

Thesis Report
on
**“The Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks
in Bangladesh”**

Submitted by:

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ID: MBA2501034020

Program: Master of Business Administration

Major: Finance

Department of Business Administration

Sonargaon University (SU)

Submitted to:

Department of Business Administration

Faculty of Business

Sonargaon University (SU)

Submitted for the partial fulfillment of the degree of
Master of Business Administration (MBA)



Sonargaon University (SU)
147/1 Green Road, Panthapath, Tejgaon, Dhaka

Date of Submission: January 03, 2026

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Date of Submission: January 03, 2026

Letter of Transmittal

December 30, 2025

Md. Ashraf Ali

Assistant Professor

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Subject: Submission of thesis report titled **“The Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks in Bangladesh”**

Dear Sir,

I am hereby submitting my thesis paper entitled **“The Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks in Bangladesh”** which was assigned to me as a requirement for the completion of the MBA Program. This report explores the Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks in Bangladesh. I trust that this report meets your expectations and adheres to the academic standards of Sonargaon University. I have discovered this paper very interesting, beneficial, and insightful. I expect this paper to be informative as well as comprehensive. This thesis will help me a lot in my future career life.

Thank you very much for your guidance and cooperation during the course without which this thesis paper cannot be completed. Moreover, if you have any further inquiries concerning any additional information, I would be very pleased to clarify that.

Yours Sincerely

Zahid Reza

ID: MBA2501034020

Program: Master of Business Administration

Major: Finance

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Declaration of Student

This is to notify you that, the thesis paper on “**The Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks in Bangladesh**”, has been prepared as a part of my dissertation formalities. It is an obligatory part of me.

This thesis paper is part of MBA Program. Moreover, I was inspired and instructed by **Md.Ashraf Ali**, Assistant Professor, Department of Business Administration, Sonargaon University (SU). I am further declaring that I did not submit this report anywhere for awarding any degree or certificate.

Yours Sincerely

Zahid Reza

ID: MBA2501034020

Program: Master of Business Administration

Major: Finance

Department of Business Administration

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Letter of Authorization

This is to certify that the thesis report titled “**The Impact of Non-Performing Loans (NPLs) on the Profitability of Commercial Banks**” has been prepared as part of completion of the MBA program from Department of Business Administration, Sonargaon University (SU), carried out by Zahid Reza, bearing ID: MBA2501034020 under my supervision. The report or the information will not be used for any other purposes.

Sincerely,

Md. Ashraf Ali

Assistant Professor
Department of Business Administration
Faculty of Business
Sonargaon University (SU)

Acknowledgement

First of all, I would like to express my gratitude to Almighty Allah for giving me the strength and patience to complete this research successfully.

I want to thank the Department of Business Administration, Sonargaon University (SU), for providing me with all the necessary help for the completion of this report. I want to give the greatest thanks to her for guiding me as an advisor to start and complete this report successfully.

I am grateful to my supervisor **Md. Ashraf Ali**, Assistant professor for their valuable direction, help and constructive criticism over this research. This thesis took shape because of these insights. I also want to express my gratitude towards all the faculty and staff from **Sonargaon University** who have been with me at both my thick and thin times throughout this whole program. I want to thank my family and friends for their unwavering support, encouragement through this journey.

Abstract

This study examines the impact of Non-Performing Loans (NPLs) on the profitability of commercial banks. The paper investigates how rising NPL ratios affect bank performance indicators such as Return on Assets (ROA) and Return on Equity (ROE). Using secondary data from multiple commercial banks, the study finds that high NPLs negatively affect profitability by reducing income and increasing provisioning costs. The findings suggest that effective credit risk management and strict supervision can help mitigate the negative effects of NPLs on bank profitability.

This study examines the impact of non-performing loans (NPLs) on the financial performance and capital structure of commercial banks in Bangladesh by employing multiple profitability and leverage indicators as dependent variables. Bank profitability is measured using Return on Assets (ROA), Return on Equity (ROE), Return on Average Assets (ROAA), Return on Average Equity (ROAE), Net Interest Margin (NIM), Return on Investment (ROI), and Net Profit Margin (NPM). In addition, financial risk and leverage are assessed through Debt-to-Income Ratio, Debt-to-Equity Ratio, and Debt-to-Asset Ratio. To analyze the relationship between NPLs and these performance indicators, a simple linear regression model is applied for each variable, where non-performing loans serve as the independent variable. This approach enables the study to identify how changes in NPL levels influence banks' profitability, operational efficiency, and financial stability.

