

Report On

**Credit Risk Management is Essential for Financial
Performance of a Bank: A Study on Bank Asia Limited**

By

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Student ID: 17304025

**An internship report submitted to BRAC Business School in partial
fulfillment of the requirements for the degree of Bachelor of Business
Administration.**

BRAC Business School

BRAC University

May 2021

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Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:

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Sang. H. Lee
Professor & Dean, BRAC Business School
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Letter of transmittal

Date: 24 May, 2021

Sang. H. Lee
Professor & Dean
BRAC Business School
BRAC University.

Subject: Submission of internship report.

Dear Sir,

By the blessings of Almighty, I am submitting my internship report to you which is a compulsory part of the BBA program. It is an excellent experience for me to prepare this report under your amazing supervision.

Actually, the report is based on Credit Risk Management is Essential for Financial Performance of a Bank: A Study on Bank Asia Limited. I worked in Bank Asia for three months as an intern. The internship provides me practical experience regarding banking activities of a bank. During the period, I learnt how banks run their general banking activities. Moreover, I also experienced how a bank conducts credit related activities. This experience helps me a lot know about organizational culture. This internship report paves the way for me to analyze how credit risk management of Bank Asia makes an impact on its performance.

May, I, therefore, pray and hope that you would be kind enough to approve my internship report and provide your valuable judgement.

Sincerely yours
Farhan Sadique
ID:17304025
BRAC Business School
BRAC University

Non-Disclosure Agreement

[This page is for Non-Disclosure Agreement between the Company and The Student]

This agreement is made and entered into by and between Bank Asia Limited and the undersigned student at BRAC University Farhan Sadique (ID 17304025)

.....

Acknowledgement

First of all, I am very much grateful to Almighty Allah to give me the opportunity to work as an Intern at Bank Asia Limited and prepare this internship report within the deadline.

I am so much grateful to my supervisor Sang. H. Lee who is Professor and Dean of BRAC Business School. It is an amazing experience for me to prepare this internship report under excellent guidance of Professor Sang. H. Lee. Moreover, I give thanks to the officials of my organization who helped me a lot to prepare this report.

Executive Summary

Bank Asia Limited is one of the most renowned banks in the banking sector of Bangladesh. The report is based on “Credit Risk Management is Essential for Financial Performance of a Bank: A Study on Bank Asia Limited”. In the 1st chapter, my working experience is included. In the 2nd chapter of the report, organizational analysis is conducted to see how the banks perform in various areas. In the 3rd chapter of this report, two methods including ratio analysis and hypothesis testing have been used to determine how credit risk management makes impact on the financial performance of Bank Asia Limited. In ratio analysis, yearly analysis is done to show the performance of my organization from 2015 to 2019. Moreover, in comparative analysis, I compare with Bank Asia’s performance with other 11 banks. It is mentionable that these 11 banks are selected after talking with Bank Asia officials. Bank Asia mainly consider these 11 banks as their key competitors. In ratio analysis, it is evident that the performance of the organization is consistent from 2015 to 2019 which highlights a financial stability of the organization. Some ratios like NPL ratio, Provision for loan loss ratio, Credit Deposit Ratio etc. are quite impressive for this organization. But the organization’s ROA, ROE is relatively lower than its competitors. In hypothesis testing, it is noticed that there is negative relationship between capital adequacy ratio and non-performing loan ratio. Moreover, it is also evident that credit deposit ratio and net interest margin ratio have significant influence on the bank’s ROA which is an important performance indicator. Furthermore, it is noticed that provision for loan loss ratio has negative impact on bank’s ROE. In addition, credit deposit ratio has positive impact on NPL ratio. The bank is highly conscious in terms of maintaining CRM system in an efficient way. Some recommendations are provided in chapter 3 regarding how the bank can improve its performance indicators.

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List of acronyms

ROA	Return on Assets
ROE	Return on Equity
NPL	Non-Performing Loan
PLL	Provision for loan loss
CRM	Credit risk Management

Chapter 1: Overview of Internship

1.1 Student Information

Name: Farhan Sadique

ID:17304025

Program: BBA

Major: Finance

1.2 Internship Information

1.2.1 Period, Company name, Department, Address

Period: 90 days

Company Name: Bank Asia Limited.

Department: General Banking & Credit Department

Address: Bank Asia Limited, Principal Office Branch, 111-113, Motijheel C/A, Dhaka-1000.

1.2.2 Internship Company Supervisors: Name & Position

Name: Md. Mazibur Rahman

Position: Vice President, Manager Operations, Bank Asia Principal Office Branch

1.2.3 Job Scope-Job Responsibilities

- Helping the officers in the account opening process
- Verifying the national identification number of the applicants.
- Conducting industry analysis in credit department
- Doing ICRRS analysis in order to check the creditworthiness of the borrower
- Analyzing credit proposals.
- Preparing reports which are important for credit department. The reports are: Spinning industry in Bangladesh, Present banking industry with special focus on liquidity etc.
- Updating liability position of the borrower

1.3 Internship Outcome

1.3.1 Contribution to my bank (Bank Asia Limited)

I made good contributions to the bank. In general banking department, firstly, I assisted them to fill out the account opening forms. Secondly, I verified the national identification number of the applicants. If I saw anything wrong with the NID number, I informed the officer immediately. Thirdly, I also did activities related to check clearing, real time gross settlement etc.

In credit department, I made contributions as well. Firstly, I did industry analysis which is really helpful for making credit proposals. When a company applies for loan, the bank primarily conducts the industry analysis which the company belongs actually. For example, Makson Spinning applies a loan for the bank. As this company belongs to spinning industry, so the bank conducts spinning industry analysis. The credit officers got help from my industry analysis and decided whether they would give a loan to a company which belongs to that industry. Secondly, I checked the credit worthiness of the borrowers by doing Internal Credit Risk System. After getting aggregate score from the system, I reported to the credit office. It helped the bank a lot to analyze whether they will provide a loan to the borrower or not. Moreover, I updated the liability positions of the borrowers.

1.3.2 Benefits to the student

I got an excellence experience by working in Bank Asia Limited as an Intern. I learnt a lot regarding general banking activities including account opening, verification of customers' NID number, real time gross settlement, issuance of savings instrument, cheque clearing etc. Moreover, I also learnt the functions of credit department. In the credit department I acquired knowledge regarding how to make industrial analysis which is effective for preparing credit proposals. Furthermore, I experienced about various aspects of the department like evaluating credit worthiness, assessing the documents of the customers, preparing credit proposal etc. In credit proposal, there are a good number of points. It gave me an insight regarding how the bank officials filled out those important points in the credit proposal. I experienced organizational behavior in the bank. If I serve as bank official in future, this experience will help me a lot indeed.

1.3.3 Problems and difficulties faced during internship

As Corona virus crisis was going on during my internship period, it was very risky for me to attend office physically. I faced difficulties in interacting with people because of the crisis. Sometimes the customers did not wear mask and came to talk to me. On that moment, I felt so unsafe.

1.3.4 Suggestions for my bank on future internship

I have some suggestions to my bank on future internship. Firstly, the bank should allocate a computer for the interns. Usually bank doesn't allocate computer for interns because of password issue. So, they should give the opportunity to the interns to use computer independently. Secondly, the bank should give proper ID card to the interns. In this way, customers will recognize the interns easily.

Chapter 2: Organization Part: Overview, Operations & Strategic Audit

2.1 Introduction

2.1.1 Objective

The prime objective of this organizational analysis is to understand the various types of functions of Bank Asia Limited. Moreover, this study also highlights how the bank operates in our country efficiently. Furthermore, it also reflects the activities of the bank in various areas like marketing practices, management practices, operation management, accounting practices, products & services etc. Through this analysis, proper understanding of the bank's operation is likely to be achieved. Another objective is to find out the bank's strengths, weaknesses, opportunities and threats through SWOT analysis.

2.1.2 Methodology

In order to conduct the analysis, I talked with the officials of my bank. The officials provided me an insight regarding the overall activities of the bank. This insight helped me a lot to analyze it. Moreover, the annual reports of the bank assisted me a lot to do the organizational analysis in an efficient way.

2.1.3 Scope

This study will help a lot to the researchers to understand the core functions of Bank Asia Limited. This will create an opportunity for the researchers to analyze banking operation of this bank. Further research might take place based on the organizational analysis of the bank.

2.1.4 Limitations

Firstly, time limitation was one of the major limitations. Secondly, banks don't publish their confidential data because of privacy issue. So, these factors create some barriers in doing the study.

2.1.5 Significance

The significance of the analysis how the bank operates its functions in an efficient way. Moreover, the drawbacks of the bank also holds a significance of the study.

2.2 Overview

2.2.1 History

Bank Asia Limited was established as a private commercial bank on 28 September 1999 in order to contribute to economic growth through the provision of quality banking products and services powered through technology. In 2001, Bank Asia became the first bank in Bangladesh to buy the Bank of Nova Scotia of Canada's activities in Bangladesh. The bank purchased Pakistan Muslim Commercial Bank Limited's Bangladesh operations in early 2002. The central banking operations of Bank Asia is covered by Islamic banking, offshore banking, agent banking, rural finance, the digital banking system, etc.

Position in Bangladesh:

Till 2019, the bank has 128 branches and SME service centers spread throughout the region, with 120 branches, four SME agricultural branches, and four SME service centers. Geographically, 66 are in Dhaka's capital, 38 in Chattogram, 7 in Sylhet, 6 in Khulna, 5 in Rajshahi, 3 in Rangpur, 2 in Barisal, and 1 in Mymensingh. Zonal heads oversee and control all of these branches and SME centers on a daily basis, keeping track of their overall performance metrics. The bank is focusing on expanding its agent network due to the low operating costs and rising popularity of agent banking operations. In total, 3,525 agent outlets are located in 64 districts. Individuals, passports, institutions, UDCs, and post offices are all used by the agent banking network to meet customers.

2.2.2 Mission

- To help deliver high-quality service to our customers while also contributing to the growth and expansion of our country's economy.
- To uphold high ethical standards and provide full satisfaction to our customers, shareholders, and employees.
- To become the most sought-after bank in the world, with a committed team of professionals delivering technology-driven innovative services.

2.2.3 Vision

Bank Asia's vision is for Bangladesh to be poverty-free in a century in the new millennium, representing the national dream. The bank's aim is to make a world where human dignity and human rights, as well as poverty reduction, are prioritized.

2.2.4 Achievements

Bank Asia has received several awards from reputable national and foreign organizations. The bank was named a winner in the SAARC Anniversary Award for Corporate Governance Disclosures category, as well as a runner-up in the SAFA Best Presented Annual Report Awards, in the category of private sector banks.
Apart from that, the Bank won first place in the 19th ICAB National Award for Best Presented Annual Reports in the private sector banks category, as well as the 6th ICSB National Awards for Corporate Governance Excellence in 2018.
Furthermore, the Institute of Chartered Accountants of Bangladesh awarded it third place in the Integrated Reporting category (ICAB).
In the 15th Sustainability Reporting Awards (SRA) 2019 organized by NCSR (National Center for Sustainability Reporting) and ICSP (Institute of Accredited Sustainability Practitioners) in Indonesia, the Bank won “GOLD RANK” – Asia Sustainability Reporting Ranking (ASR) 2019.

2.3 Management practices

The management practice of this bank is satisfactory. They maintain good corporate governance which is so vital for management practices of bank.

2.3.1 Corporate governance

Corporate governance is the process of governing a corporation in order to create a culture of accountability and openness, maximize long-term value for shareholders, and ensure accountability to various stakeholders. The primary goal of corporate governance is to enable

efficient, entrepreneurial, and prudent management that will ensure the company's long-term success.

