Internship Report

on

Determinants of Non-performing Loans in The Banking Sector of Bangladesh

This report is submitted to the Department of Finance & Banking, Faculty of Business Studies, Hajee Mohammad Danesh Science and Technology University, Dinajpur for the partial fulfillment of the degree of Master of Business Administration (MBA) in Finance.

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June, 2024

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Supervisor's Certificate

I hereby declare that the internship report on "Determinants of Non-performing Loans in The Banking Sector of Bangladesh" is done by Md. Milon Hosen Student ID: 1703092, MBA in Finance Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200. He has performed his analyzing performance under my supervision and advice this report submit to the Faculty of Business Studies for the partial fulfillment of the requirement of the degree of master of Business Administration (MBA in Finance).

I wish him every success in life.

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Declaration

I do hereby solemnly declare that the work presented in this Internship Report has been carried out by me and has not been submitted to any other University for an academic qualification. The work I have presented does not breach any existing copyright and no portion of this report has been copied from any work done earlier for a degree or otherwise.

I further undertake to indemnify the Department against any loss or damage arising from a breach of the foregoing obligation.

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Abstract

This study scrutinizes the determinants of NPLs observing a case of the banking sector in Bangladesh over the period from 2011 to 2023. During this period, it has been found that non-performing loan hurts bank profitability (ROA, ROE), and the capital adequacy ratio this study aims to assess determinants of non-performing loans and their impact on bank profitability. A multiple regression model was applied to find the relationship between nonperforming loans and banking factors such as return on assets (ROA), return on equity (ROE), and capital adequacy ratio. It has been found that non-performing loans hurt profitability. Non-performing loans sternly affect the well-being of the banking division and also the economy of Bangladesh. The findings indicate return on assets, return on equity, capital adequacy, and non-performing loans are inversely related. The consequences of this study leave several policy implications for researchers, and practitioners.

Keywords: Non-performing loans, Banking industry, Return on Assets (ROA), Return on Equity (ROE)

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Financial crises are one of the most immediate and important issues for the banking sector globally, especially in developing countries like Bangladesh. In recent years, the global economy has witnessed remarkable financial crises in numerous countries. In the aftermath of the ongoing global financial recession caused by COVID-19 and Russia Ukraine war, considerable attention has been paid to the accumulation of non-performing loans in the balance sheet of the banking department of Bangladesh and its potential negative effects on bank lending to the real economy. Non-performing loans (NPLs) in the country's banking sector increased 16percentcent year-on-year to Tk 103,274 crore in 2023 (The Daily Star) despite a relaxed loan classification policy taken by the Bangladesh Bank. The ratio of default loans to outstanding loans and advances stood at 7.9 percent last year in contrast to 7.6 percent in 2020, according to the central bank data.

The banking sector plays a vital role in the economy, mobilizing savings and channeling the savings for the productive investment of a country. The better it does so, the better the economy will perform in the long run through the more productive economic activities and condensed financial risk. The role is even more noticeable in a developing country like Bangladesh, where the banks are the major source of long-term finance in the absence of a mature capital market. A sound banking system guarantees the effective use of resources, facilitating efficient allocation. But the banking system of Bangladesh had been affected by a germ from its beginning period called non-performing loans (NPL). Banks provide short-term and long-term finances to numerous organs of the economy. Banks are also supposed to regain the money with interest as profit as per the repayment schedule. As a result of many reasons, however, banks are incapable to get back some of their money in time from many clients. Banks, as a normal safeguard to recover money, keep some provision against all such advances, considering that due to many reasons, there might be some non-performing loans. If the non-performing loan (NPL) surpasses the norm, it generates a significant problem in running banking operations. Facing a high level of NPL may threaten the stability of the banking industry and the financial system as a whole. As the NPL reveals the asset quality, it plays a vital role and acts as an indicator of the financial stability of banks.

1.2 Objectives of the study

To understand the resilience and stability of the financial system of the banking industry of a country it is necessary to understand the determinants of non-performing loans. The key objectives of this study are the followings:

- To know about the determinants of non-performing loans and their impact on bank profitability.
- To show the relationship between non-performing loan and its determinants (ROA, ROE, and CAR).
- To evaluate the present situation of non-performing loans in the banking sector and identify the trendiest causes of non-performing loans.