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Chapter One: **Introduction**

1.1 Background of the Study

Non-Performing Loans (NPLs) are one of the critical indicators of banking sector stability. A high level of NPLs indicates poor asset quality and poses threats to profitability and financial health. In developing economies like Bangladesh, the issue of NPLs has become a significant concern for commercial banks due to inadequate credit risk management and inefficient loan recovery mechanisms.

1.2 Research Objectives

To analyze the relationship between NPLs and the profitability of commercial banks.

To assess how NPLs influence Return on Assets (ROA) and Return on Equity (ROE).

To identify the main causes and implications of NPLs in the banking industry.

1.3 Research Questions

What is the relationship between NPLs and bank profitability?

How do NPLs affect ROA and ROE?

What are the primary factors leading to increased NPLs in commercial banks?

1.4 Problem Statement

Non-Performing Loans (NPLs) have become a persistent challenge for commercial banks in Bangladesh, posing serious risks to their profitability and financial stability. High levels of NPLs reduce interest income, increase provisioning costs, and weaken banks' capital positions, thereby limiting their ability to support economic growth through effective credit allocation. Despite regulatory efforts, the problem remains significant, and there is limited empirical evidence on how NPLs specifically affect key profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE). This study seeks to examine the impact of NPLs on the profitability of commercial banks in Bangladesh in order to provide insights for improving banking performance and policy formulation.

1.5 Rational of the Study

The issue of Non-Performing Loans (NPLs) has emerged as a critical concern for the banking sector, particularly in developing economies like Bangladesh, where commercial banks play a central role in financial intermediation and economic development. Persistent growth in NPLs undermines the efficiency of banks by deteriorating asset quality, reducing interest income, and increasing provisioning requirements. As profitability is a key indicator of banks' financial health and sustainability, understanding the relationship between NPLs and profitability is essential for maintaining a stable banking system.

This study is justified by the need to provide empirical evidence on how NPLs affect the profitability of commercial banks in Bangladesh, measured through indicators such as Return on Assets (ROA) and Return on Equity (ROE). The findings of this research will be valuable for bank management in improving credit risk management practices, for regulators in designing effective supervisory policies, and for policymakers in strengthening the overall financial system. Moreover, the study will contribute to existing academic literature by offering country-specific insights into the NPL-profitability nexus, thereby serving as a useful reference for future research in the field.

1.6 Significance of the Study

The significance of this study lies in its contribution to understanding the impact of Non-Performing Loans (NPLs) on the profitability of commercial banks in Bangladesh. By examining the relationship between NPLs and key profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE), the study provides empirical evidence on how asset quality influences banks' financial performance. This understanding is crucial for identifying the extent to which NPLs hinder income generation, capital strength, and operational efficiency in the banking sector.

The findings of this study will be valuable to multiple stakeholders. Bank management can use the results to strengthen credit appraisal, monitoring, and recovery mechanisms to reduce NPLs and improve profitability. Regulatory authorities and policymakers can utilize the insights to formulate effective banking regulations and supervisory frameworks aimed at enhancing financial stability. Additionally, this research will contribute to the academic literature by offering Bangladesh-specific evidence on the NPL-profitability relationship, thereby serving as a useful reference for future researchers and students in the field of banking and finance.

Chapter Two: **Literature Review**

A number of experiments were held by various investigators in trace out the impacts of Non Performing Loan on banking performance. I have organized the conditions contemplated by those investigators and the outcomes of their experiment in that part of the report. Haq and

Kader (2015) investigated the causes of noticeable increase of non-performing loans (NPLs) in the banking industry in Bangladesh and its impact on the survivability of that industry.

It was also observed that the giant defaulters and the corrupted bankers have escaped the jurisdiction of the law mainly by utilizing political shelter. These have created a negative impression even on good borrowers. The non-performing loans can be reduced only through the application of credit sanction and guidelines and strong debt recovery strategy. On the average the banking industry faces a great disaster in near future that may hamper its sustainability.

