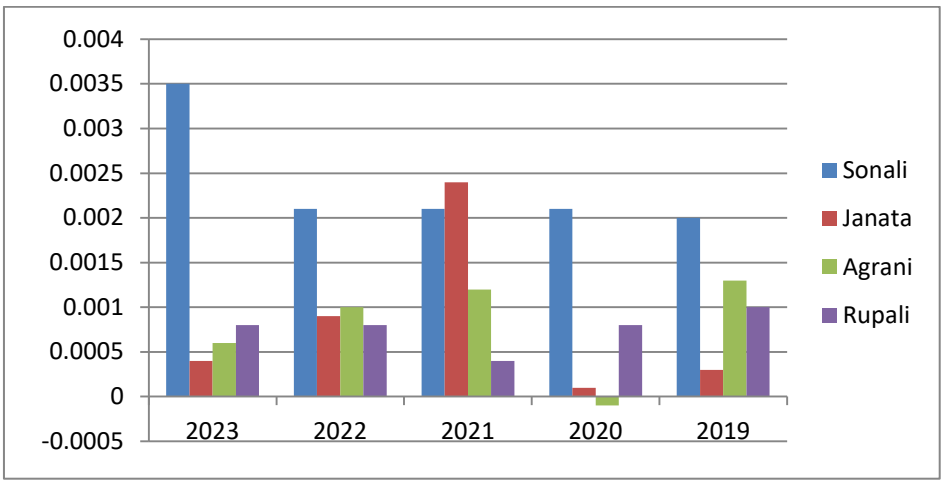
6.1 Data Chart for Analysis

Return on Assets (ROA), Total Loans to Total Assets (TLTA, Capital Adequacy Ratio (CAR), Bank Size (Size) and Non-Performing loan rate (NPLR) of five years (2019-2023) of four state owned commercial banks have been gathered for analysis

Bank	Year	ROA	TLTA	CAR	Bank Size	NPLR
Agrani	**2023**	0.0006	0.6150	0.0457	27.84	0.2837
	2022	0.0010	0.6344	0.0628	27.77	0.2111
	2021	0.0012	0.5003	0.0755	27.81	0.1670
	2020	-0.0001	0.4752	0.0974	27.72	0.1246
	2019	0.0013	0.5455	0.1002	27.47	0.1426
Janata	**2023**	0.0004	0.7094	0.0675	27.96	0.2542
	2022	0.0009	0.6683	0.0784	27.87	0.1784
	2021	0.0024	0.5599	0.0898	27.85	0.1761
	2020	0.0001	0.5802	0.1005	27.68	0.2269
	2019	0.0003	0.6126	0.1003	27.52	0.2663
Rupali	**2023**	0.0008	0.6020	0.0528	27.39	0.2103
	2022	0.0008	0.6340	0.0492	27.26	0.2119
	2021	0.0004	0.5725	0.0556	27.22	0.1884
	2020	0.0008	0.5342	0.0801	27.17	0.1270
	2019	0.0010	0.8063	0.1034	26.94	0.1615
Sonali	**2023**	0.0035	0.9290	0.1000	33.52	0.1323
	2022	0.0021	0.9332	0.1005	33.32	0.1483
	2021	0.0021	0.9210	0.1004	33.22	0.1732
	2020	0.0021	0.9787	0.1002	32.93	0.1837
	2019	0.0020	1.0017	0.1009	32.70	0.2032