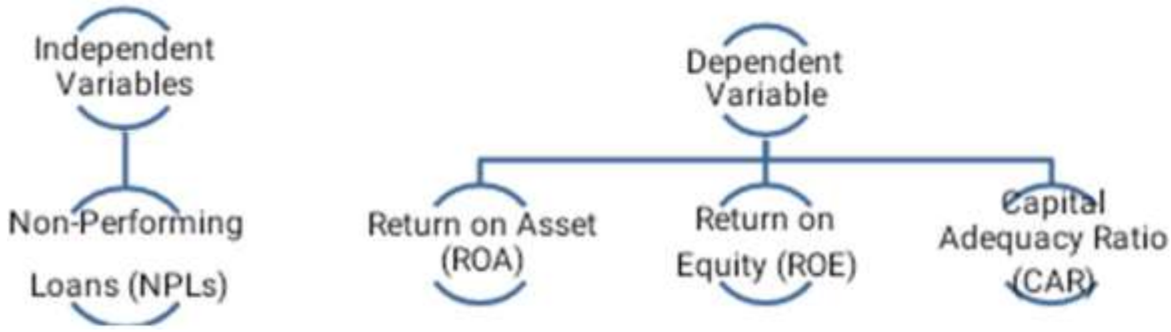
CHAPTER 2
LITERATURE REVIEW

2.1 Literature review

The extensive growth of NPLs in the context of the global financial crisis and the repercussions of the COVID-19 pandemic on the economy raised global awareness of the need to investigate the determinants of the quality of bank loans. The level of profitability, the bank size, the bank capital, and, income diversification is strongly studied as the main determinants of NPLs. However, the relationship between NPLs and these factors is nebulous. Bacchiocchi, A., Bischi, G. I., & Giombini, G. (2022) Non-performing loans are considered factors of profitability because higher levels of non-performing loans badly affect bank net income through the provisioning of doubtful debts and write-offs of bad debts. Non-performing loan in Bangladesh has been apparent within the last few years. Structural weakness, political will, and absence of good governance are the main factors for the banking industry depressed. Kryzanowski, L., Liu, J., & Zhang, J. (2022) Unlike previous macro-economic and financial crises, COVID-19 is a public health shock that has had a major impact on most national economies, Banks with high equity ratios and high Tier 1 capital ratios significantly lower NPL ratios during the COVID crisis. Jin, J., Nainar, K., & Sun, C. (2022) examined when the size that e of NPL is high in a state, its denizens are more likely to commit a crime in the next year. Saulītis, A. (2022).evaluated debtors' behavior regarding NPLs and show that improving payment behavior for individuals with NPLs is not an effective strategy and may even backfire on collection efforts Serrano, A. S. (2023) found that the stock of non-performing harms on the lending activities of banks (higher rates of non-performing loans are associated with lower growth of performing loans), together with other variables such as the return on assets (profitability) or the leverage ratio (solvency). Tölö, E., & Virén, M. (2023) non-performing loans (NPLs) are toxic for lending growth of banking sector and the effect is robust to demand effects related to different regions and bank types, suggesting that the observed effect is due to a reduction in the loan supply by the affected bank. Dimitrios, A., Helen, L., & Mike, T. (2016) have recognized some behavioral factors of NPLs like sort of collateral, quantity of collateral, credit assessment, absence of proper monitoring, poor credit culture, grace period of credit repayment, creditors' behavior, repayment elasticity, credit policies, tenure of loans, etc. Khan, M. A., Siddique, A., & Sarwar, Z. (2020) the banking sector plays a key role in country's economy and is considered as the backbone in the financial transaction of the country.

CHAPTER 3
METHODOLOGY

3.1 Data



Data are retrieved from the annual reports and income statements of Bangladesh bank. In order to conduct this study, secondary data have been used from 2011 to 2023. This time period is considered because it has never been used in previous studies to assess the NPLs in the banking sector of Bangladesh. Previous studies have only considered the time period range from 2005 to 2015. Data have been collected from various secondary sources such as Bangladesh Bank's reports, Journal of different institutions' Different publications, Research works of individuals, Websites of Banks and the national dailies. Therefore, in this study, we attempted to evaluate the determinants of NPLs from the period ranging from 2011 to 2023. This time period is considered due to the availability of sufficient data for the analysis of variables.