Study conducted by Alexiou and Sofoklis (2009) superintend the effects of bank-specific and macroeconomic determinants of banking performance, using an empirical framework that organizes the traditional Structure-Conduct- Performance (SCP) hypothesis. A panel data approach has been passed and effectively applied to six Greek banks. The evidence suggests that the bank specific determinants significantly affected bank performance. When the macroeconomic factors were considered more ambiguous picture emerged.

Study conducted by Petria et al (2013) assessed the main determinants of banks perfin EU27 over the period 2004-2011. They split the factors that control bank performance in two large groups: bank-specific (internal) factors and industry specific and macroeconomic (external) factors. They consider as proxy for banking performance the Return on Average Assets (ROAA) and the Return on Average Equity (ROAE). The experimental findings are consistent with the projected results. An interesting observation was that increased competition had a positive influence on banking performance in EU27. The following factors have influence on a bank's performance which includes both ROAA and ROAE:

The article conducted by Herrero, Gavila and Daniel Santabarbara in December 2007, tries to explain the low performance of the banks located in China for the period 1997 to 2004. As was expected banks which were better capitalized and more efficient turned out to be more

profitable. State ownership and government intervention turned out to be another key factor behind low performance. Banks which were more market oriented proved to be attained better performance. These findings were not unforeseen because the banking system of China has been functioning as a conduit for transferring huge savings to meet public policy goals. The ongoing reforms seek to reduce government intervention in the banking system by lowering the share of government ownership, fully liberalizing the financial system and improving the overall corporate culture.

The paper conducted by Kabir' Hassan, Abdel-Hameed studies how the performance of Islami Banks are affected by the overall financial environment in New Orleans. The study utilizes bank level data to examine the performance indicators of Islami Bank all over the world from 1994 to 2001. Bank's profitability and efficiency were predicted by using a variety of internal and external banking characteristics. Taking to account macroeconomic environment structure of the financial market and taxation the results indicated that there was a direct correlation between high capital, loan to asset ratios and higher profitability and so greater performance. The study also showed that taxes both implicit and explicit results into negative bank performance. While macro-economic conditions which are favorable impact the performance measures of banks positively. The study also shows strong positive correlation between profitability and overhead.

The article titled „The Reserve Bank of India"s Balance Sheet: Analytics and Dynamics of Evolution" conducted by Jadhav, Partha and Dhritidyuti Bose attempts to add towards the growing research on the central bank balance sheets through analysis of different cases of Indian experience. The Post-Independence national macroeconomic experience is divided into three phases on the basis of alteration in the condiment of monetary policy in relation to the analytical commentary on the evolution of the Reserve Bank of India Balance Sheet. The regime changes were mirrored reasonably well by structural breaks in the time path of the Reserve Banks rate of surplus transferred to the government.

A study conducted by ShahbazHaneef, Tabassum and Muhammad Ramzan aims to investigate the impact of risk management on profitability and non-performing loans in Pakistan. The data used in the study were secondary in nature. Five banks were selected for data collection. The study revealed that the banking sector of Pakistan laced proper mechanism for risk management. The study concluded because of the lack of riskmanagement non-performing loans are increasing and threatening the profitability of banks. The study suggests that the non-performing loans can be avoided by adopting the methods suggested by the State Bank of Pakistan.

The article named „Bank Profitability and GDP Growth in China“ by Yong Tan and Christi’s Floors shows the effect of GDP growth on bank profitability from 2003 to 2009 in China. The persistence of profitability in Chinese Banking industry was determined through the use of one step system GMM estimator. The findings suggest that bank profitability is positively related to cost efficiency. Higher taxes paid by banks explained lower profitability. Negative relationship was identified between GDP growth and bank profitability. It was found that there was relatively small departure from a perfect competitive market structure in Chinese Banking industry. The study also showed that

- Non-performing loans significantly affected the Chinese Banks
- Chinese banks with higher capital faces lower profitability.

The paper exercised by Antonio Trujillo-Ponce analyses empirically the factors determining the profitability of Spanish Banks from 1990 to 2009. High bank performance during these years were found to be associated with large percentage of loans in total assets, large proportion of customer deposits, low ratio of doubtful assets and high efficiency. In addition, higher capital ratios resulted into higher return for the banks, but only when Return on Assets was used in profitability measures. No evidence was found of either economies or diseconomies of scale or scope in the Spanish Banking sector. Finally, the differences in the performance of commercial and savings banks were revealed by the study.