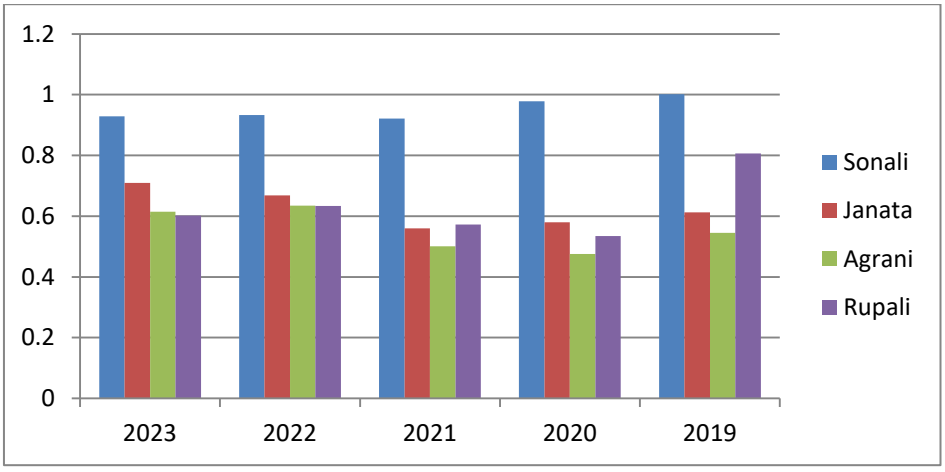
6.2 Graphical Presentation of Data

6.2.1 Return on Assets (ROA)



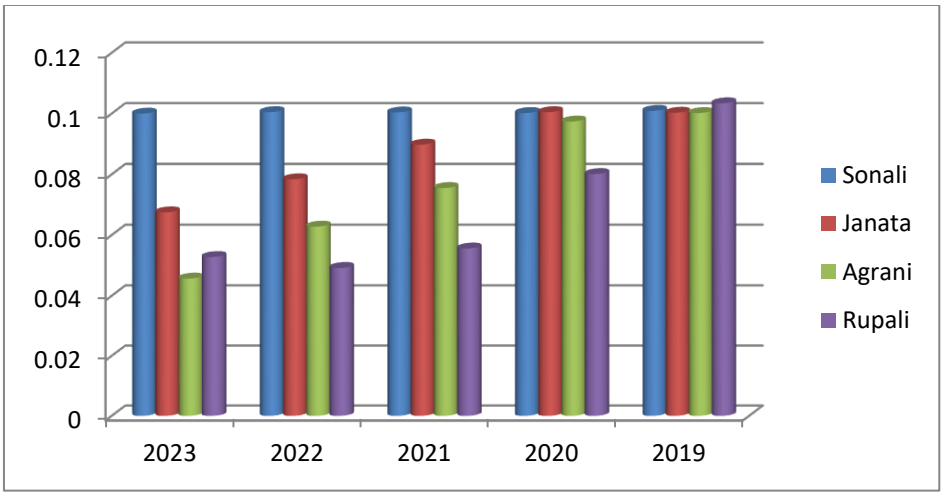
Sonali reliably outflanks the other banks in ROA, appearing a clear crest in 2021 and keeping up the most elevated values all through the period. Janata, Agrani, and Rupali all have altogether lower ROA, with negligible variety over the a long time. All banks, but Sonali, appear generally level or marginally declining patterns, demonstrating lower benefit relative to their resources.