Sound corporate governance is important for gaining the confidence of stakeholders. Bank Asia recognizes this and is committed to all stakeholders. It's embodied in our management philosophy, which values the higher corporate governance standards we uphold. It is an attempt to provide an overview of the corporate governance structures, principles, policies, practices, and management culture of Bank Asia Limited in the corporate governance disclosure report, which together allow the bank to meet the governance expectations of Bangladesh Bank, Bangladesh Securities and Exchange Commission (BSEC), Dhaka Stock Exchange (DSE), and Chittagong Stock Exchange (CSE). The Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange both list Bank Asia's common shares (CSE).

2.3.2 Board of Directors' Duties and Commitments

The Bank's business and affairs are handled under the direction and supervision of the Board, which is also responsible for reviewing and approving the Bank's overall plans, business, organization, and significant policies on a regular basis. The Board also defines the Bank's core principles and establishes acceptable criteria. There are 16 board of directors in this bank.

The Principles are :

1. Supervising the Bank's sound and responsible management;
2. Authorization of Bank Asia's strategic direction;
3. Appointing and deciding the CEO's tenure and remuneration;
4. Evaluating the CEO's performance;
5. Planning for the Board of Directors, the CEO, and the Bank's executives deciding on the dividend strategy and capital structure of the bank;
6. Approving and tracking the Bank's risk management policy and framework;

2.3.3 Committee of the Executive

The Executive Committee (EC) of Bank Asia's Board of Directors was established in January 2010 to ensure that credit proposals and business decisions were approved in a timely, competent, compliant, and secure manner. EC has 7 (seven) members, all of whom were elected by the Board of Directors. The EC reviews policies and guidelines issued by Bangladesh Bank regarding credit and other operations on a regular basis. These policies and guidelines are customized and implemented by management after board approval. The EC authorizes credit proposals in accordance with the Board's approved policy.

2.3.4 Committee on Risk Control

The Board has established a Risk Management Committee in accordance with Bangladesh Bank guidelines to mitigate risk while implementing the Bank's policies and business plan. The Committee monitors whether credit, foreign exchange, internal control and enforcement, money laundering, information technology, operations, interest rate, liquidity, and other risks are detected, assessed, and appropriate structures are in place to mitigate them. The Risk Management Committee currently has 5 (five) members. They determine risk appetite, develop risk detection and control policies, and make recommendations for risk management system improvements. They also keep an eye on the efficacy of the risk management system, regulations, and practices, as well as the internal capital adequacy evaluation process. The Risk Management Committee provides support to the Board in terms of risk oversight, including risk appetite and risk management strategy.

2.3.5 The Audit Committee's Priorities and Tasks

The following are the priorities of the Audit Committee of the Board:

- A. Financial statement and financial reporting framework transparency, as well as risk issues; external audit involvement, including the external auditor's credentials, results, independence, and fees;
- B. Internal audit feature performance;
- C. Financial reporting and compliance with prudential regulatory reporting. This includes supervision of regulatory and legislative reporting standards, as well as processes for the receipt, preservation, and handling of financial grievances, including accounting and internal controls, according to the Board Risk & Compliance Committee.

2.4 Marketing practices:

This bank is doing their marketing practices by offering products which are satisfying the needs of the customers. Products and services of this bank is highly customer oriented. There are a good number of relationship officers who are involved in promoting the products to the customers. Moreover, the bank participates in various events like cricket tournament, football tournament etc. as sponsor. Throughout this practice, the organization image is highly reflected. Moreover, the bank's advertisement in the TV channels and newspapers are also considered major marketing practices.

2.5 Products and services of Bank Asia

Savings account: A savings account is a bank account that pays interest. A savings account allows you to store money safely while still earning interest.

Current account : It's a non-interest bearing bank account that lets customers use a variety of banking services. Businessmen who conduct a large number of bank transactions are more likely to open this account. Deposits and withdrawals are included in this category.

Star Savings Account: Customers who want to deposit a larger amount than usual saving account can use this account.

Table 1: Deposit products

Double Benefit Scheme:
<ul style="list-style-type: none"> ● Satisfactory interest rate. ● Secured overdraft loan facility is available. ● Amount will be doubled in 14 years. ● Deposit amount will be BDT 50,000 or its multiple and maximum will be BDT 40 lakh under single name and 60 Lakh under joint name.
Triple Benefit Scheme:
<ul style="list-style-type: none"> ● Interest rate is very attractive.
<ul style="list-style-type: none"> ● Loan facility SOD is available.
<ul style="list-style-type: none"> ● Amount will be tripled in 18 years.
Monthly benefit scheme:
<ul style="list-style-type: none"> ● Interest amount is paid to customer against a fixed deposit for 3 or 5 years.
<ul style="list-style-type: none"> ● People who aged 18 years or above can open the account.
<ul style="list-style-type: none"> ● Deposit amount will be TK 1 lakh or it's multiple and maximum will be TK 40 lakh under single name and TK 60 lakh under joint name.
<ul style="list-style-type: none"> ● The customer should have a link account with the bank.
Deposit pension scheme:
<ul style="list-style-type: none"> ● Monthly deposit by customer for a terminal amount.
<ul style="list-style-type: none"> ● Maximum 2 individuals can open this account.
<ul style="list-style-type: none"> ● People can deposit monthly 500 TK or its multiple amount.

Table 1: Deposit Products

Table 2: Type of loans

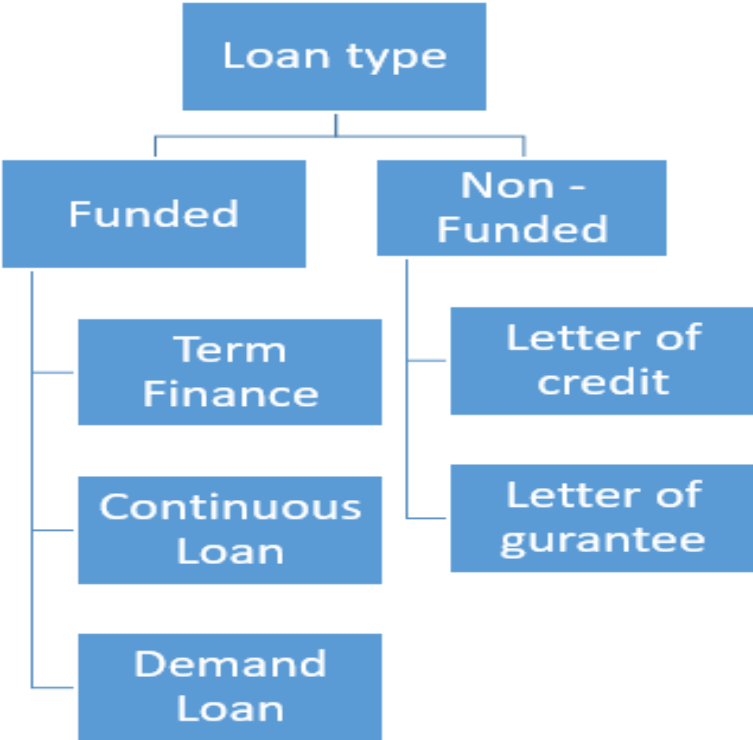


Table 2: Type of loans

2.6 Financial Performance & Accounting Practices:

2.6.1 Financial Performance analysis:

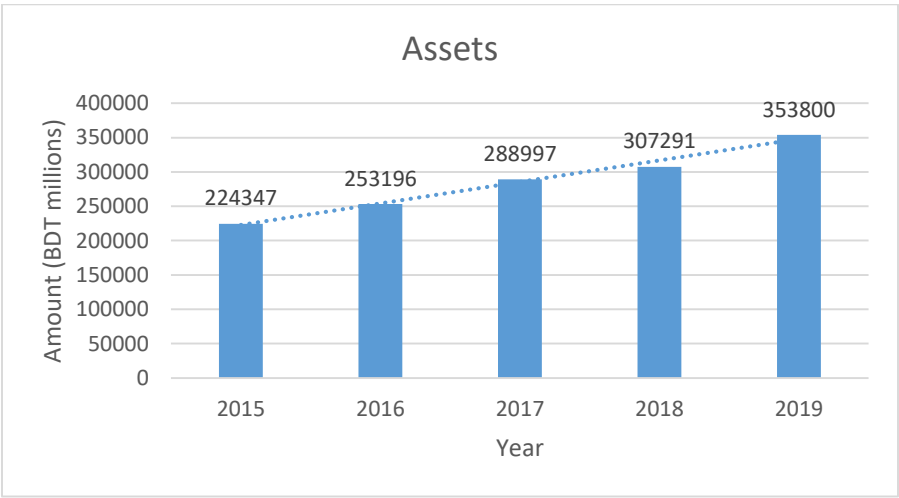


Figure 1:Assets

From the graph, it is highlighted that the assets of my organization shows an upward trend which is so much satisfactory. In 2015, the assets was 224347 million BDT. In 2019, the assets was 353800 million BDT. So, there is a substantial increase in the assets.

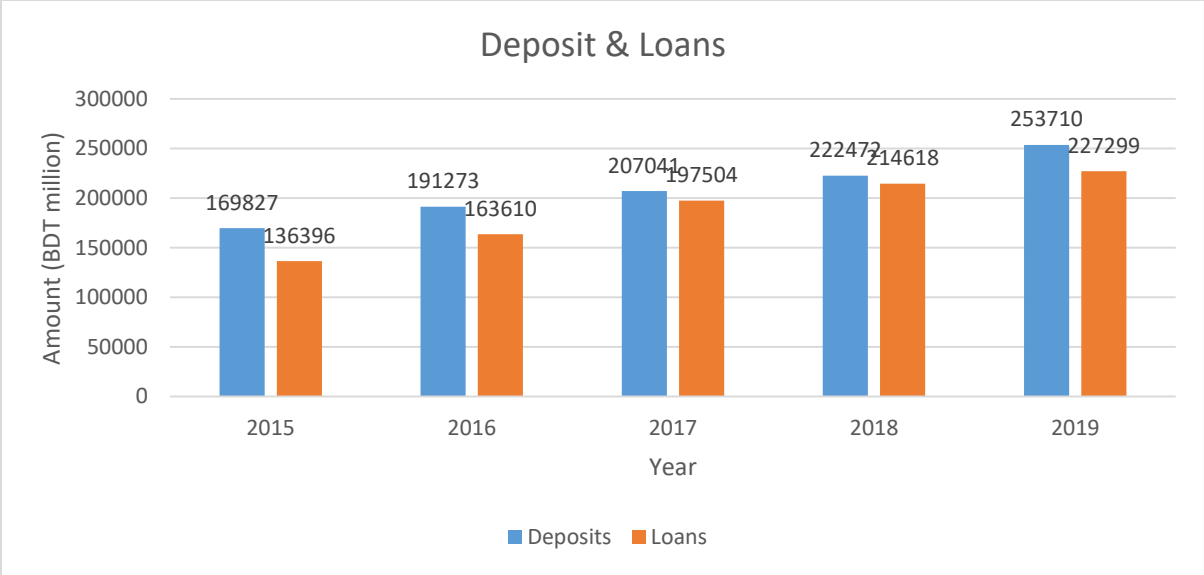


Figure 2: Deposits & Loans

From the graph, it is evident that there is an upward in the deposits and loans amount of the bank. Every year the deposit amount of the bank increases gradually which reflects customers’ trust on the bank. Moreover, the loan increases as well which highlights that the bank uses the deposited money efficiently to generate more income.