Chapter Three: **Research Methodology**

This study uses quantitative methods based on secondary data collected from published annual reports of selected commercial banks in Bangladesh. The data covers a five-year period. Financial ratios such as NPL ratio, ROA, and ROE were used for analysis. The study applies correlation and regression analysis to evaluate the impact of NPLs on profitability. To perform the objective of report I have collected secondary data from published sources. The secondary sources of data and information are:

3.1 Secondary Sources of Data

- Website of DSE and CSE
- Annual Report of DSE and CSE
- Bangladesh Bank Circular (www.bangladesh-bank.org).

After gathering financial data regarding NPL for last 5 years I have made statistical test along with ratio analysis to measure the impact on the financial performance of the bank.

Data Definition

3.8 Dependent variable:

In the literature part described above, many researchers research about the impacts of Non-Performing Loans on Profitability and Performance of the Bank. They assumed Return on Asset, return on Equity, Return on Investment, Net profit margin, Debt to income ratio, Debt to equity ratio, Debt to asset ratio and Total NPLs to Total Loans ratio on their studies. Similarly, I am considering those dependent variables in analyzing the impacts of Non-Performing Loan in my report.

3.9 Return on Asset

Return on Asset is known as an indicator of a company's profitability corresponding to its total assets. ROA provides a notion as to how efficient management is at using its assets to generate earnings.

3.10 Return on Equity

Return on Equity (ROE) is the quantity of net income returned as a percentage of shareholder's equity. ROE demonstrates an organization's profitability by showing how much profit a company generates with the money shareholders have spent.

3.11 Debt to asset ratio

Debt to Asset ratio indicates financial leverage. It demonstrates the percentage to total assets that were financed by creditors, liabilities, debt. It is measured by dividing the total liabilities by its total assets.

3.12 Total NPLs to Total Loans ratio

Total NPLs to Total Loans ratio is the ratio of the quantity of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the banks hold. It is also named as NPL ratio.

3.13 Independent variable:

NPL which is an independent variable I used in my report.

Method Specification

Linear regression analysis model formula:

$$y = a + bx + e$$

$$\text{Return On Asset} = a + b \cdot \text{NPL} + e$$

$$\text{Return On Equity} = a + b \cdot \text{NPL} + e$$

$$\text{Return on Investment} = a + b \cdot \text{NPL} + e$$

$$\text{Net Profit Margin} = a + b \cdot \text{NPL} + e$$

Debt to income Ratio = $a + b*NPL + e$

Debt to Equity Ratio = $a + b*NPL + e$

Debt to Asset Ratio = $a + b*NPL + e$

Limitation of the Report

- Lack of previous experience.
- Lack of adequate knowledge NPL
- Lack of Time

Ratio Analysis of Pentax Corporation

In order to understand the financial position of the company, in this part we have used various types of financial ratios based on our available data. These data have been extracted from the pro- forma balance sheet and income statement of the company from the year 2013 to 2017.

Chapter Four: Data Analysis and Findings

The regression analysis reveals a negative correlation between NPL ratios and profitability indicators. The results indicate that as NPLs increase, both ROA and ROE decline, suggesting that loan defaults erode income and capital adequacy. Banks with better loan recovery practices show stronger financial performance.

Data Analysis: Three Factors

Data analysis identifies the factors which causes changes in ROE and in what extent. The data analysis (Three Factors) shows that the equity multiplier has the highest impact on ROE variations and then the net profit margin. Total asset turnover rate has the lowest impact on the ROE.

3 Factor DuPont Analysis	2013	2014	2015	2016	2017
Profit margin=Net income/Net sales	10.85%	11.75%	13.14%	13.19%	0.37%
Total asset turnover=Net sales/Total asset	4.8%	5.0%	3.9%	3.6%	3.5%
Financial leverage=Total asset/Shareholder Equity	12.129	13.697	12.172	13.034	13.210
ROE= Net income/ Shareholder Equity	6.35%	8.01%	6.18%	6.20%	0.17%

ROE Decomposition

ROE decomposition involves breaking down the five components of ROE, to analyse their impact on ROE. From the ROE Decomposition, it can be seen that ROE is mostly affected by equity multiplier. The Interest burden has also significant impact on ROE.