3.2 Econometric Model

To conduct this study a multiple statistical econometric model has been used. Based on the theoretical relationship among variables, multiple regression model was developed as per the objective of the study. A regression model is estimated to examine the effects of non-performing loan on ROA, ROE and CAR. The model is expressed as:

3.2.1 Introduction of Variables

Introduction of dependent and independent variables under study are given as follows:

3.2.2 non-performing loans (NPLs). NPLs are the loans that remain unpaid. According to IMF a loan is considered as NPL if it does not generate interest and the principal amount for a minimum of 90 days. In this study, the NPLs were measured as the ratio of NPLs to total loans.

3.2.3 Return on assets (ROA). ROA is used to measure the profitability of the banks and measured as the net income to total assets. High ROA indicates the stable financial position of the banks and they are not interested in investing in risky loans because of less pressure to generate income.

3.2.4 The Return on Equity Ratio (ROE). ROE is a profitability ratio that measures the ability of a firm to generate profits from its shareholders investments in the company. In other words, the return on equity ratio shows how much profit each dollar of common stockholders' equity generates.

3.2.5 Capital Adequacy Ratio (CAR). The CAR measures the soundness level of the banks. It represents the ability of the organization to stand in case of abnormal losses and also examine the strength and stability of the organization in the time of crises.