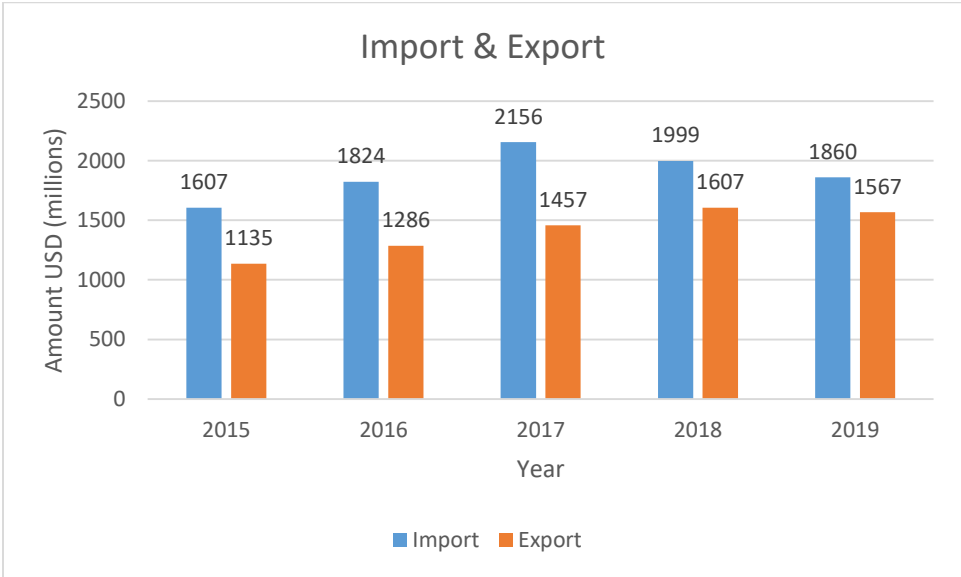


Figure 3: Export & Import

From the graph, it is noticed that there is mixed trend in import amount. From 2015 to 2017, there is an increasing trend in the import but it decreased gradually in 2018 & 2019. The export amount shows an upward trend from 2015-2019.

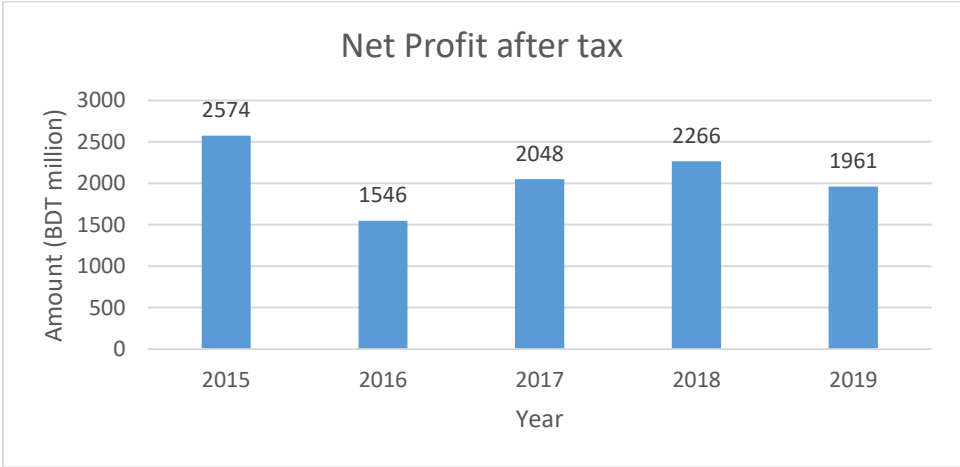


Figure 4: Net Profit After Tax

The graph shows a mixed trend in net profit of the bank. In 2015, net profit was 2574 million BDT. Then it dropped to 1546 million BDT in 2016. Then, the bank recovered gradually in terms of generating net profit after tax.

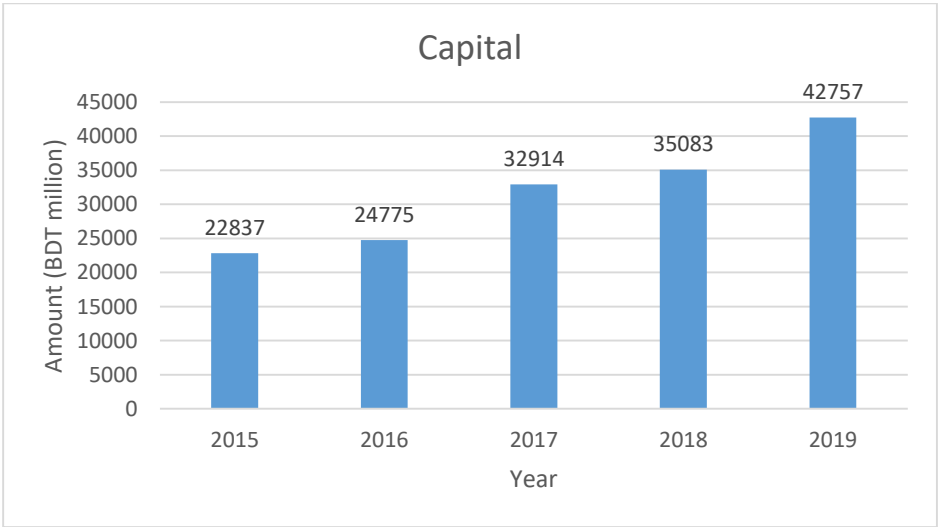


Figure 5: Capital

The graph shows an increasing trend in total capital of the bank. Increasing trend in total capital highlights a positive image of the bank. Higher capital assists the bank to mitigate the risk.

2.6.2 Accounting practices of the bank:

Accounts department of the bank ensures some key issues:

- Appropriate accounting and reconciliation of every transaction.
- The bank maintains 3 Es (Effectiveness, Efficiency and Economy) in every amount spent by the Bank
- Delivery service is conducted at minimum turnaround time.
- Conducting accounting services with much accuracy.
- Providing guidance to every branches regarding appropriate accounting process
- Developing reconciliation report for every branch
- Providing month closing related supports to the branches
- Preparing annual reports, quarterly reports.
- Conducting monthly profit forecast report.

2.7 Operation Management & Information System Practices

2.7.1 Operation Management

Basically, the main aim of operation management is to assist a bank to perform in an efficient way. This is the process which is led by the board of directors and top management of this organization. This system is mainly comprised of some policies which are really important to run the activities of the bank and bring effectiveness in all the work segments of this bank. The weaknesses of the bank are identified by this system and corrective measures are taken in order to remove the weaknesses. An audit committee is established to monitor the banking activities. The audit committee meets the senior management time to time in order to discuss the effectiveness of operational management of the organization. Senior management team of the bank reviews the operational activities of the bank on yearly basis and provides updates to the board of directors.

2.7.2 Information System Practices:

<p>Three Sites Data replication: To ensure zero loss of data ICT Division has deployed of 3 (three) sites storages Data Center, Near Disaster Recovery and Distance Disaster Recovery sites (DCNDR-DDR) synchronous mode. Moreover, ICT Division has deployed high performance database servers and application cluster to ensure high availability i.e. zero downtime.</p>
<p>Business Matrix: ICT Division has implemented Business Matrix system which is an in-house developed end-to-end loan tracking system starting from proposal entered by the branch user to obtain sanction letter. The limit loading by the Credit Administration Department (CAD) is also captured by this system. The system has unique features like building customized dashboard by the user, notification and alert system to monitor/track the status of the proposal.</p>
<p>Network High Availability: To ensure network high availability ICT Division has deployed clustering for its network components like routers, firewalls, distribution switches core network. Moreover, to enhance network security ICT Division has segmented it network. ICT division has also established Security Operation Center (SOC) to enhance security monitoring system and early alert generation.</p>
<p>Two Factor Authentication: To ensure user authenticity the bank has deployed 2FA solutions for the users of the sensitive applications.</p>
<p>Swift VPN network upgradation: As part of the mandatory compliance with SWIFT Alliance requirement, the ICT Division has upgraded VPN boxes to enhance SWIFT security.</p>

2.8 Industry & Competitive Analysis:

2.8.1 SWOT Analysis

Strengths:

- **The bank is pioneer in maintaining financial inclusion.**
- **Strong Asset and Capital Base**
- **The bank has significant remittance growth**
- **Brand Image validated by reception of National and International Awards**
- **Strong Coverage through Countrywide Channeling and Presence in International Trade**

Weaknesses:

- **Cybersecurity of the bank is one of the weak points.**
- **Sometimes the IT system crashes in the bank which is not at all expected.**
- **Dependence on the Industry Culture**
- **Publicity process of the bank is not up to the mark.**

Opportunities:

- **Easy of doing business.**

- **Rapid growth in the IT sector.**
- **Stable economic system of Bangladesh.**
- **Investment in the private sector.**
- **Further flourishing of Agent Banking.**

Threats:

- **Single digit interest rate.**
- **Volatility in capital market.**
- **Fluctuations in exchange rate.**
- **Spike in Covid-19 cases.**
- **Deviation in regulation**

2.9 Summary & Conclusions

Bank Asia Limited is one of the reputed banks in Bangladesh. It has been conducting its operation efficiently for the last 21 years. The corporate governance of the bank is highly satisfactory. The top management of the bank emphasizes on ensuring best services to the customers. The top management body instructs the employees to provide quality services to the customers. The bank provides much importance to bring effectiveness in its operation management. The financial performance of the bank is very consistent. Consistency in the performance assists the bank to accelerate its overall strength. The CRM department of the bank is very much conscious to reduce the NPL level of the bank. Proper assessment takes place before sanctioning a loan to the customers. To sum up, the bank tries to satisfy its customers by providing best services.

2.10 Recommendations

- The bank should improve its cybersecurity system.
- The bank should update its IT system in an appropriate way.
- Proper training should be taken place to improve the skills of the employees.
- The bank should enrich its publicity process.
- The employees of the bank should response properly to the customers' problems.
- The bank should introduce new deposit products to attract the customers.

Chapter 3: Project Part: Credit Risk Management is Essential for Financial Performance of a Bank: A study on Bank Asia Limited

3.1 Introduction:

3.1.1 Background:

For a bank to operate effectively, credit risk control is critical. It refers to the process of defining and evaluating risk factors, calculating risk, and then choosing risk management steps to minimize and reduce risk in the credit process. Credit risk measures are intended to improve the rate of return for a bank by maintaining a reasonable rate of credit risk exposure. Banks must control both the overall credit risk of their portfolio and the risk of individual loan transactions. Many banks in our country are failing as a result of a weak CRM scheme. As a result, the banks face higher amount of non-performing loans which ultimately affects their financial performance. So, effective credit risk management is a must in order to achieve desired financial performance. Sustainability of a bank largely depends on its credit performance. Poundel (2012) carried out its study regarding the effect of CRM system on bank's financial performance. He used different variables to conduct the study which were rate of default, CAR, cost of fund by per loan etc. The results showed that credit risk is so vital for financial performance of a bank. The researcher highlighted that banks should adopt strategies that will not only decline the credit risk but also enhance profitability. Ahmed and Malik (2015) conducted this empirical study regarding CRM and bank's performance. In the study, the researchers focused the impact of CRM practices on Loan Performance (LP) in microfinance sector in Pakistan. In the study, they showed that CRM has major impact on the performance of a bank. Li & Zou (2014) also revealed the relationship between CRM process & bank's overall performance level.

3.1.2 Objective:

- To review the credit risk management process of my organization.
- To assess the performance of bank's credit activities.
- To find out how credit risk indicators make significant impact on the bank's performance.
- To analyze the importance of maintaining CRM for establishing stability of a bank.