6.2.2 Total Loans to Total Assets (TLTA)



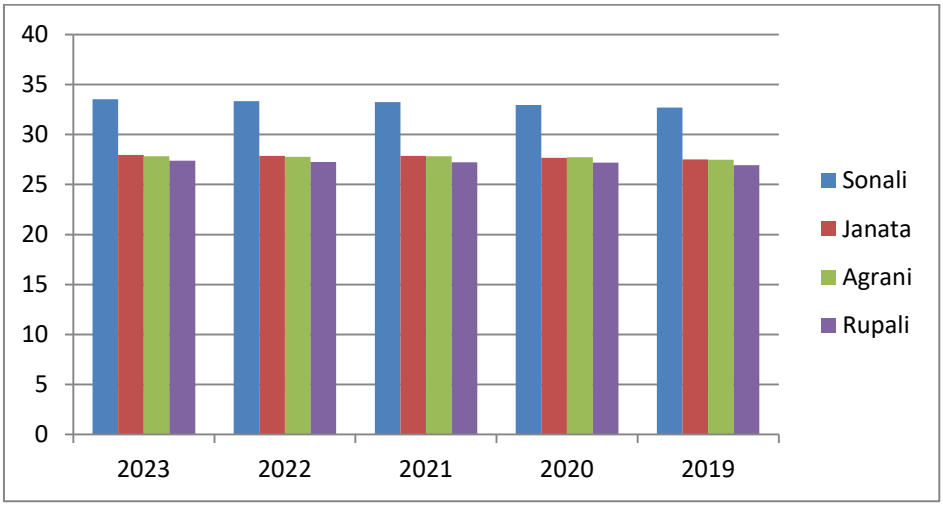
Sonali has the most noteworthy TLTA proportion each year, demonstrating a bigger parcel of its resources are designated to advances compared to the others. The other three banks (Janata, Agrani, Rupali) have comparable, lower TLTA proportions, which stay generally steady over the a long time. There's no critical upward or descending drift for any bank, recommending steady loaning hones relative to add up to resources.

6.2.3 Capital Adequacy Ratio (CAR)



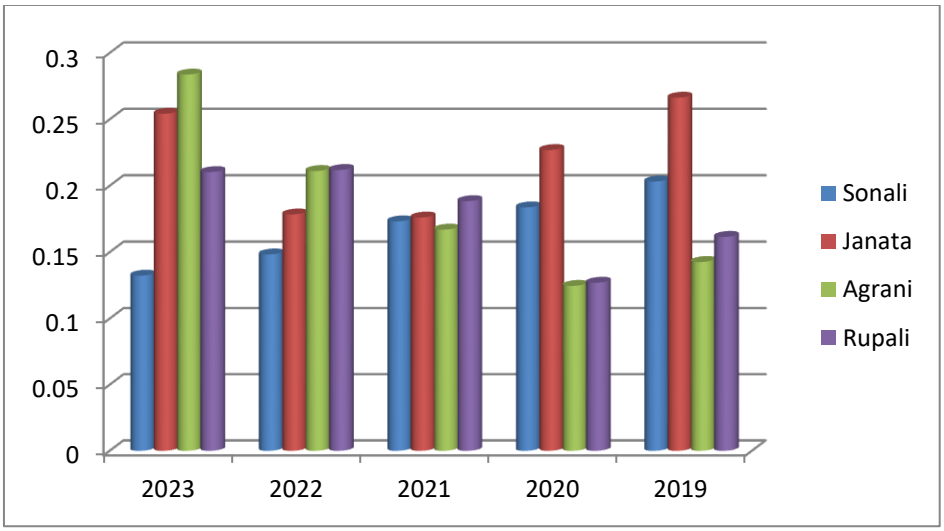
Sonali leads in CAR over all a long time, with a discernible increment from 2019 to 2021, taken after by a slight decrease. Janata and Agrani appear direct CAR values, whereas Rupali reliably has the most reduced CAR. All banks experienced a top in CAR around 2021, conceivably reflecting administrative or key capital reinforcing amid that period.

6.2.4 Bank Size (Size)



Sonali is the biggest bank by estimate (likely measured in add up to resources), keeping up its lead all through the a long time. Agrani is the moment biggest, taken after by Janata and Rupali.The relative measure positioning stay s steady, with all banks appearing slight development over the period.

6.2.5 Non-Performing loan rate (NPLR)



Janata has the most elevated NPLR each year, cresting in 2023, which focuses to critical resource quality concerns. Sonali and Agrani have direct NPLR values, with Agrani appearing a slight decay over time. Rupali reliably has the most reduced NPLR, proposing way better credit execution or stricter loaning benchmarks. In general, NPLR patterns are moderately steady, but Janata's tirelessly tall rate may be a ruddy hail.