CHAPTER 4
ANALYSIS AND INTERPRETATION

4.1 Conceptual Framework of Non-Performing Loans (NPLs)

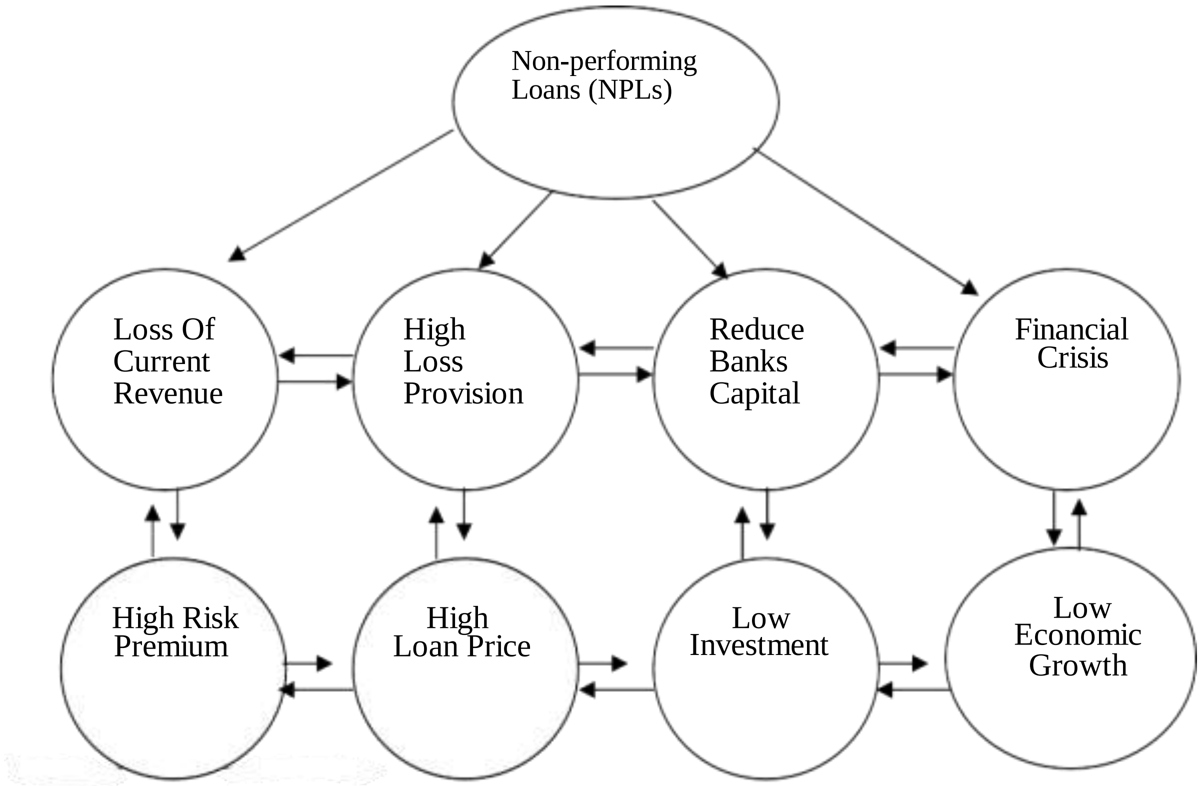


Figure 1: Conceptual Framework of Non-Performing Loans (NPLs*)*

The above figure illustrates the catastrophic effect of NPLs in a banking based financial system. Having such a system, Bangladesh needs to study the condition of NPLs on a routine basis in order to augment investible capital in the productive sectors as well as to ensure sustainable economic growth. The heart of a bank is cut into two segments namely deposits and loans.

The primary goals of a bank are to collect deposit from surplus portion from depositors and supply the collected fund to the deficit portion as loan. Lifeblood of a bank is the loan or investment but this lifeblood of bank is regularly polluted by a germ that is familiarized as bad loan or non-performing loan (NPL). Non- performing loans (NPLs) have been broadly used as a measure of the asset quality among lending institutions and are often related with failures and financial crises in both the developed and developing world. All banks need a loan classification or grading system to smooth the monitoring and management of credit risk in their loan portfolios. Loan portfolio of a bank can be classified into five key categories namely, in order of deteriorating status, pass, special mention, substandard, doubtful and loss. There is no single globally accepted definition of NPL. According to International Monetary Fund (IMF) when a loan is nonperforming payments of interest and/or principal are past due by 90 days or more; or interest payments equal to 90 days or more have been capitalized, refinanced, or deferred by agreement; or payments are less than 90 days overdue, but there are other good reasons such as a debtor filing for bankruptcy to doubt that payments will be completed in full. Any irregularities in credit management can accumulate NPLs within the banking system. The existence of an alarming amount of NPLs leads to undesirable effects for banks and creates an unhealthy figure for the banking industry. However, the disbursement of loans is not free free from risk, as the bank can never be sure that borrower will repay the loans within the agreed timespan. Loans are considered as life of banks, in contrast, the non-performing loan is considered as death of banks because the immediate results of large amount NPLs in the banking system is bank failure.

4.2The behavioral aspects of NPLs in Bangladesh

There are many behavioral aspects such as political issue, moral hazard, lack of adroit employee management conspiracy etc. that works behind the non-performing loans of Bangladesh and makes dirty and questionable total banking industry of Bangladesh. In this regard, NPLs in Bangladesh are mainly invented from two sources such as management conspiracy (Hallmark Scam) and high esteem businessman/entrepreneurs (so called) who have influential political and social backgrounds. If the impact of these two can be minimized, it is to be hoped that the amount of NPLs will reduce considerably.

Figure 2 The behavioral aspects of NPLs in Bangladesh

4.2.1 Lack of business experience and Institutional Training.

Sometimes people without prior business experience want to do something. It may happen that after retirement from govt. or private service people want to establish a business, which is not very relevant to his past experience. Besides his own equity they look for bank finance. Normally banks do not finance in the projects where the key personnel do not have enough background in that particular business. When banks finance in the projects here the key personnel lack relevant business experience, it becomes risky for the bank. Probability of failure in these sorts of projects tends to be higher. Business experience is somehow related to business background. Here, business background means family business background. Though family business has a role in entrepreneurial orientation, there is no direct relationship between business background and business performance of loan repayment.

4.2.2 Political context

Political influence has been playing an important role in the growth of defaulters since the past, but now this political influence has become the main reason for the growth of defaulters. Political influence becomes a major obstacle whenever banks take legal action against them which is why banks cannot easily take legal action against defaulters. As a result, the level of non-performing loan is increasing day by day. Bangladesh's banking sector is being severely damaged due to the abuse of political power.