3.1.3 Scope :

This research will pave the way to understand the significance of CRM on the performance of a bank. This study will reveal how credit risk indicators make an impact on the financial performance of a bank.

3.1.4 Significance:

The prime significance of the study is find out the necessity of CRM on the overall performance of a bank. It will highlight the effectiveness of CRM system in the banking process. Sustainability of a bank depends on the CRM system of a bank.

3.2 Research Methodology:

Dependent Variables: NPL ratio, ROA, ROE, etc.

Independent Variables: NIM ratio, CAR, PLL ratio, credit deposit ratio etc.

Primary Resources:

- Top officials of the bank including bank manager, credit in charge, credit officers etc.
- Practical experience of working in credit risk management department.
- Important documents of Bank Asia Limited regarding CRM.

Secondary Resources:

- Annual reports of my organization “Bank Asia Limited” as well as other banks
- News and updates of “Bank Asia Limited” as well as other banks
- Various guidelines of Central Bank in maintaining CRM.

3.3 Findings & Analysis:

3.3.1 Ratio Analysis:

CAR :

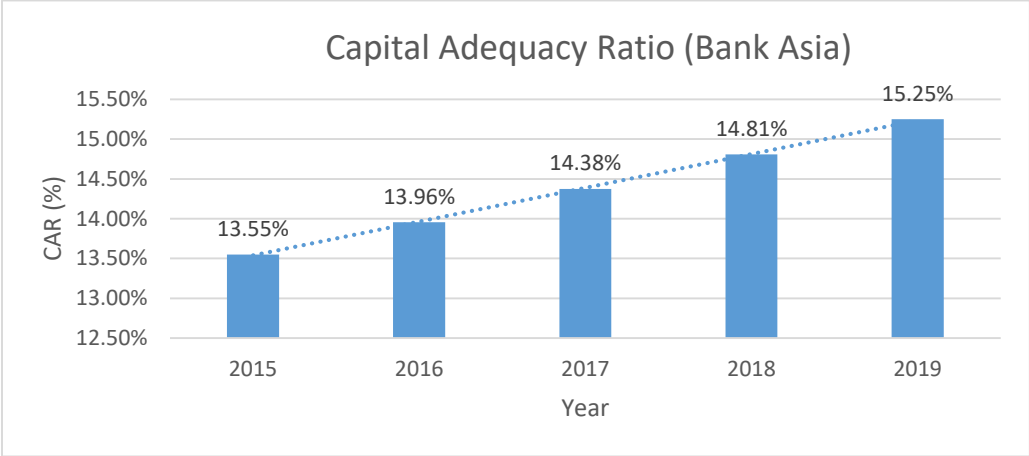


Figure 6: CAR of Bank Asia

The Capital Adequacy Ratio of Bank Asia from 2015 to 2019 is showing upward trend. Over the last 5 years, the bank’s CAR reflects that it is very much conscious in keeping higher capital adequacy ratio with a view to minimizing credit risks. Higher CAR is an important sign of quality credit risk management system.

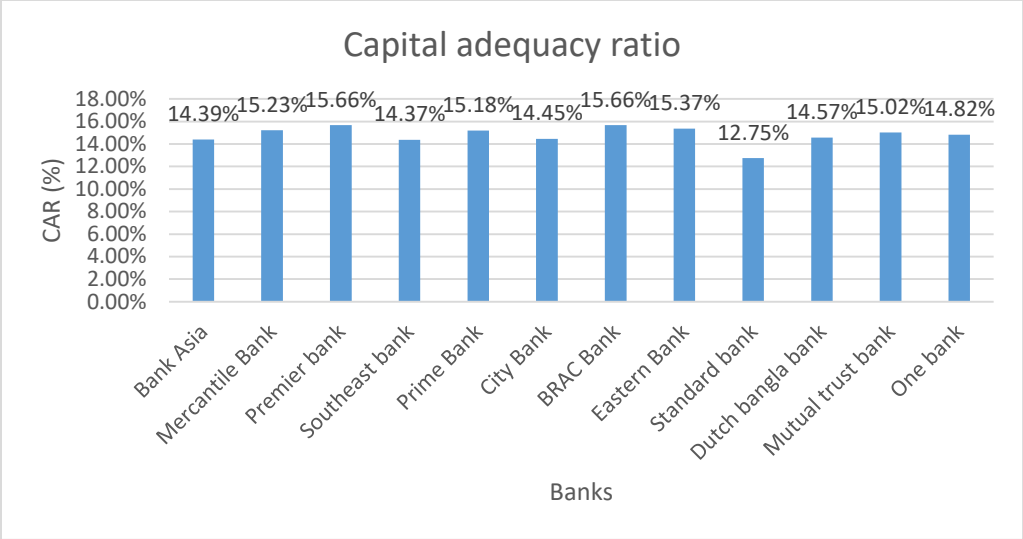


Figure 7: CAR (Competitive Analysis)

In comparative analysis, I compare my bank’s performance with other 11 banks who are considered to be major competitors. As per my statement of my organization official’s, they mainly consider these 11 banks as their key competitors. I take the average of the 5 years (2015-2019) capital adequacy ratio of every bank. For example, Bank Asia’s CAR 14.39% is the average of (2015-2019) data. In order to get an accurate view, I am doing analysis in such a way.

In comparison with other banks, my organization’s performance is also satisfactory. Some of the banks maintain CAR nearer to the level of my organization. Some of the banks maintain higher CAR. For example, BRAC bank, Eastern bank, etc maintain higher CAR. As per central bank of Bangladesh, CAR requirement is 12.50%. But my organization maintains 14.39% CAR on an average for the last 5 years which is a sign of good CRM system.

NPL ratio:

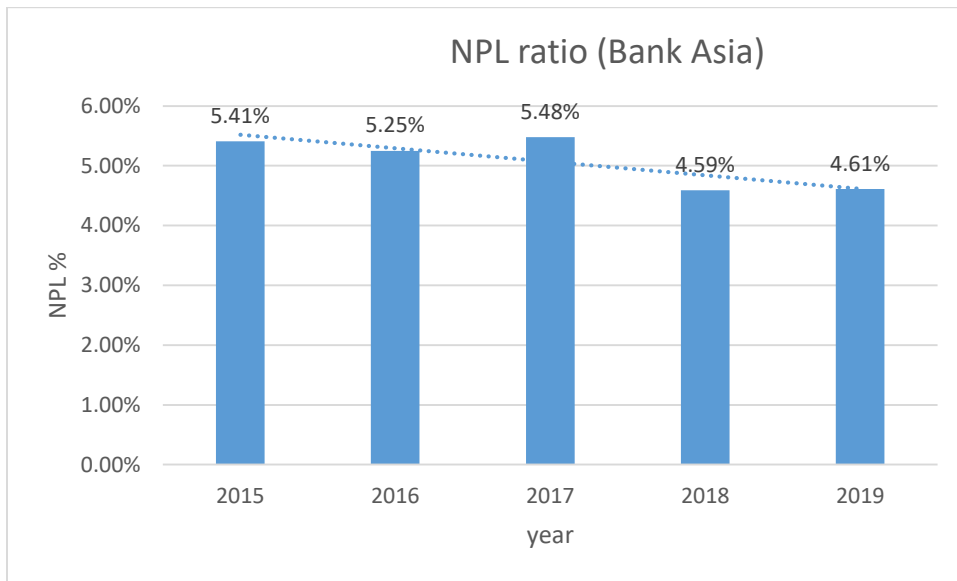


Figure 8: NPL Ratio of Bank Asia

NPL ratio of my bank is showing downward trend from the year of 2015 to 2019. Downward trend of non-performing loan is highlighting effective credit risk management system. Lower NPL ratio is always beneficial for a bank to perform in an efficient way. Downward trend in NPL ratio clearly indicates that the bank has been maintaining the parameters of CRM.

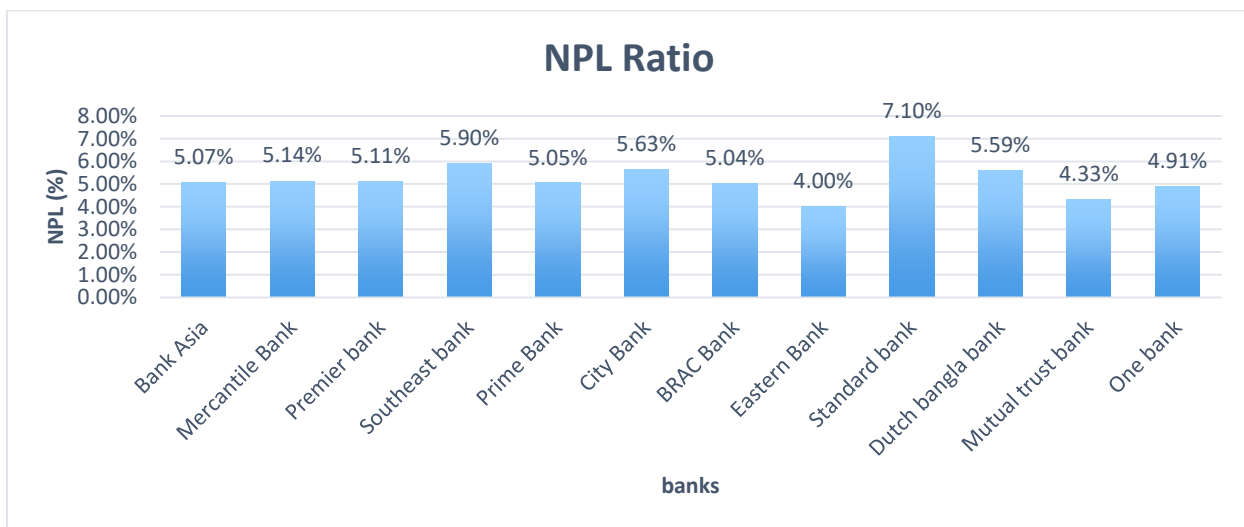


Figure 9: NPL ratio (Competitive Analysis)

In comparative analysis, I compare my bank's performance with other 11 banks who are considered to be major competitors. As per my statement of my organization official's, they mainly consider these 11 banks as their key competitors. I take the average of the 5 years (2015-2019) NPL ratio data of every bank.

Comparatively my bank's NPL ratio is lower than some of the competitors. Moreover, some bank's NPL ratio is lower than Bank Asia. Over the last 5 years, banking industry's NPL ratio is more than 9%. In comparison with banking industry NPL ratio, my organization's ratio is much satisfactory.

ROA

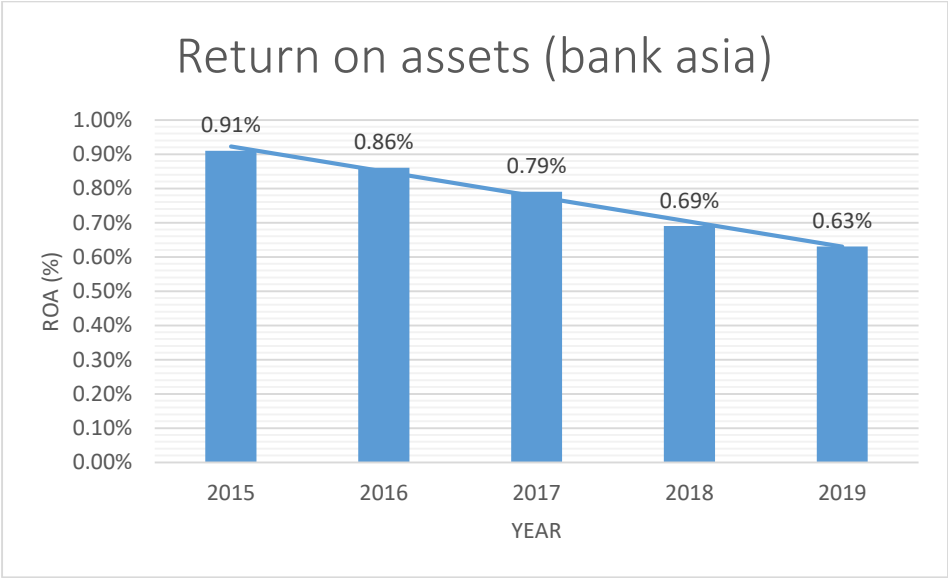


Figure 10:ROA of Bank Asia

From 2015 to 2019, my organization's ROA is reflecting a downward trend. Downward trend in return on assets means the bank is not generating sufficient returns from the assets. The bank has not been showing satisfactory financial performance in terms of ROA. Higher ROA is a prime indicator for quality performance of a bank.