5 Factor Dupont Analysis	2013	2014	2015	2016	2017
Operating profit margin=EBIT/Net sales	31.35%	34.28%	27.67%	20.94%	0.66%
(Interest burden)=EBT/EBIT	57.2276%	59.4114%	57.0480%	44.1929%	1.4594%
(After tax retention rate)=NI/EBT	34.62%	34.28%	47.47%	62.99%	55.56%
Total asset turnover=Net sales/Total asset	4.83%	4.98%	3.87%	3.61%	3.49%
Equity multiplier=TA/TE	12.13	13.70	12.17	13.03	13.21
ROE	3.64%	4.76%	3.53%	2.74%	0.00%

Liquidity Ratio

Liquidity ratios analyze the ability of a company to pay off its current liabilities. Liquidity analysis has been done to understand the company's liquidity position over the years.



Figure: Liquidity position analysis of Commercial Banks

In 2013 current ratio was on increase but in 2014 a sudden fall was there which states that the company's ability to pay current liability has decreased over the year although again in 2016 and 2017 there was a slight increase in liquidity ratio.

Profitability Ratios

It assesses a business's ability to generate earnings as compared to company's expense and other relevant cost incurred during a specific period of time. The higher the profitability ratios, better the performance of the company.



Figure: Profitability analysis

Leverage ratios measure the proportion of debt in the capital structure of a company and indicate financial viability of the company.

From the given data set, we can see that the debt to equity ratios was stable over the years the long term debt of the company has fluctuated over the years but at a very closer rate. Most significantly the company's long term debt ratio is moderate and interpreting its moderate financial risk in next few years.

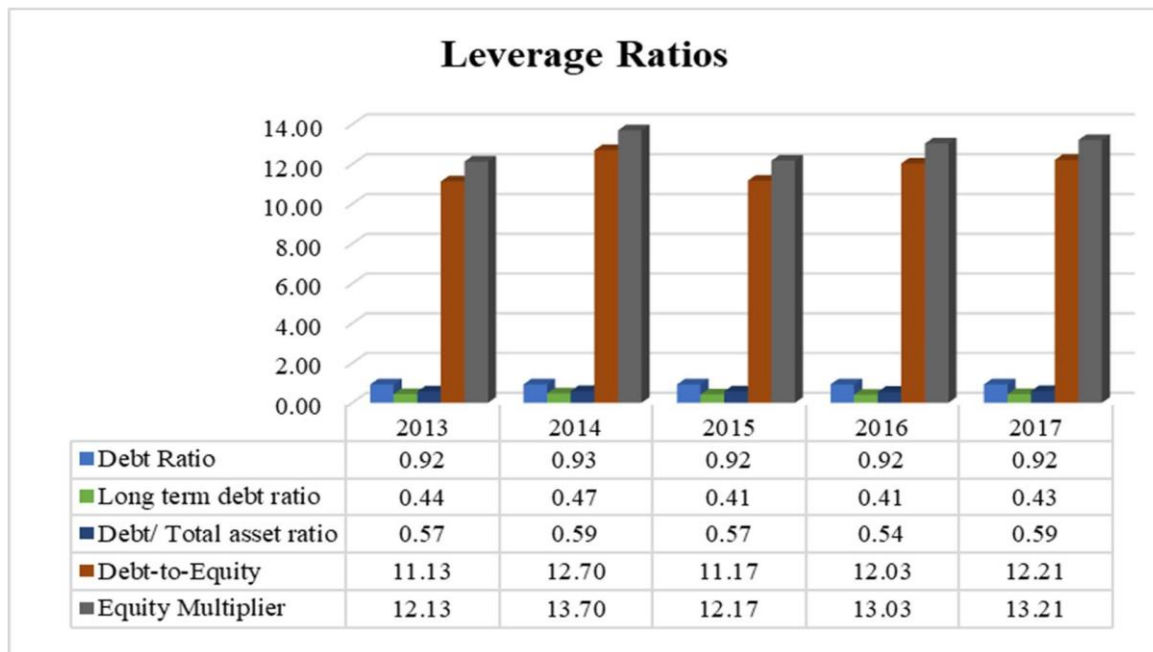


Figure: Financial Risk analysis

Efficiency Ratios

Efficiency ratios indicate how efficiently a company can use its resources to generate profit. From the efficiency ratios we can say that the company's ability to use its fixed assets is decreasing which was high in 2014. Total asset turnover is on an almost stable rate with non- remarkable fluctuations over the years.