6.3 Statistical Analysis

Statistical analysis is done on following methods-

1. Descriptive Statistics
2. Coefficient Table and Anova Test
3. Test of Multicollinearity
4. Heteroskedasticty Test
5. Autocorrelation Test

Variables Entered/Removed for Regression			
Model	**Variables Entered**	**Variables Removed**	**Method**
1	NPLR, TLTA, CAR, SIZE (b)	.	Enter
a Dependent Variable: ROA			
b All requested variables entered.			

6.3.1 Descriptive Statistics

Summarizing, classifying, and presenting data aptly can be done with the help of descriptive statistics, a branch of statistics which aims at providing a concise overview without making any inferences or predictions about a bigger dataset.

Descriptive Statistics									
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
ROA	20	-.0001	.0035	.001185	.0009121	.892	.512	.545	.992
TLTA	20	.4752	1.0017	.690670	.1717022	.746	.512	-.944	.992
CAR	20	.0457	.1034	.083060	.0205400	-.667	.512	-1.171	.992
SIZE	20	11.7000	27.9600	20.425500	7.5729230	-.049	.512	-2.155	.992
NPLR	20	.1246	.2837	.188535	.0453684	.525	.512	-.314	.992
Valid N (listwise) 20									

Interpretation:

1. **ROA (Return On Assets):** The average is approximately close to zero (0.001185) and so is the standard deviation indicating little variability. The higher positive skewness (0.892) indicates that there is a longer right tail.
2. **TLTA (Total Liabilities to Total Assets):** Average is 0.69 which means in average the liabilities comes to be around 69% of the assets. Claims to be moderately positively skewed.
3. **CAR (Capital Adequacy Ratio):** Average is 0.083, with a negative skewness indicating greater values above the mean.
4. **SIZE:** Scales as -1.0 NPLR and WNPLR are offsetting, and depletion with a mean close to 29.86 (possibly in log or millions), positively skewed.
5. **NPLR (Non Performing Loan Ratio):** Average is around 1.19, and displays moderate amount of skewness.

6.3.2 Coefficient Table

It measures the individual significance level of independent variables on the dependent variable.

Coefficients						
Model 1		**Unstandardized Coefficients B**	**Std. Error**	**Standardized Coefficients Beta**	**t**	**Sig.**
	(Constant)	.000	.001		.098	.923
	TLTA	.005	.001	.882	3.707	.002
	CAR	-.010	.010	-.229	-.983	.341
	NPLR	-.011	.004	-.533	-2.502	.024
	SIZE	3.410E-5	.000	.283	1.247	.232
a Dependent Variable: ROA						

Interpretation:

Here we have found that **TLTA** and **NPLR** are statistically significant predictors of ROA since their p-values are less than 0.05. On the other hand **CAR** and **SIZE** are not statistically significant as their p-values are greater than 0.05.

6.3.3 Anova Test

An ANOVA test in SPSS (Analysis of Variance) helps in determining the significant differences with regards to the means of two or more groups. This test is primarily applicable in cases where one has a dependent variable which is continuous (interval or ratio) and an independent categorical variable which has three or more levels or groups, although it can also be used with two groups.

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	.000	4	.000	6.391	.003
	Residual	.000	15	.000		
	Total	.000	19			
a Dependent Variable: ROA						
b Predictors: (Constant), SIZE, CAR, NPLR, TLTA						

Interpretation:

1. **F-statistic**: 6.391— This value checks the model with a given ROA outcome has a meaningful variation when compared to a model which has no predictors.
2. **Significance (Sig.):** 0.003— This shows that regression model is valid from a statistical point of view. This means that at least one of the predictors (NPLR, TLTA, CAR, SIZE) has a **significant relation** to ROA.

6.3.4 Test of Multicollinearity

In SPSS the multicollinearity test is performed using VIF and tolerance values derived from linear regression analysis. The first approach in testing multicollinearity in SPSS is performing a regression analysis with collinearity diagnostics checking VIF and tolerance in the results.