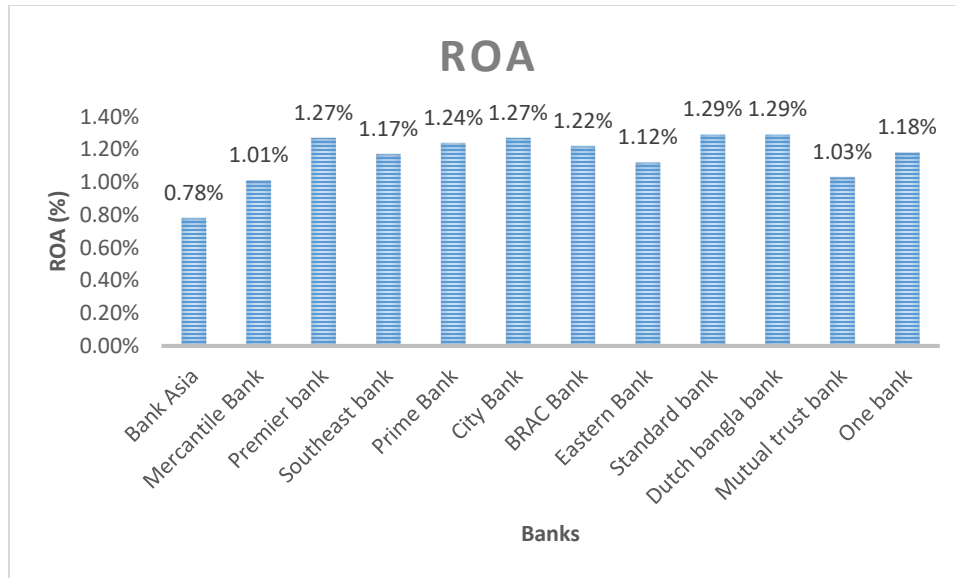


Figure 11: ROA (Competitive Analysis)

In comparative analysis, I compare my bank's performance with other 11 banks who are considered to be major competitors. As per my statement of my organization official's, they mainly consider these 11 banks as their key competitors. I take the average of the 5 years (2015-2019) ROA data of every bank.

In comparison with other 11 banks, my bank's ROA 0.78% is the lowest. Low ROA is not a good performance indicator of a bank. Among the other banks, Dutch Bangla Bank's ROA is the highest. Moreover, other competitors' ROA is much higher than Bank Asia. It means that the other banks are using their assets more efficiently. Efficient use of assets is greatly responsible for generating higher return on assets.

NIM ratio:

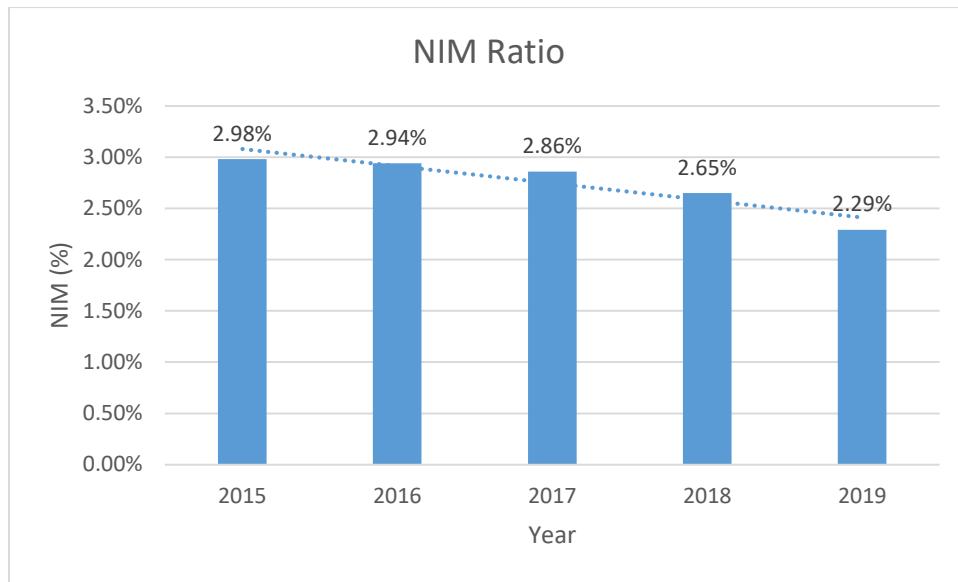


Figure 12: NIM ratio of Bank Asia

The Net interest margin ratio of my bank is showing a declining trend from the year of 2015 to 2019. Lower trend in NIM ratio results in lower ROA. Possible reasons for lower trend in NIM ratio are higher interest expense, lower interest income etc. Another reason for downtrend in NIM ratio is that the bank is not earning sufficient amount of net interest income from its earning assets.

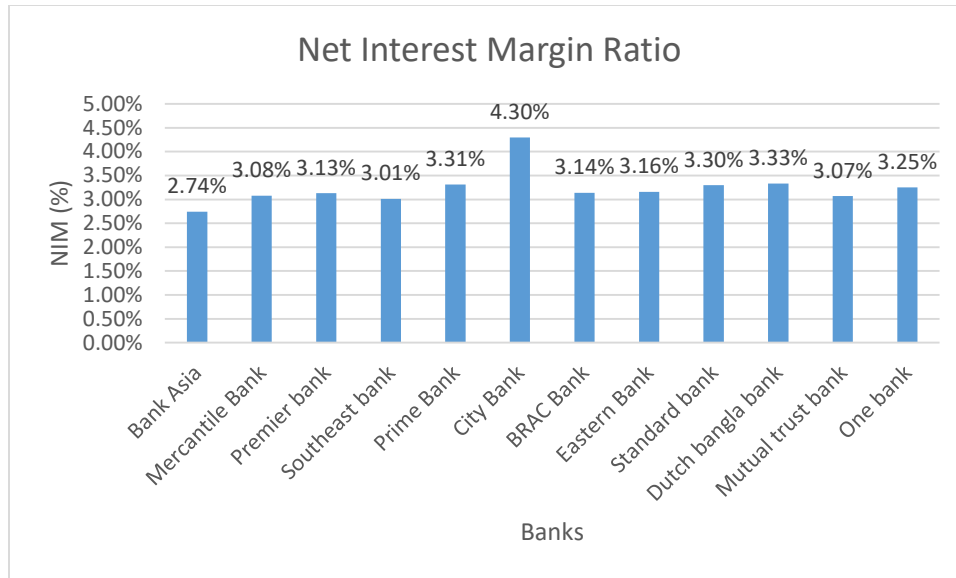


Figure 13: NIM Ratio (Competitive Analysis)

In comparative analysis, I compare my bank's performance with other 11 banks who are considered to be major competitors. I take the average of the 5 years (2015-2019) Net interest margin ratio data of every bank.

In comparison with other banks, my organization's net interest margin ratio is not satisfactory at all. My organization's average net interest margin is 2.74%. But the competitor bank's net interest margin is more than 3%. It means competitor banks are using their assets more efficiently which are responsible for earning in order to generate larger NIM ratio.

Credit Deposit Ratio:

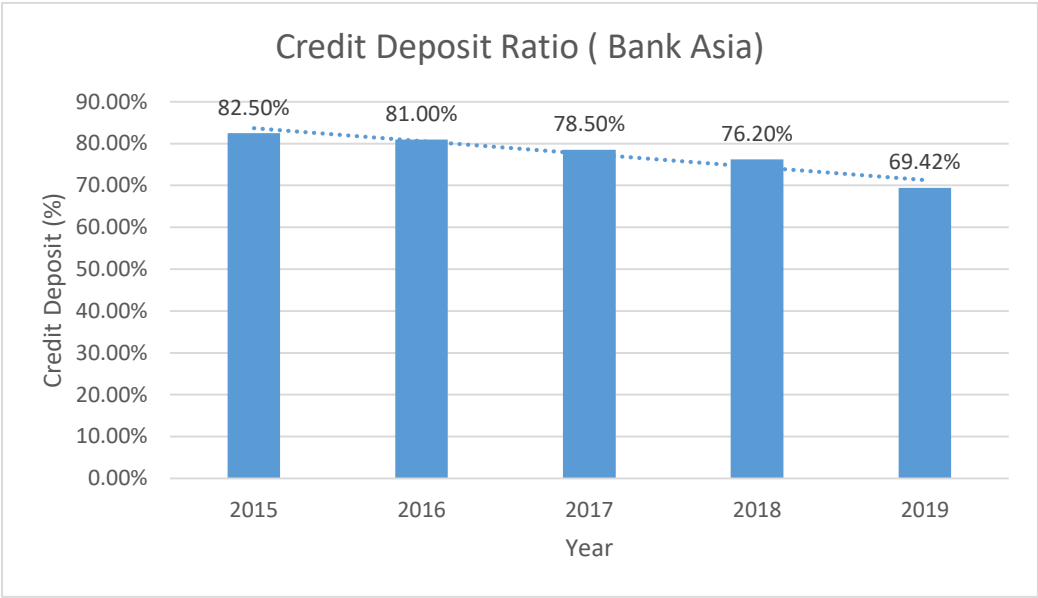


Figure 14: Credit Deposit ratio of Bank Asia

From the graph, there is a downward trend in credit deposit ratio for Bank Asia Limited. The bank is conservative in giving loans to the borrowers. As the bank is very much concern in maintaining highest standard in their credit risk management system, they try to provide loans to the right borrowers who are actually efficient enough to repay the loans.

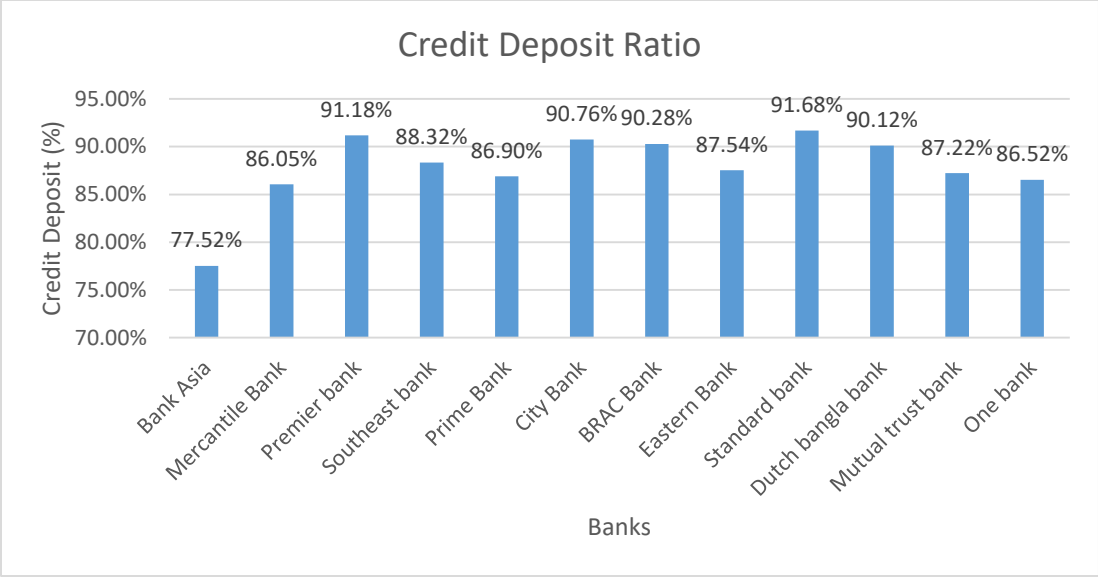


Figure 15: Credit Deposit ratio(Competitive analysis)

In comparative analysis, I compare my bank’s performance with other 11 banks who are considered to be major competitors. I take the average of the 5 years (2015-2019) Credit Deposit ratio data of every bank.