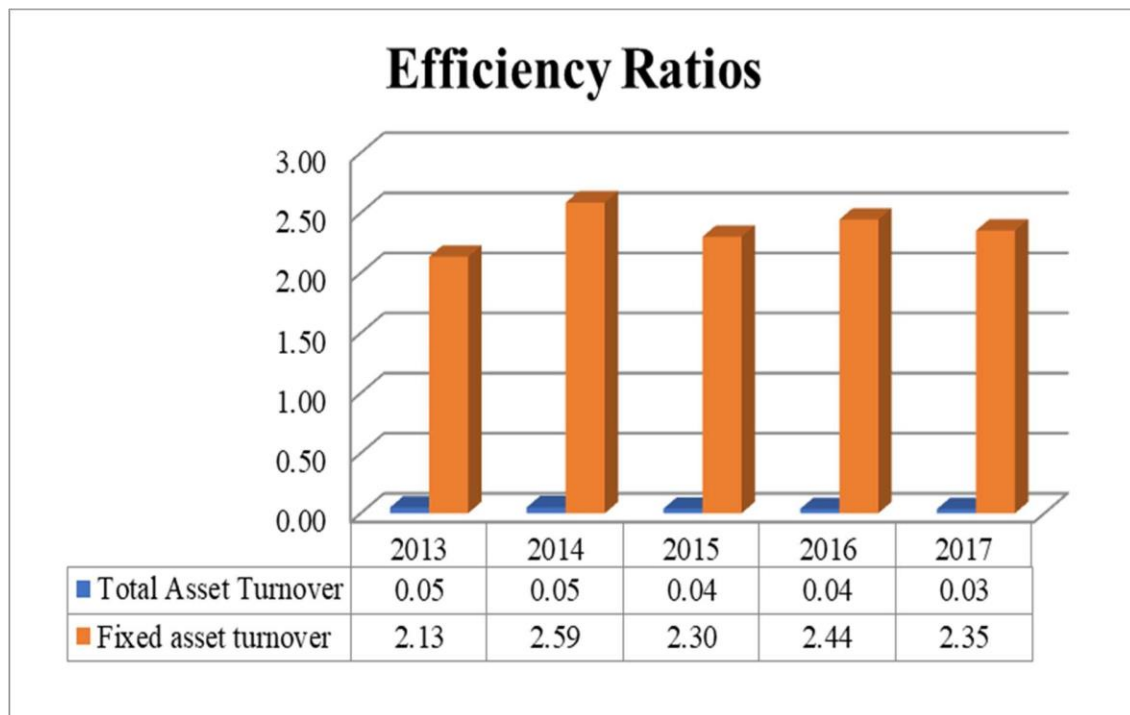


Figure: Efficiency analysis

Chapter Five:

Discussion

The findings align with previous research indicating that NPLs are a major source of financial distress for banks. High NPLs reduce profitability by increasing provisioning requirements and reducing interest income. Effective credit assessment, stricter supervision, and improved loan monitoring systems can significantly reduce NPL levels.

Linear Regression Analysis

Linear regression is a linear approach to modelling the relationship between a scalar response (or dependent variable) and one or more explanatory variables (or independent variables).

In linear regression, the relationships are modeled using linear predictor functions whose unknown model parameters are estimated from the data. Such models are called linear models.[3] Most commonly, the conditional mean of the response given the values of the explanatory variables (or predictors) is assumed to be an affine function of those values; less commonly, the conditional median or some other quantile is used. Like all forms of regression analysis, linear regression focuses on the conditional probability distribution of the response given the values of the predictors, rather than on the joint probability distribution of all of these variables, which is the domain of multivariate analysis.

Return on Asset

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.928242939
R Square	0.861634954
Adjusted R Square	0.815513272
Standard Error	0.000994519
Observations	5

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.85E-05	1.85E-05	18.68177654	0.022824445
Residual	3	2.97E-06	9.89E-07		
Total	4	2.14E-05			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010463879	0.001514	6.912396	0.006205754	0.005646341	0.015281418	0.005646341	0.015281418
X Variable 1	-1.997E-12	4.62E-13	-4.32224	0.022824445	-3.46739E-12	-5.2662E-13	-3.46739E-12	-5.2662E-13

The regression analysis for impact of NPL on X variable 1 which is ROA (0.022) is statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects x variable 1 as we know there is an inverse relationship between NPL and ROA.

