Internship Report

Based on

"Non-Performing Loans Are Affected By Macroeconomic Factors"- Perspective of Private Bank Sector in Bangladesh

"Non-Performing Loans Are Affected By Macroeconomic Factors"-Perspective of Private Bank Sector in Bangladesh"

Submitted To
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LETTER OF TRANSMITTAL

3rd September, 2018

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Subject: Permission of Internship Report on "Non-performing loans are affected by macroeconomic- perspective of private bank sector".

Dear Sir,

It's my pleasure to get the opportunity to submit my Internship Report on "Non-performing loans are affected by macroeconomic- perspective of private bank sector" to you which was assigned under the part of Internship program of BRAC Business School.

I have tried my level best to make the report more informative and authentic. I have tried to describe the every part of the research. Due to several limitation, I tried to evaluate the research I have done in this report.

Therefore, I am grateful for your support and hope for your kind judgment and suggestions.

Thank you.

Sincerely Yours

Shamima Ferdous

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ACKNOWLEDGEMENT

I would like to start with my gratefulness to the almighty Allah for finishing the report successfully. Without his blessings it won't be possible to complete my report on time.

I expressed my deepest thanks to my supervisor Mr. Ahmed Abir Choudhury, Lecturer of BRAC Business School who helped time from the beginning of the report. He guided me to choose such a research topic which was helpful to enhance my knowledge. His suggestion makes my internship report better. I would like to thank him for giving time from his busy schedule for every time for the discussion of the report.

Working in JAMUNA Bank is great experience and feel fortunate to get the chance. The first name come to my mind is my supervisor Dina Sultana, Executive Officer of JAMUNA Bank. She is humble person. Her guidance and valuable direction and advices helped me a lot. I want to thank her for all her support for her significant time from her busy schedule.

Also want to express my appreciation to my colleague for their time and support every time.

At last I want to show my gratitude to BRAC Business School for this internship program which helps me to improve my skills and get knowledge from real life experience with will be helpful for my future career.

EXECUTIVE SUMMARY

Having high non-performing is the cause of losing efficiency and the performance of a bank. The private bank sector suffering by the increasing number of NPL for few years. Banks are trying to improve their performance by reducing NPL. From 2011 to 2017 the ratio of NPL increase from 6.1% to 10.7%.The ratio of NPL is related with entrepreneurs, lending process and macroeconomic factors. Macroeconomic factors are like GDP growth rate, inflation, interest and unemployment rate. The research is about to determinants the trend of increasing non-performing loan. The research is based on last 8 years ration of NPL of 4 private companies. The research focused on four macroeconomic factors which have great influence on NPL. The research indicates that GDP growth rate has only negative relation with the change of non-performing loan. Other factors are positively effect on non-performing loan. When GDP growth rate decrease, there will be low income or unemployment problem. People will face problem to pay loan which increase gross NPL. And if inflation increase the value of money decrease and if interest rate increase then it will be tough to repay loan and creates more non-performing loan. From the research it shows that all banks are not suffering my all macroeconomic factors but most of the factors impact positively or negatively on non-performing loan which reduce the performance and efficiency of bank.

RESPONSIBILITIES OR EXPERIENCES OF INTERNSHIP

I have done my internship under JAMUNA BANK LTD (JBL), Ring Road Branch. I was working in accounts and finance department for last three months. It has a great experience to work with JAMUNA Bank.

JAMUNA Bank is new generation bank which has started its operation from 3rd June, 2001. But it has registered as a banking company under companies act in 1994. JBL has 97 branches 33 districts. It is provided retail Banking, corporate banking, Islamic banking, SME banking, NRB banking, international banking, deposits, foreign remittance, loans and other services. For the development of trade and commerce of the country, JAMUNA Bank are doing all type of transactions. For ensuring the contribution of the country, reasonable return and sustainable growth, they provide their service timely and properly with using appropriate technology. JBL has already attained tremendous prosperity within last 18 years.