My organization’s credit deposit ratio is lower than other competitor banks. My organization’s credit deposit ratio is 77.52%. but the competitor banks’ credit deposit ratio is more than 80%. It highlights competitor banks provide more loans to the borrowers. Competitor banks are taking more risk as they provide more loans to the customers.

Provision for loan loss ratio:

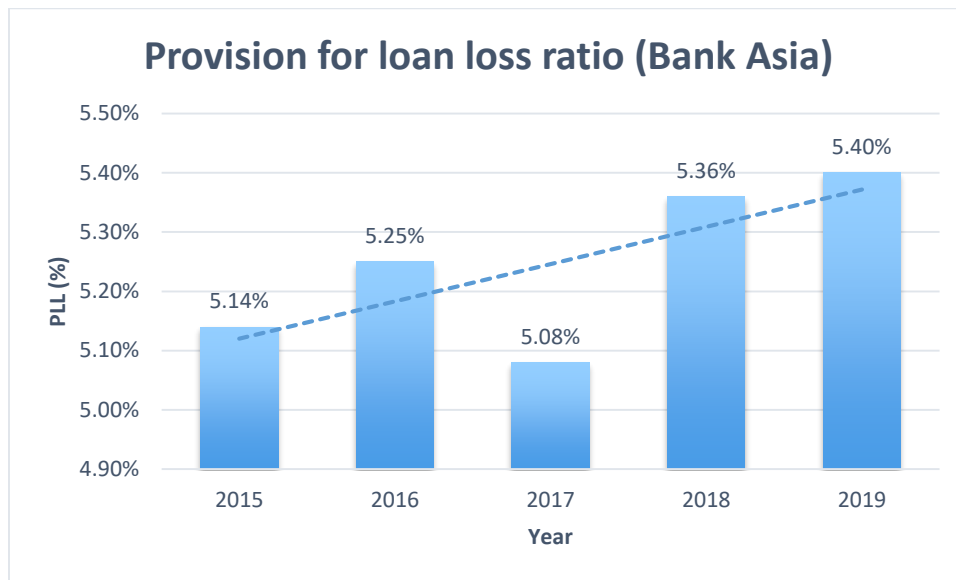


Figure 16: Provision for loan loss (bank asia)

There is an upward trend in Bank Asia’s provisioning for loan loss ratio from the year of 2015 to 2019. Upward trend in provision for loan loss ratio means the bank is much concern in maintaining provisions in order to withstand loan losses. Higher provisioning is a significant indicator of sound credit risk management system.

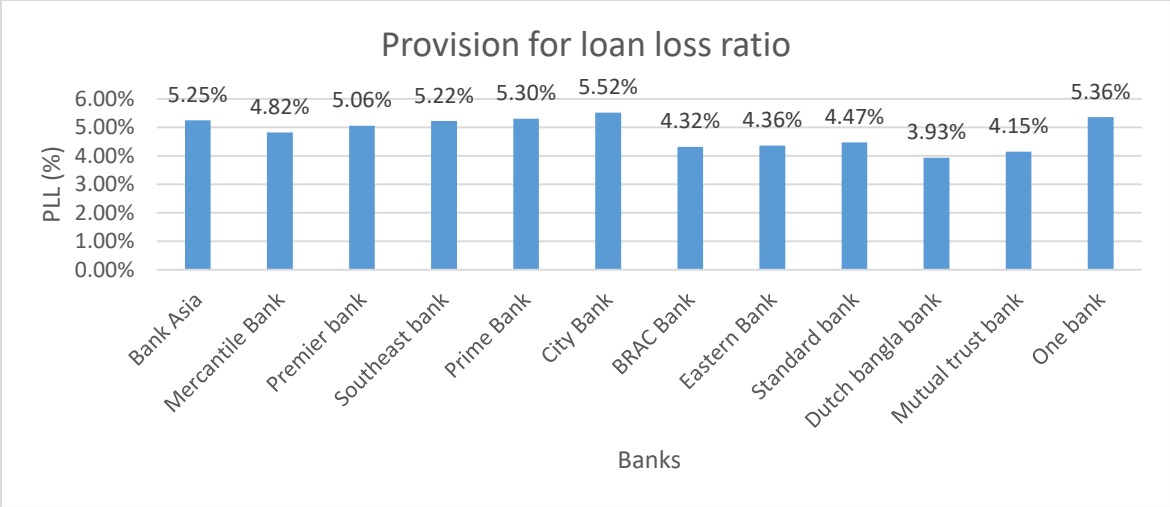


Figure 17: Provision for loan loss (Competitive analysis)

In comparative analysis, I compare my bank’s performance with other 11 banks who are considered to be major competitors. I take the average of the 5 years (2015-2019) Provision for loan loss ratio data of every bank.

In comparison with some of the competitor banks, my organization’s provision for loan loss ratio is higher. My bank’s PLL ratio is 5.25% which is quite satisfactory. Some the banks including City Bank, Prime bank maintain higher PLL ratio. But the rest of the banks maintain lower PLL ratio which highlight that these banks capability to withstand loan losses is lower than my organization.

ROE:

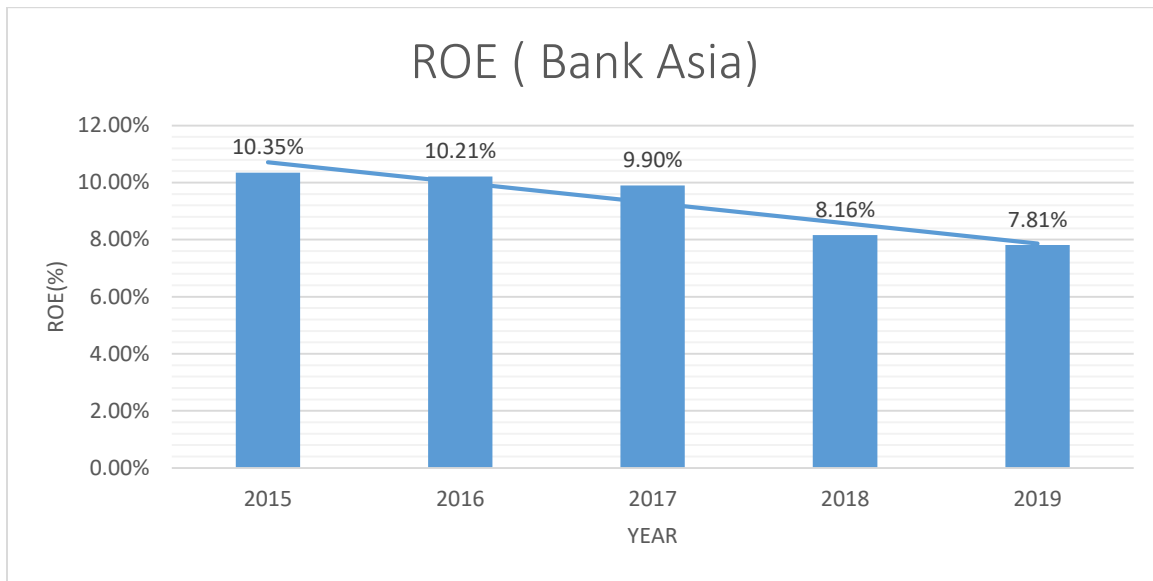


Figure 18: ROE (bank asia)

From the graph, I see that there is decreasing trend in the ROE of my organization from the year of 2015 to 2019. It means that the bank’s capacity to generate earnings from its equity is declining gradually. Downward trend in ROE is not satisfactory at all as ROE is a prime indicator of financial performance for a bank.

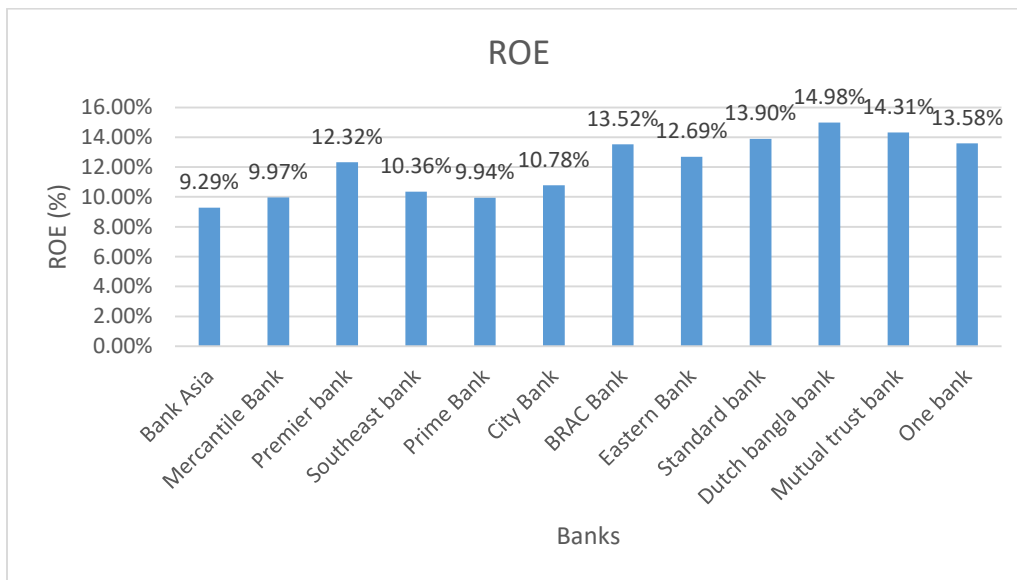


Figure 19: ROE (Competitive Analysis)

In comparative analysis, I compare my bank's performance with other 11 banks who are considered to be major competitors. I take the average of the 5 years (2015-2019) ROE data of every bank.

In comparison with other banks, my institution's ROE is lower. Other banks are doing better in terms of ROE. Most of the competitor banks' return on equity is more than 10% while my bank's ROE is 9.29%. So, other banks are using their equity more efficiently with a view to getting earnings.

3.3.2 Hypothesis testing:

In this part, I create some hypothesis regarding my research. In order to test the hypothesis, I take the data of 12 banks from 2015-2019 including my organization Bank Asia. If I take only my organization, then no. of observations will be very low. In order to get more observations, I take the data of 12 banks including my bank. So, there will be 60 observations.

Hypothesis 1:

Null Hypothesis: Relationship between Capital adequacy ratio and NPL ratio has no significance.

Alternate Hypothesis: Relationship between Capital adequacy ratio and NPL ratio has much significance.