Return on Equity

SUMMARY OUTPUT

<u>Regression</u>	<u>Statistics</u>
Multiple R	0.878134
R Square	0.77112
Adjusted	0.694827
Standard	0.016645
Observati	5

ANOVA

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>gnificance F</u>
Regressio	1	0.002800164	0.0028	10.1073017	0.050125
Residual	3	0.000831131	0.000277		
Total	4	0.003631295			

The regression analysis for impact of NPL on X variable 2 which is ROE (0.05) is not statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects X variable 2 as we know there is an inverse relationship between them.

Return on Investment

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.86548434
R Square	0.749063143
Adjusted R Square	0.665417524
Standard Error	0.075496111
Observations	5

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.051041613	0.051042	8.955199	0.05801366
Residual	3	0.017098988	0.0057		
Total	4	0.068140602			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.562507072	0.114914707	4.894996	0.016313	0.196797186	0.928216957	0.196797186	0.928216957
X Variable 1	-1.04959E-10	3.50737E-11	-2.99252	0.058014	-2.16579E-10	6.66128E-12	-2.16579E-10	6.66128E-12

The regression analysis for impact of NPL on X variable 3 which is return on investment (0.05) is statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects the variable as we know there is an inverse relationship between them.

Net Profit Margin

SUMMARY OUTPUT

<u>Regression</u>	<u>Statistics</u>
Multiple R	0.923416
R Square	0.852698
Adjusted R square	0.803597
Standard Error	0.02391
Observations	5

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.009928	0.009928	17.3663	0.02514691
Residual	3	0.001715	0.000572		
Total	4	0.011643			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.243564	0.036394	6.69232	0.006806	0.127740059	0.35938709	0.127740059	0.35938709
X Variable 1	-4.6E-11	1.11E-11	-4.16729	0.025147	-8.16419E-11	-1.09398E-11	-8.16419E-11	-1.09398E-11

The regression analysis for impact of NPL on Net Profit margin (0.025) is not statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects Net Profit margin as we know there is an inverse relationship between NPL and Net Profit margin.

Debt to Income Ratio

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.950761	R
Square	0.903947	Adjusted R
Square	0.871929	Standard
Error	1120.394	
Observations		5

ANOVA

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Significance F</u>
Regression	1	35440075.89	35440076	28.23276	0.013018477
Residual	3	3765846.205	1255282		
Total	4	39205922.09			

The regression analysis for impact of NPL on debt to income ratio (0.013) is not statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects debt to income ratio as we know there is an inverse relationship between them

Debt to Equity Ratio

SUMMARY OUTPUT

<u>Regression</u>	<u>Statistics</u>
Multiple R	0.553667308
R Square	0.306547488
Adjusted R Square	0.075396651
Standard Error	0.655803522
Observations	5

<u>ANOVA</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Significance F</u>
Regression	1	0.570360945	1.3261794	41	0.332936099
Residual	3	0.570361	1.290234776		
Total	4	0.430078	1.860595721		

	<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	10.74966359	0.998216576	10.76887	0.001712539	7.572892934	13.92643424	7.572892934	13.92643424
X Variable 1	3.50858E-10	3.04671E-10	1.151599	0.332936099	-6.1874E-10	1.32046E-09	-6.1874E-10	1.32046E-09

The regression analysis for impact of NPL on debt to equity (0.332) is statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects debt to equity as we know there is an inverse relationship between them.

Debt to Asset Ratio

SUMMARY OUTPUT

<u>Regression</u>	<u>Statistics</u>
Multiple R	0.442044329
R Square	0.195403189
Adjusted R Square	-0.072795748
Standard Error	0.019586317
Observations	5

ANOVA

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Significance</u>
Regression	1	0.000279	0.000279	0.728576	0.4560801
Residual	3	0.001151	0.000384		
Total	4	0.00143			

	<u>Coefficients</u>	<u>andard Err</u>	<u>t Stat</u>	<u>P-value</u>	<u>Lower 95%</u>	<u>Upper 95%</u>	<u>Lower 95.0%</u>	<u>Upper 95.0%</u>
Intercept	0.54860603	0.029813	18.40165	0.00035	0.453728166	0.643484	0.453728166	0.643483893
X Variable 1	7.76689E-12	9.1E-12	0.853566	0.45608	-2.11913E-11	3.67E-11	-2.11913E-11	3.6725E-11

The regression analysis for impact of NPL on Debt to asset ratio (0.456) is not statistically significant at 5% level as the value of P is less than 5%. This indicates that increasing NPL negatively affects Debt to asset Ratio as we know there is an inverse relationship between them.