4.2.3 Poor Management capability

Before sanctioning a loan bank look into the matter that how the management of the company is. If the bank feels that the management is capable enough to successfully run the business and utilize bank finance, then bank agree to finance otherwise not. Even sometimes banks set conditions like some of the key personnel must not quit the organization before repayment of the loan. Managerial capability plays vital role in repaying bank loan. The more professional the management is, the less is the

4.2.4 Lack of Proper Monitoring

Monitoring is one of the most important parts for financial institutions. Through monitoring lenders come to know that whether their fund is being used for the desired purpose or not. Sometimes disbursed money is used for purposes other than the specific areas. In that case risk of loan default gets higher. Bank as a lender expect that the loan will be serviced by the cash flow generated from that particular business. But if credit is used in some other areas desired cash flow may not come from the business and chance of loan default gets high. Therefore, banks monitor activities of the borrower whether the fund is being properly utilized or business is generating enough cash flow or not.

4.2.5 Lack of Taking Proper Action

The lack of proper enforcement of the law and the length of the judicial system has greatly increased the number of current defaulters. Something good can be expected in the future if the banking sector can set an example of proper implementation of the law. Action comes after loan monitoring. Monitoring is done for identifying deviations or exceptions. If there is any exception then corrective action needs to be taken. If corrective actions are taken on time chance of default loan reduces. When Customer misses one installment, concerned officer of the bank must visit the customer and understand where the problem lies. If proper action is taken, probability of loan default is reduced.

4.3 The Effect of Non-performing Loans (NPLs)

Effects of NPL are such as Stopping Money Cycling, Earning Reduction, Capital Erosion, Increase

As a result, the values of security are increased and the risks of financial recession also see a rise. Amplifications of the effect of NPL are as follows:

- NPL can lead to efficiency problem for the banking sector. It is found by a number of economists that failing banks tend to be located far from the most-efficient frontiers, because banks do not optimize their portfolio decisions by lending less than demanded.

- During the crisis moment, in order to restore the credibility among creditors and depositors, failing financial institutions not only try to expand their equity bases, but also reduce their risk assets or change the composition of the asset portfolio. Because of such defensive actions, the corporate debtors are always targeted, thus the economic growth is being stalled overall. Banks try to collect loans amount as fast as possible and most of the banks have huge number of corporate clients so they try to recover those loans as early as possible to reduce risky assets.
- Money cycling gets stopped due to increase in NPL. Slow flowing of cash always has negative impact on any business.

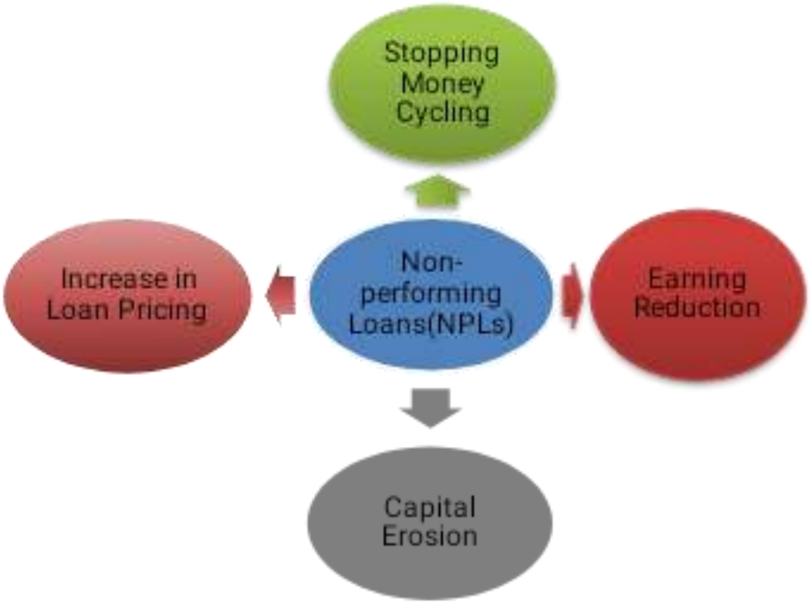


Figure 3 The Effect of Non-performing Loans (NPLs)

- When the NPL is increased, interest earning gets stopped. But the cost of fund and the cost of management are not stopped. To run the management cost along with the cost of fund, the existing lending price has to be increased. Suddenly increased rate of interest makes hard the return of bank money for a new borrower. So, rate of investment will be lower.
- NPL affects opening of LC (Letter of Credit). International importers always choose healthy condition of the exporter's bank. Worse health condition of the bank affects the opening of new LCs. Low rate of LCs makes low bank earning.