Here, independent variable= Capital adequacy ratio, dependable variable= NPL ratio

Regression Statistics								
Multiple R	0.73074							
R Square	0.53399							
Adjusted R Square	0.52595							
Standard Error	0.00561							
Observations	60							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.002092	0.002092	66.46	3.40422E-11			
Residual	58	0.001826	3.15E-05					
Total	59	0.003918						
	Coefficient	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.13732	0.010424	13.17286	4E-19	0.116449668	0.15818206	0.11645	0.158182
CAR	-0.5739	0.070397	-8.152306	3E-11	-0.714816404	-0.4329852	-0.71482	-0.432985

From the regression table, it is seen that multiple r value is 0.73. So, the correlation between CAR and NPL ratio is strong. R square value is 0.533 which means independent variable capital adequacy ratio explain 53.3% of the variability of dependent variable non-performing loan ratio. Coefficient for CAR is -0.5739. It means a negative relationship is reflected between the variables. If CAR increases by 1%, then NPL ratio will decrease by 0.5739%. It reflects an inverse relationship between the independent and dependent variable. P value for CAR is 0.00 which is below 0.05 level. Significant relationship between CAR and NPL ratio exists. So, null hypothesis is rejected and alternate hypothesis is accepted.

Hypothesis 2:

Null Hypothesis: Credit deposit ratio and Net interest margin have no significant impact on ROA.

Alternate Hypothesis: Credit deposit ratio and Net interest margin have significant impact on ROA.

Here, independent variables= Credit deposit ratio and Net interest margin, dependable variable= ROA.

Regression Statistics									
Multiple R	0.7724								
R Square	0.5967								
Adjusted R Squa	0.5825								
Standard Error	0.0013								
Observations	60								
ANOVA									
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>				
Regression	2	0.000136	7E-05	42.1633	6E-12				
Residual	57	9.19E-05	2E-06						
Total	59	0.000228							
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>	
Intercept	-0.0157	0.003183	-4.9281	7.5E-06	-0.022	-0.0093	-0.0221	-0.009	
Credit deposit ratio	0.027	0.004217	6.3965	3.2E-08	0.0185	0.0354	0.01853	0.0354	
Net interest margin	0.1091	0.048476	2.2505	0.02829	0.012	0.2062	0.01202	0.2062	

Here, I run multiple regression. From the multiple regression table, it is seen that multiple r value is 0.77. So, strong correlation is highlighted between independent variables and the dependent variable. R square value is 0.5967 which means independent variables including credit deposit ratio, net interest margin can explain 59.67% of the variability of dependent variable ROA. Coefficient for credit to deposit ratio is 0.027 which states a positive relationship between credit deposit ratio and ROA. If credit deposit ratio increases by 1%, ROA will increase by 0.027%. Coefficient for net interest margin is 0.1091 which reflects the existence of a positive relationship between NIM ratio and ROA. If NIM increases by 1%, ROA will increase by 0.1091%. P value for credit deposit ratio is 0.00 which is less than 0.05. P value for net interest

margin is 0.02 which is below 0.05 level, So, null hypothesis can be rejected and alternate hypothesis can be accepted.

Hypothesis 3

Null Hypothesis: Influence of provision for loan loss ratio on ROE has no significance

Alternate Hypothesis: Influence of provision for loan loss ratio on ROE has much significance

Here, independent variable= Provision for loan loss, dependent variable= ROE

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.6726							
R Square	0.4524							
Adjusted R Square	0.443							
Standard Error	0.0159							
Observations	60							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.012052	0.01205	47.91761	4E-09			
Residual	58	0.014588	0.00025					
Total	59	0.026641						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.2246	0.015052	14.9199	1.63E-21	0.19444	0.2547	0.194441	0.254699
Provision for loan loss ratio	-2.1447	0.309823	-6.9223	3.96E-09	-2.7648	-1.52449	-2.76485	-1.52449

From the regression table, it is seen that multiple r value is 0.6726. It means the correlation between provision for loan loss ratio and return on equity is moderate. R square value is 0.4525 which means independent variable provision for loan loss ratio explain 45.25% of the variability of dependent variable ROE. Coefficient for provision for loan loss ratio is -2.1447. If PLL increases by 1 unit, then ROE will decrease by 2.1447 unit. It reflects an inverse relationship between the independent and dependent variable. P value for provision for loan loss ratio is 0.00 which is below 0.05. So, a significant relationship between PLL ratio and ROE is reflected. So, I can reject null hypothesis and accept alternate hypothesis.

Hypothesis 4

Null hypothesis: Impact of credit to deposit ratio on NPL ratio has no significance.

Alternate hypothesis: Impact of credit to deposit ratio on NPL ratio has significance.

Here, independent variable: credit to deposit ratio, Dependent variable: NPL ratio

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.35074							
R Square	0.12302							
Adjusted R Square	0.1079							
Standard Error	0.0077							
Observations	60							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.000482	0.000482	8.13605	0.006004			
Residual	58	0.003436	5.92E-05					
Total	59	0.003918						
	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.002	0.019156	-0.10578	0.91612	-0.04037	0.036319	-0.04037	0.036319
Credit deposit	0.06206	0.021757	2.852376	0.006	0.018508	0.105613	0.018508	0.105613

From the regression analysis, multiple r value is 0.35. It means the correlation between the variables are not strong. R value is 0.123 which means independent variable credit deposit ratio can explain 12.3% of the variability of dependent variable NPL ratio. Coefficient for credit deposit ratio is 0.06 which highlights a positive relationship with NPL ratio. If credit deposit ratio increases by 1 unit, then NPL ratio will increase by 0.06 unit. P value for credit deposit ratio is 0.006 which is less than 0.05. So, credit deposit ratio has significant impact on NPL ratio.

3.3.3 Discussions on the hypothesis:

Hypothesis 1 discussion:

In this hypothesis 1, a significant relationship exists between CAR and NPL ratio. If a bank maintains CAR, it gets lower NPL ratio. Higher CAR is a significant indicator of sound CRM system. So, sound CRM system is primarily responsible for lower NPL ratio. On the other hand, the banks which have lower capital adequacy ratio notice a bigger NPL ratio. Lower CAR increases credit risk of a bank which results in higher NPL ratio. So, the banks which are really concerned regarding their credit risk management are trying to maintain greater CAR in order to get lower non-performing loan. Previous studies regarding the relationship between CAR and NPL ratio also support that there is an inverse relationship between these variables.

Hypothesis 2 discussion

In the hypothesis 2, it is proved that credit deposit ratio and net interest margin ratio have made significant impact on ROA. If any bank provides more credits from its deposits to the customers, it will likely to earn more ROA positive relationship is highlighted between CD ratio and ROA. Moreover, if any bank earns more net interest margin ratio, it will make significant impact on ROA. Basically, net interest income is a big portion of a bank's revenue. So, more net interest income will lead to higher amount return on assets.

Hypothesis 3 discussion

In the hypothesis 3, it is proved that provision for loan loss ratio makes significant impact on ROE. The banks who are much concerned regarding quality credit risk management system try to maintain high amount of PLL ratio in order to withstand future loan losses. Higher provisioning is a prime indicator of good CRM system. But higher provisioning leads to lower amount of ROE as there is a negative relationship between these variables. PLL is an expense item in the income statement which reduces net profit after tax. Reduce in profitability leads to lower amount of ROE.

Hypothesis 4 discussion

In the hypothesis 4, it is evident credit deposit ratio has significant impact on NPL ratio. The banks which provide more loans from the deposits likely to face more NPL ratio. Higher credit deposit ratio accelerates the probability of experiencing greater NPL ratio. There is a positive relationship between CD ratio and NPL ratio. In the analysis, it is noticed the banks which have higher credit deposit ratio face more NPL ratio. Higher CD ratio is an indicator of high credit risk which is not a feature of sound CRM

3.3.4 Descriptive Statistics Analysis:

In this part, I create descriptive statistics regarding my research. In order to test the hypothesis, I take the data of 12 banks from 2015-2019 including my organization Bank Asia. If I take only my organization, then no. of observations will be very low. In order to get more observations, I take the data of 12 banks including my bank. So, there will be 60 observations.

Items	ROE	Provision for loan loss ratio	Credit Deposit ratio	Net Interest Margin	ROA	CAR	NPL
Mean	12.13%	4.81%	87.93%	3.23%	1.16%	14.77%	5.25%
Standard Error	0.27%	0.09%	0.59%	0.05%	0.03%	0.13%	0.11%
Median	12.62%	5.07%	88.00%	3.19%	1.16%	14.78%	5.23%
Mode	10.21%	4.29%	91.00%	3.12%	1.15%	13.55%	5.24%
Standard Deviation	2.12%	0.67%	4.61%	0.40%	0.20%	1.04%	0.81%
Sample Variance	0.045%	0.004%	0.212%	0.002%	0.000%	0.011%	0.007%
Range	8.43%	2.44%	27.08%	2.16%	1.07%	4.66%	4.09%
Minimum	7.81%	3.38%	69.42%	2.29%	0.63%	11.94%	3.28%
Maximum	16.24%	5.82%	96.50%	4.45%	1.70%	16.60%	7.37%
Count	60	60	60	60	60	60	60

Table 3: Descriptive Statistics

From the analysis, I see that mean of ROE is 12.13%. Maximum and minimum value of ROE are 16.24% and 7.81% respectively. Range for ROE is 8.43%. Standard deviation of ROE is 2.12%. Moreover, Provision for loan loss ratio's mean, median and mode are 4.81%, 5.07%, 4.29% respectively. The range of PLL ratio is 2.44%. It's standard deviation is 0.67% which is very low. Credit deposit ratio's maximum and minimum value are 96.50% and 69.42% respectively. The range between maximum and minimum value is very big which is 27%. Net Interest margin ratio's mean value is 3.23% and standard deviation is 0.40% which is comparatively lower than the standard deviation values of the previously mentioned ratios. ROA's maximum and minimum value are 1.70% and 0.63% respectively. It's standard deviation is 0.20%. Capital adequacy ratio's maximum and minimum value are 16.60% and 11.94% respectively. It's standard deviation is 1.04% which is higher than other ratios. NPL ratio's mean and median are 5.25% and 5.23% respectively. It ranges from the min. value of 3.28% to the max. value of 7.37%. It's standard deviation is 0.81%.

3.4 Summary & Conclusions

The research is done with a view to analyzing the importance of CRM system on bank's performance. In the analysis, it is noticed that many banks don't manage their credits in a proper way. As a result, they experience higher non-performing loans which affects negatively on the financial strength of the banks. Moreover, by providing more loans, the banks take more risks which is so alarming. Some of the banks maintain higher CAR which decreases their credit risk. But banks' aggressive attitude in providing more loans is also responsible for higher NPL ratio. Furthermore, proper assessment of borrower's creditworthiness can reduce the credit risk of a bank. CD ratio of a bank is very vital in CRM system. Higher credit deposit ratio not only accelerates credit risk but also increases liquidity risk. In Bangladesh, many banks don't repay the deposit money to the depositors as the banks provide huge loans to the borrowers.

3.5 Recommendations:

My organization is impressive in terms of credit risk management system. But it has to take some measures in order to do better performance. Firstly, the bank should use its assets more efficiently to increase ROA. Secondly, ROE of Bank Asia is lower than its competitors. So, the bank should increase ROE by using its equity more efficiently. Moreover, net interest margin ratio is not satisfactory of the bank. So, the bank can increase its interest income and decrease interest expense in order to generate more net interest margin. The bank should focus on selecting right customers while providing loans. Thus, it will help the bank to get back their loan amount as well as interest amount.