Model		**Collinearity Statistics**	
1		**Tolerance**	**VIF**
	TLTA	.435	2.298
	CAR	.456	2.195
	NPLR	.543	1.843
	SIZE	.478	2.092
a Dependent Variable: ROA			

Interpretation:

1. **Tolerance** values which are below 0.1 and **VIF** values which are above 10 indicate multicollinearity problem.
2. In this analysis,the result of the multicollinearity test revealed that all the tolerance values are above 0.1 and all the VIF values are below 10 which indicate there is no multicollinearity or independent variables are not correlated with each other.

6.3.5 Heteroskedasticity Test

A **heteroskedasticity test** is a statistical procedure used to detect whether the residuals of a regression model maintain a consistent variance across different observations.When the variables of the residuals is stable,it is referred to as homoskedasticity.Detecting heteroskedasticity is important because it can make OLS estimates inefficient and lead to biased standard errors, which affects hypothesis testing and confidence intervals. Breusch-Pagan Test is the most widely used tests for detecting heteroskedasticity.

Breusch-Pagan Test for Heteroskedasticity		
Chi-Square	**df**	**Sig.**
5.007	1	.025
a Dependent variable: ROA		
b Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.		
c Predicted values from design: Intercept + TLTA + CAR + SIZE + NPLR + TLTA * CAR + TLTA * SIZE + TLTA * NPLR + CAR * SIZE + CAR * NPLR + SIZE * NPLR + TLTA * CAR * SIZE + TLTA * CAR * NPLR + TLTA * SIZE * NPLR + CAR * SIZE * NPLR + TLTA * CAR * SIZE * NPLR		

Interpretation:

The p-value (0.025) is less than 0.05. Therefore, we reject the null hypothesis and conclude that there is evidence of heteroskedasticity according to the Breusch-Pagan test.

6.3.6 Autocorrelation Test

Autocorrelation, also referred to as serial correlation, measures the degree of correlation between the same variable at different time intervals. Residuals correlation with each other is determined with this tool in regression analysis.. Time series data analysis is conducted with this model.

Durbin-Watson Test					
Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.794	.630	.532	.0006242	2.831
a Predictors: (Constant), NPLR, TLTA, CAR, SIZE					
b Dependent Variable: ROA					

Interpretation:

1. **Model Fit:** High R and R square value indicate the model fits the data well.
2. **Explained Variance:** The predictors collectively explain 63 percent of the variance in ROA.
3. **Adjusted R Square:** This value is slightly lower than R Square,it means that 53.2 percent of the variation is explained by the model after adjusting for the number of predictors which also indicates a good fit.
4. **Standard Error:** The smaller value (0.0006242) of standard error suggests greater accuracy of the model.
5. **Durbin-Watson Statistic:** The value of 2.831 is slightly above 2, which generally indicates mild negative autocorrelation. It is usually not a serious concern since there is no significant autocorrelation in the residuals. Values between 1.5 and 2.5 are considered acceptable and values closer to 3 or above indicate a problem.

In this analysis, the result shows that the regression model is **statistically strong and reliable for explaining the variation in ROA** using the given predictors.

Chapter: SEVEN

Findings, Recommendations & Conclusion

7.1 Findings of Data Analysis

In this section, we present the statistical results obtained through various tests by using SPSS. Although we have previously interpreted these results for each individual test and all the outcomes from these tests indicate that the model is indeed a good fit.

We have yet to specify our main findings in relation to the objectives of this report. Here we aim to identify the key objective that guided this research . this segment serves as the concluding synthesis of the findings from our investigation.

Objective 1: To explore the impact of non-performing loans (NPLR) on the profitability (ROA) of State-Owned Commercial Banks (SOCBs) in Bangladesh

The investigation appears a negative relationship between NPLR and ROA, showing that higher non-performing credit proportions are related with lower productivity for SOCBs. The regression is statistically significant ($p = 0.003$), affirming that NPLR, beside other factors, altogether influences ROA.