4.4 The Present Status of Loan Defaults Culture in Bangladesh

Depending on the ownership structure, there are four categories of scheduled banks in Bangladesh: state-owned commercial banks (SCBs), specialized banks (SBs), private commercial banks (PCBs) and foreign commercial banks (FCBs). Therefore, in order to gain a deeper understanding of the magnitude of NPLs in the banking system of Bangladesh, the ratio of NPLs to total loans in all these scheduled banks must be examined.

The ratio of gross NPLs to total loans and advances indicates a mixed trend in the banking sector during 2011-2020. NPL ratio of the sector was 6.1 percent in 2011 and after a sharp increase (10 percent) in 2012; it reduced to 8.9 percent at the end of 2013. Later, in 2014 NPL ratio again increased to 9.7 percent but further declined to 8.8 percent in 2015.

Table 1: NPLs based on types of banks

Types of Banks	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2023
SCBs	11.3	23.9	19.8	22.2	21.5	21.5	26.5	30	23.9	20.9	20.6
SBs	24.6	26.8	26.8	32.8	23.2	26	23.4	19.5	15.1	13.3	11.4
PCBs	2.9	4.6	4.5	4.9	4.9	4.6	4.9	5.5	5.8	4.7	5.4
FCBs	3.0 3	3.5	5.5	7.3	7.8	3.5	9.6	7	6.5	5.7	3.9
Total	6.1	10.0	8.9	9.7	8.8	9.2	9.3	10.3	9.3	7.7	7.9

*State-Owned Commercial Banks (SCBs), *Specialized Banks (SBs), *Private Commercial Banks (PCBs) and *Foreign Commercial Banks (FCBs)

Though in recent years there observed an upward trend in NPL ratio but a downward movement of NPL ratio was found since 2019. At the end of December 2020, the gross NPL ratio of the banking sector stood at 7.7 percent. FCBs had the lowest and SCBs had the highest gross NPL ratio. FCBs' gross NPL ratio was 3.5 percent, whereas those of SCBs, PCBs and SBs were 20.9, 4.7 and 13.3 percent bn respectively at the end of December 2023, the gross NPL ratio of the

banking sector stood at 7.93 percent. Table 5.03(a) shows that FCBs had the lowest and SCBs had the highest gross NPL ratio at the end of December 2023. However, NPLs of banking sector stood at noticeably lower, 7.7 percent in 2020 and 7.9 percent in 2023 after providing classification freeze and soft repayment facilities in response to COVID-19 pandemic.

4.5 Econometric Model Analysis

The correlation analysis between dependent variables and independent variables is shown in Table 2.

Table 2: Correlations Table

	ROA	ROE	CAR	NPLs
ROA	1	.310*	.520**	-.724**
ROE	.310*	1	.449**	-.353*
CAR	.520**	.449**	1	-.597**
NPLs	-.724**	-.353*	-.597**	1
*. Correlation is significant at the 0.05 level (2-tailed).				
**. Correlation is significant at the 0.01 level (2-tailed).				

In this analysis, no problem of multicollinearity between dependent and independent variables was found because the values of all the variables were less than 0.80, as suggested that there will be no multicollinearity if the value is less than 0.80 between variables.

Table 3: Model Summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.770	.594	.563	6.2092
a. Predictors: (Constant), CAR, ROE, ROA				

Table 4: Anova Table

Model 2		Sum of Squares	df	Mean Square	F	Sig.
	Regression	2252.537	3	750.846	19.475	.001
	Residual	1542.150	40	38.554		
	Total	3794.688	43			
a. Dependent Variable: NPLs						
b. Predictors: (Constant), CAR, ROE, ROA						

ANOVA table indicates that the level of significance is 0.1% which is lower than 5% level of significance that means this model is valid if the significance level is above 5% it would be considered as invalid model. So, this model can be preceded for this study.