3.6 References:

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3.7 Appendix:

Dataset for hypothesis 1

	Bank	Year	CAR	NPL ratio
1	Bank Asia	2015	13.55%	5.41%
	Bank Asia	2016	13.96%	5.25%
	Bank Asia	2017	14.38%	5.48%
	Bank Asia	2018	14.81%	4.59%
	Bank Asia	2019	15.25%	4.61%
2	Mercantile Bank	2015	14.45%	5.24%
	Mercantile Bank	2016	14.88%	5.29%
	Mercantile Bank	2017	15.33%	4.93%
	Mercantile Bank	2018	15.20%	4.98%
	Mercantile Bank	2019	16.26%	5.28%
3	Premier bank	2015	14.75%	5.18%
	Premier bank	2016	15.19%	5.38%
	Premier bank	2017	15.65%	4.97%
	Premier bank	2018	16.12%	5.24%
	Premier bank	2019	16.60%	4.78%
4	Southeast bank	2015	13.45%	6.20%
	Southeast bank	2016	13.85%	6.44%
	Southeast bank	2017	14.27%	5.98%
	Southeast bank	2018	14.10%	6.00%
	Southeast bank	2019	15.14%	5.79%
5	Prime Bank	2015	14.48%	5.27%
	Prime Bank	2016	14.91%	5.19%
	Prime Bank	2017	15.36%	5.01%
	Prime Bank	2018	14.82%	4.94%
	Prime Bank	2019	16.30%	4.81%
6	City Bank	2015	13.70%	5.80%
	City Bank	2016	14.11%	5.68%
	City Bank	2017	14.53%	5.68%
	City Bank	2018	14.47%	5.66%
	City Bank	2019	15.42%	5.35%
7	BRAC bank	2015	14.75%	5.10%
	BRAC bank	2016	15.19%	5.00%
	BRAC bank	2017	15.65%	5.16%
	BRAC bank	2018	16.12%	5.22%
	BRAC bank	2019	16.60%	4.70%

8	Eastern bank	2015	14.32%	4.25%
	Eastern bank	2016	14.89%	4.27%
	Eastern bank	2017	15.49%	3.99%
	Eastern bank	2018	16.11%	4.22%
	Eastern bank	2019	16.05%	3.28%
9	Standard bank	2015	12.20%	7.35%
	Standard bank	2016	12.57%	7.37%
	Standard bank	2017	11.94%	7.06%
	Standard bank	2018	13.33%	6.92%
	Standard bank	2019	13.73%	6.78%
10	Dutch bangla	2015	13.45%	5.95%
	Dutch bangla	2016	13.99%	5.76%
	Dutch bangla	2017	14.55%	5.58%
	Dutch bangla	2018	15.13%	5.41%
	Dutch bangla	2019	15.73%	5.23%
11	Mutual trust	2015	14.45%	4.55%
	Mutual trust	2016	14.23%	4.56%
	Mutual trust	2017	15.55%	4.22%
	Mutual trust	2018	14.54%	4.17%
	Mutual trust	2019	16.33%	4.17%
12	One bank	2015	13.55%	5.66%
	One bank	2016	14.44%	4.99%
	One bank	2017	14.72%	4.72%
	One bank	2018	15.22%	4.75%
	One bank	2019	16.19%	4.44%

Dataset for Hypothesis 2

	Bank	Year	Credit deposit ratio	Net interest margin	Return on assets
1	Bank Asia	2015	82.50%	2.98%	0.91%
	Bank Asia	2016	81.00%	2.94%	0.86%
	Bank Asia	2017	78.50%	2.86%	0.79%
	Bank Asia	2018	76.20%	2.65%	0.69%
	Bank Asia	2019	69.42%	2.29%	0.63%
2	Mercantile Bank	2015	91.32%	3.44%	1.15%
	Mercantile Bank	2016	84.25%	3.12%	1.30%
	Mercantile Bank	2017	86.30%	3.15%	1.09%
	Mercantile Bank	2018	84.10%	2.88%	0.78%
	Mercantile Bank	2019	84.30%	2.82%	0.73%
3	Premier bank	2015	94.50%	3.47%	1.40%
	Premier bank	2016	96.30%	3.45%	1.42%
	Premier bank	2017	92.00%	3.22%	1.22%
	Premier bank	2018	87.55%	2.83%	1.15%
	Premier bank	2019	85.55%	2.67%	1.16%
4	Southeast bank	2015	93.00%	3.18%	1.23%
	Southeast bank	2016	92.10%	3.15%	1.24%
	Southeast bank	2017	88.00%	2.95%	1.17%
	Southeast bank	2018	87.00%	2.86%	1.18%
	Southeast bank	2019	86.50%	2.73%	1.09%
5	Prime Bank	2015	88.00%	3.38%	1.18%
	Prime Bank	2016	87.20%	3.31%	1.15%
	Prime Bank	2017	84.33%	3.23%	1.23%
	Prime Bank	2018	89.00%	3.51%	1.42%
	Prime Bank	2019	85.98%	3.12%	1.23%
6	City Bank	2015	92.40%	4.40%	1.70%
	City Bank	2016	93.00%	4.30%	1.40%
	City Bank	2017	91.00%	4.20%	1.12%

	City Bank	2018	89.00%	4.45%	1.10%
	City Bank	2019	88.40%	4.14%	1.01%
7	BRAC bank	2015	86.90%	3.28%	1.23%
	BRAC bank	2016	87.00%	3.22%	1.11%
	BRAC bank	2017	92.00%	3.26%	1.17%
	BRAC bank	2018	91.00%	2.98%	1.21%
	BRAC bank	2019	94.50%	2.94%	1.36%
8	Eastern bank	2015	89.45%	3.27%	1.15%
	Eastern bank	2016	88.00%	3.23%	1.12%
	Eastern bank	2017	86.76%	3.17%	1.17%
	Eastern bank	2018	87.50%	3.08%	1.08%
	Eastern bank	2019	86.00%	3.07%	1.06%
9	Standard bank	2015	94.20%	3.35%	1.41%
	Standard bank	2016	96.50%	3.29%	1.38%
	Standard bank	2017	91.00%	3.36%	1.28%
	Standard bank	2018	89.00%	3.38%	1.25%
	Standard bank	2019	87.68%	3.13%	1.12%
10	Dutch bangla	2015	91.23%	3.35%	1.32%
	Dutch bangla	2016	89.25%	3.60%	1.50%
	Dutch bangla	2017	88.24%	3.26%	1.29%
	Dutch bangla	2018	90.50%	3.17%	1.11%
	Dutch bangla	2019	91.40%	3.25%	1.25%
11	Mutual trust	2015	83.50%	3.02%	0.98%
	Mutual trust	2016	85.40%	2.96%	0.96%
	Mutual trust	2017	87.90%	3.05%	1.03%
	Mutual trust	2018	91.00%	3.12%	1.12%
	Mutual trust	2019	88.30%	3.19%	1.06%
12	One bank	2015	84.45%	3.48%	1.35%
	One bank	2016	86.45%	3.26%	1.25%
	One bank	2017	87.30%	3.15%	1.12%
	One bank	2018	85.20%	3.23%	1.13%
	One bank	2019	89.20%	3.14%	1.04%

Dataset for hypothesis 3

Provision for loan loss ratio	ROE
5.14%	10.35%
5.25%	10.21%
5.08%	9.90%
5.36%	8.16%
5.40%	7.81%
5.29%	10.04%
5.10%	10.12%
4.25%	10.24%
4.73%	9.68%
4.71%	9.79%
5.67%	9.30%
5.51%	11.32%
5.45%	12.56%
5.21%	13.73%
3.45%	14.70%
5.29%	10.30%
5.62%	10.21%
5.57%	10.20%
5.42%	10.25%
4.29%	10.75%
5.19%	10.41%
5.22%	10.39%
5.47%	10.60%
5.82%	9.45%
4.79%	8.86%
5.68%	11.70%
5.72%	12.20%
5.50%	11.90%
5.64%	8.20%
5.06%	9.90%
5.22%	12.23%
4.29%	13.25%
4.12%	13.46%

4.03%	14.20%
3.92%	14.47%
4.65%	12.45%
4.44%	12.67%
4.31%	12.70%
4.32%	12.72%
4.10%	12.89%
3.79%	15.56%
4.25%	13.74%
4.59%	13.52%
4.43%	13.72%
5.27%	12.94%
3.38%	16.24%
3.75%	15.29%
3.82%	15.31%
4.41%	13.94%
4.29%	14.11%
3.63%	14.87%
3.94%	14.73%
4.27%	14.51%
4.21%	14.29%
4.69%	13.16%
5.26%	14.16%
5.21%	14.25%
5.56%	13.20%
5.44%	12.93%
5.31%	13.34%

Dataset for hypothesis 4

	Bank	Year	Credit deposit ratio	NPL
1	Bank Asia	2015	82.50%	5.41%
	Bank Asia	2016	81.00%	5.25%
	Bank Asia	2017	78.50%	5.48%
	Bank Asia	2018	76.20%	4.59%
	Bank Asia	2019	69.42%	4.61%
2	Mercantile Bank	2015	91.32%	5.24%
	Mercantile Bank	2016	84.25%	5.29%
	Mercantile Bank	2017	86.30%	4.93%
	Mercantile Bank	2018	84.10%	4.98%
	Mercantile Bank	2019	84.30%	5.28%
3	Premier bank	2015	94.50%	5.18%
	Premier bank	2016	96.30%	5.38%
	Premier bank	2017	92.00%	4.97%
	Premier bank	2018	87.55%	5.24%
	Premier bank	2019	85.55%	4.78%
4	Southeast bank	2015	93.00%	6.20%
	Southeast bank	2016	92.10%	6.44%
	Southeast bank	2017	88.00%	5.98%
	Southeast bank	2018	87.00%	6.00%
	Southeast bank	2019	86.50%	5.79%
5	Prime Bank	2015	88.00%	5.27%
	Prime Bank	2016	87.20%	5.19%
	Prime Bank	2017	84.33%	5.01%
	Prime Bank	2018	89.00%	4.94%
	Prime Bank	2019	85.98%	4.81%
6	City Bank	2015	92.40%	5.80%
	City Bank	2016	93.00%	5.68%
	City Bank	2017	91.00%	5.68%

	City Bank	2018	89.00%	5.66%
	City Bank	2019	88.40%	5.35%
7	BRAC bank	2015	86.90%	5.10%
	BRAC bank	2016	87.00%	5.00%
	BRAC bank	2017	92.00%	5.16%
	BRAC bank	2018	91.00%	5.22%
	BRAC bank	2019	94.50%	4.70%
8	Eastern bank	2015	89.45%	4.25%
	Eastern bank	2016	88.00%	4.27%
	Eastern bank	2017	86.76%	3.99%
	Eastern bank	2018	87.50%	4.22%
	Eastern bank	2019	86.00%	3.28%
9	Standard bank	2015	94.20%	7.35%
	Standard bank	2016	96.50%	7.37%
	Standard bank	2017	91.00%	7.06%
	Standard bank	2018	89.00%	6.92%
	Standard bank	2019	87.68%	6.78%
10	Dutch bangla	2015	91.23%	5.95%
	Dutch bangla	2016	89.25%	5.76%
	Dutch bangla	2017	88.24%	5.58%
	Dutch bangla	2018	90.50%	5.41%
	Dutch bangla	2019	91.40%	5.23%
11	Mutual trust	2015	83.50%	4.55%
	Mutual trust	2016	85.40%	4.56%
	Mutual trust	2017	87.90%	4.22%
	Mutual trust	2018	91.00%	4.17%
	Mutual trust	2019	88.30%	4.17%
12	One bank	2015	84.45%	5.66%
	One bank	2016	86.45%	4.99%
	One bank	2017	87.30%	4.72%
	One bank	2018	85.20%	4.75%
	One bank	2019	89.20%	4.44%