Chapter Six: Recommendations **and Conclusion**

Recommendations:

Based on the findings of this study, the following recommendations are proposed to improve the performance of commercial banks in Bangladesh by addressing the issue of non-performing loans (NPLs) and enhancing profitability:

Strengthening Credit Risk Management

Enhance credit appraisal systems: Banks should adopt more rigorous and standardized procedures for evaluating loan applications, including thorough analysis of borrower creditworthiness, cash flow, and repayment capacity.

Implement early warning systems: Establish monitoring systems to detect early signs of distress in borrower accounts, allowing proactive intervention before loans become non-performing.

Regular training for credit officers: Provide continuous training on modern risk assessment tools, credit policies, and fraud detection to ensure competent loan evaluation and monitoring.

Enhancing Recovery and Restructuring Mechanisms

Reinforce recovery units: Specialized loan recovery units should be strengthened with skilled personnel and empowering them with authority to take timely corrective actions.

Flexible restructuring options: Banks should develop clear and transparent restructuring frameworks that provide viable alternatives for distressed borrowers while protecting bank interests.

Legal support for recovery: Collaborate with legal firms and use legal measures effectively to recover long-overdue loans, especially large exposures.

Policy and Regulatory Improvements

Stricter enforcement of regulations: Regulatory authorities like Bangladesh Bank should ensure strict compliance with provisioning norms and capital adequacy standards to encourage prudent lending.

Periodic stress testing: Mandate regular stress tests for banks to assess potential losses from bad loans and enforce corrective measures well in advance.

Clear guidelines for classification: Update and standardize loan classification and provisioning guidelines to reflect current market conditions and international best practices.

Adoption of Technology and Innovation

Automated credit systems: Invest in credit risk software that uses data analytics and artificial intelligence to predict default risks and manage portfolios effectively.

Centralized credit information systems: Encourage participation in national credit bureaus and shared databases so banks can access accurate borrower histories and reduce information asymmetry.

Improving Governance and Transparency

Strengthen internal audit functions: Internal audit departments should be independent, regularly review loan portfolios, and report directly to the board or audit committees.

Corporate governance reforms: Banks must enforce better governance practices to minimize conflicts of interest, especially in loan approval and monitoring processes.

Public disclosure: Increase transparency by publishing detailed reports on credit quality, NPL ratios, and recovery efforts to improve stakeholder confidence.

Diversification of Income Sources

Non-interest income: Encourage banks to expand non-interest revenue streams such as fee-based services, trade finance, and digital banking products to reduce reliance on interest income, which is directly affected by NPLs.

Portfolio diversification: Promote diversification across sectors and borrower categories to spread risk and reduce concentration of loans in vulnerable sectors.

Incentives for Good Performance

Performance-linked incentives: Introduce incentive systems for credit officers and recovery teams tied to reduction in NPLs, quality of loan portfolios, and adherence to risk management practices.

Recognition programs: Recognize and reward branches or teams that demonstrate effective credit monitoring and timely resolution of problem loans.

Conclusion:

Commercial Banks is highly responsible for a bad NPL scenario in banking industry of the country as a significant portion of total NPL is incurred by these banks. In order to show the impact of NPL on banking performance of Commercial Banks, linear regression equation was used. From this study of regression analysis, it has been found that NPL has significant impact on Return on Asset, Net Profit Margin, Debt to Asset ratio, Total NPLs to Total Loan Ratio It has also been found through regression analysis that NPL has less significant impact on Return on Equity, less impact on Net Profit Margin to NPL and less impact on Return on Investment, Debt to Income ratio and Debt to Equity ratio.

Based on the findings of the ratios it has been found that the NPL of Commercial Banks is increasing gradually which indicates a negative effect on profitability. When NPL increases, the profit of the bank declines.

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