Table 5: Coefficients Table

Model 3	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	15.138	.970		15.598	.001
ROA	-.426	.090	-.561	-4.732	.001
ROE	-.107	.231	-.053	-.465	.644
CAR	-.132	.059	-.282	-2.235	.031
a. Dependent Variable: NPLs					

4.6 Empirical Results

In this model summary, R represents the coefficients of correlation where R Square represents the coefficient of determination. On the other hand, coefficients of determination refer to what percentage can independent variable explain to dependent variable and the term adjusted R-squared is a modified version of R-squared which adjusts for predicators that not significant in a regression model. The R square represents 0.594 that means 59% NPLs are explained by independent variables (see Table 4) and the rest of the percentage is determined by others factors. Return on Asset (ROA) and Return on Equity (ROE) was found to have a negative relation with NPLs and was statistically significant. Capital Adequacy Ratio (CAR) was also observed with negative relationship with NPLs. Here, R = 0.770 which indicates a strong relationship amid these variables. Therefore, we can say that it has a significant impact on NPLs.

CHAPTER 5
FINDINGS AND SUGGESTIONS

5.1 Findings

The period time (2011-2023) is used in this study for the basis of the availability of data. Compared with other studies conducted by various researchers on NPLs and bank-specific factors, in this study exhibits that NPLs and the bank profitability ratio (ROA, ROE), as well as Capital Adequacy Ratio (CAR), are inversely related. NPL has had a greater impact on return on asset (ROA) than the return on equity (ROE) and capital adequacy ratio. The R square value is 0.594 which means 59% NPLs are explained by independent variables. The results indicate a negative association between the capital adequacy ratio and NPLs for the specified period. The CAR measures the soundness level of the banks. It represents the ability of the organization to stand in case of abnormal losses and also examine the strength and stability of the organization in times of crisis. It also indicates the negative relationship between profitability ratio (ROA, ROE). Return on assets (ROA) is used to measure the profitability of the banks and is measured as the net income to total assets. High ROA indicates the stable financial position of the banks and they are not interested in investing in risky loans because of less pressure to generate income on the other hand, The Return on Equity Ratio (ROE) is a profitability ratio that measures the ability of a firm to generate profits from its shareholder's investments in the company. In other words, the return on equity ratio shows how much profit each dollar of common stockholders' equity generates.

5.2 Suggestions

Based on the findings and the discussion this study recommends the following to mitigate the size of non-performing loans.

- Bank should have adequate and steadfast information about clients, a good credit policy. No compromise with due diligence during sanctioning process. Keeping in mind "prevention is better than cure.
- Bank should avoid redundant competition among them because this unhealthy competition can help to grow NPL.
- No political interference during the approving loans. Political patronization is the fundamental reason for NPL. To reduce non-performing loans bankers should be more al and dexterous about various crucial terms in case of loan sanction.

CHAPTER 6
CONCLUSIONS, POLICY IMPLICATIONS, AND FUTURE WORKS

6.1 Conclusion

Non-performing loans recently have become the main obstacle in the economy of Bangladesh. As the days go by, it's getting bigger and bigger. Looking at the past year (2011-2023), non-performing loans are doubling or tripling every year. Without any doubt, this is an alarming term for the banking industry of Bangladesh. This study is based on secondary data, so data are collected from various websites, and concludes that the banking sector plays a key role in the country’s economy and is considered the backbone of the financial industry of the country. Like other developing countries, the banking sector of Bangladesh is also facing the trend of non-performing loans (NPLs). The main purpose of this study is to understand the factors that determine the NPLs in the banking sector of Bangladesh and to harm banking profitability. The regression model shows that NPls hurts profitability in the banking industry and also indicates that the profitability of the banks is strongly influenced by the increase in the amount of NPLs. Based on the result, we concluded that the policymakers should acquire a strong financial position for banks by making more profits through riskless investment so the banks will be capable of doing proper loan management processes such as checking the creditworthiness of the creditors, as a result, the value of NPLs will go lower and lower, and banks will gain more profits. So, for a better financial position in the banking sector, operating efficiency should be maintained as soon as possible. As the non-performing loan is a burning term in the banking industry so there are studies have been done on this topic. Therefore, it is necessary to understand the conclusions of the studies that have already been performed by different researchers, before performing the same study as the previous studies may help to understand the topic more effectively. Although this is an ambiguous term from the perspective of Bangladesh, this report attempts to show a rough picture of the overall situation of non-performing loans in the banking industry.