Objective 2: To evaluate the relationship between NPLR, TLTA, CAR, SIZE, and ROA

The result of the multicollinearity test revealed that all the tolerance values are above 0.1 and all the VIF values are below 10 which indicate there is no multicollinearity or independent variables are not correlated with each other. On the coefficient table, from the p value, we have found that NPLR, TLTA have significance relationship with ROA.

Objective 3: To provide policy suggestions to reduce NPLR and improve profitability

Higher NPLR in SOBCs highlights the require for stricter credit hazard administration and developed recovery system. Banks with lower NPLR, like Rupali, may serve as models for credit appraisal and checking. Reinforcing capital ampleness (as seen in Sonali's higher CAR) and judicious resource development can back benefit and flexibility.

7.2 Recommendations

Banks have to follow these steps to control their bad loans and protect the overall quality of their loans.

1. **Focus on Reducing NPLs:** Since NPLR (Non-Performing Loan Ratio) has a strong and significant negative impact on profitability (ROA), banks should prioritize strategies to reduce NPLs through improved credit risk assessment, effective loan monitoring, and robust recovery processes.
2. **Leverage Asset Utilization:** TLTA (Total Loan to Total Asset ratio) positively affects profitability. Banks should optimize their asset allocation to maximize income-generating loans while maintaining prudent risk levels.
3. **Monitor but Do Not Prioritize CAR and Bank Size:** As CAR (Capital Adequacy Ratio) and Bank Size were not significant predictors of profitability in this model, efforts to improve profitability should not focus primarily on these factors, though their regulatory and strategic importance remains.
4. **Training and skill development**: Training and skill development for the people in charge of helping others recover. So, they can manage loans well. Banks need to take steps to collect loans that are not being paid. They should make a plan to deal with these loans.
5. **Risk Management**: A strong focus on managing risks, including a clear plan for managing risks, can help institutions avoid loan defaults.
6. **Good Information Source:** The bank needs to have enough good information about who to give loans to, how to classify risky borrowers, and how to evaluate loan requests. This includes understanding how businesses work, managing money, and keeping financial records.

7.3 Limitations of The Study

Some of the limitations which I have faced in preparing the report are as follows,

1. To finish the study, we only had three months. There wasn't enough time to learn all about Commercial banks.
2. There remains a short time to consult to the officer to gain information.
3. Difficulty in collecting information as they are not available.
4. During my internship program, I was placed in general banking department. As a result, it was not possible to know about the operations of other departments of the bank. So, lack of practical knowledge also acts as a barrier.
5. Since the data were gathered from secondary sources, there are doubts about their veracity.

7.4 Conclusion

Based on the econometric model developed in this case study, it is evident that nonperforming loans (NPLs) exert a significant negative impact on the profitability of state-owned commercial banks (SCBs) during the period under examination. Thus finding resonates with earlier research indicates a negative correlation between NPLs and the efficiency of bank profits.. It's important to note that certain qualitative factors influencing bank performance and profitability were not included in the model due to confidentiality constraints imposed by the selected institutions

Despite these limitations, further research is warranted to fully understand the implications of NPLs on the profitability and overall performance of SCBs in our country. The findings underscore that if issues related to loan defaults continue, the broader financial sector could face a precarious situation. This report emphasizes the urgent need to implement measures to effectively manage and mitigate the impact of NPLs within SCBS,

Moreover, it can serve as a foundation for conducting further studies on the performance of other banking institutions as well as non-bank financial companies. It is imperative that appropriate lending practices, credit protocols, interest rate policies, and risk management

strategies are established for all banks operating within the nation. Authorities must act swiftly to implement necessary safeguards and measures to foster a stable and secure environment within Bangladesh's banking sector.

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