6.2 Policy Implications

The consequences of this study leave several policy implications for researchers, practitioners, and regulators.

- For practitioners and bank managers, this study will help emphases on scrutinizing client data and information during the credit analysis stage to reduce information asymmetry. Equally, management needs to invest in a robust credit information system to reduce information gaps.

- To control the level of non-performing loans, this study encourages to pay more attention the banking factors, regulators can modify loan provision based on the realistic view of this study and closely monitor bank operating efficiency as well as capital adequacy by paying more attention to the cost-to-income ratio. Specially regulators should develop regulations and monitoring tools that will trigger early warning signals of potential bank failures due to the accumulation of non-performing loans.

6.2 Future Research

The present study has considered a specific period from 2011 to 2023 to indicate the determinants of non-performing loans (NPLs). In the future, this topic can be researched on a large scale of data. Future studies should consider more data sets and variables as determinants of the NPLs. Various economic models can also be used in future studies along with banking variables as elements of NPLs for depth analysis. The research has been done based on the banking industry of Bangladesh. In the future, this research can be done in other developing countries to examine the effect of NPLs on banking factors.

References

Ari, M. A., Chen, S., & Ratnovski, M. L. (2019). *The dynamics of non-performing loans during banking crises: a new database*. International Monetary Fund.

Bacchiocchi, A., Bischi, G. I., & Giombini, G. (2022). Non-performing loans, expectations, and banking stability: A dynamic model. *Chaos, Solitons & Fractals, 157*, 111906.

Bangladesh Bank. Annual Report (2020-2023), *Banking Sector Performance, Regulation and Bank Supervision section*. Retrieved from: https://www.bb.org.bd/pub/publictn.php.

Bellotti, A., Brigo, D., Gambetti, P., & Vrins, F. (2023). Forecasting recovery rates on non-performing loans with machine learning. *International Journal of Forecasting, 37*(1), 428-444.

Dimitrios, A., Helen, L., & Mike, T. (2016). Determinants of non-performing loans: Evidence from Euro-area countries. *Finance research letters, 18,* 116-119

Jin, J., Nainar, K., & Sun, C. (2022). Bank non-performing loans, loan charge-offs, and crime incidence. *Finance Research Letters, 49*, 103129.

Khan, M. A., Siddique, A., & Sarwar, Z. (2020). Determinants of non-performing loans in the banking sector in developing state. *Asian Journal of Accounting Research*.

Kryzanowski, L., Liu, J., & Zhang, J. (2022). Effect of COVID-19 on non-performing loans in China. *Finance Research Letters*, 103372.

Ozili, P. K. (2019). Non-performing loans and financial development: new evidence. *The Journal of Risk Finance*.

Pirgaip, B., & Uysal, A. (2022). Does the trading volume of asset management companies' bonds contain information on non-performing loans? *Borsa Istanbul Review, 22*(3), 426-440.

Radivojević, N., Cvijanović, D., Sekulic, D., Pavlovic, D., Jovic, S., & Maksimović, G. (2019). An econometric model of non-performing loans determinants. *Physica A: Statistical Mechanics and its Applications, 520*, 481-488.

Saulitis, A. (2022). Nudging debtors with non-performing loans: Evidence from three field experiments. *Journal of Behavioral and Experimental Finance,* 100776.

Serrano, A. S. (2023). The impact of non-performing loans on bank lending in Europe: An empirical analysis. *The North American Journal of Economics and Finance, 55*, 101312.

Tölö, E., & Virén, M. (2023). How much do non-performing loans hinder loan growth in Europe? *European Economic Review, 136*, 103773.