Responsibilities and Experiences:

- Day to day Pay Order balancing
- Help them making bank reconciliation
- Making every day balance sheet
- Working in clearing which is a part of credit department
- Opening accounts for clients
- Managing cheque and vouchers and supplymentary
- Differentiate loans, deposits, expenses, SME loan

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Chapter-1
Introduction

1.1 Background of the study

Banking industry is one of the prime sector of the economic growth of any country. Private Banks are one of the important part of bank industry. It determines the financial sustainability and growth of a country by providing the scope of moving money between countries and interaction among the bank and the borrower and savers. So the performance and efficiency of any bank is significant for its country. According to Thou(2017), for both industrialized and non-industrialized countries bank faces NPLs as challenges. The balance sheet of any bank non-performing loan is an important item. Non-performing loan is a kind of loan where the borrowers are unable to pay the interest with the principal. NPL affects negatively on the performance and profitability of any bank. The theme of "non-performing loans" (NPL) has attracted more attention in recent decades. Several studies examined bank failures and find that asset quality is an indicator of insolvency (Demirguc-Kunt, 1989; Barr and Siems, 1994). That's why bank always try to reduce the amount of non-performing loan. To control non-performing loan, banks always need to determine the factors which are affecting on the non-performing loan. There are so many factors influenced the amount of NPL and it's not easy to identify all factors. Especially the factors which affects NPL business are related with lending process, entrepreneurs and most importantly macroeconomics factors. New entrepreneurs have low experience, business have poor management and poor financial performance, disbursement of fund and poor monitoring, GDP growth rate, Inflation rate, Interest rate, unemployment rate are the main reason for causing Non-performing loan. In this study it will be shown that some of the macroeconomic factors are closely related with the increasing and decreasing number of non-performing loan in the private sector of Bangladeshi bank.

1.2   Objective of the study:

The objectives of this report are,

- ✓ Understanding the present situation of non-performing loan in Bangladeshi private bank sector.
- ✓ To research about default loan condition in private bank.
- ✓ Identify the main cause of non-performing loan.
- ✓ To find out some solution to decrease the amount of non-performing loan.
- ✓ To get idea about the determinants trend of NPL.
- ✓ To discuss how the economic factors are important for non-performing loan.

1.3   Methodology of the study:

The report purpose is to figure out the influence of macroeconomic factors on Non-performing loan in private bank sector in Bangladesh. It includes data collections, source of data and the methods for analysis. Data has been collected from various sources like annual report of different private banks, journals, research works of individuals and different publications.

The study used information from 5 private banks. For analyzing data, the information collected from 2011-2017 annual reports of the companies.

1.4 Limitation of the study:

It was tried to make the report effectively but there is some limitation that I have faced. The limitation of the study are,

- ✓ The insufficient of relevant information and unavailability of the information.

- ✓ There are limited time for preparing the report.

- ✓ Unable to use the primary data for research analysis because of strict regulation of the bank.

Chapter-2
Literature Review

2.1   Non-performing loan:

According to Hennie (2003), the loans which were unable to generate income is called Non-performing loan. When the loan cannot perform for 90 days it's consider as Non-performing loan. Non-performing loans are one of the major problem for banking sector. Most of the research have been made based on public bank of non-performing loan in different countries. In December, 2011 the rate of NPL was 6.1% but in September 2017, it was 10.7%. The rate of NPL increased rapidly over the years. For increasing number of NPL, the performance of bank and the economic growth are decreasing.

Lots of report has been made based on Bangladeshi banking sector. But there are few research has been made on Non-performing loan. The minimization of NPL is a necessary condition for improving economic growth. When NPL retained permanently, these will have an impact on the resources that are enclosed in unprofitable areas. Thus, NPL are likely to hamper economic growth and reduce the economic efficiency (Hou, 2007).

Loans are classified accordingly to following categories:

1. Classified Loans
   a)   Sub-standard (SS)
   b)   Doubtful (DF)
   c)   Bad/Loss Loan
2. Unclassified Loan

Loans	Required Provision (as a % of outstanding loan)
Unclassified	1%
Substandard	20%
Doubtful	50%
Bad/loss	100%

Table 5.1: Minimum Provision Requirement

Source: Bangladesh Bank's website

2.2   Macroeconomic factors:

According to Nkusu (2011), macroeconomic developments are associated with the increase in NPL. The element of macroeconomic variables are essential for both provincial and national level and also for general economy. Instead of selected individuals, the variables effects on the population of Bangladesh. Many research shows that non-performing loan increase during the recession of a country. That means NPL depends on the economic condition of a country. There are different kind of macroeconomic variables which have positive and negative impact on NPL. The study is based of only four factors which are mostly influence the change of NPL ratio.

Gross Domestic Product (GDP):

According to Thou(2017), the sum value of the service and gross domestic product is the economic price of all the finished goods and services which are produced within a country in an earmarked time period. GDP growth rate is one of the most important factors which influences the ratio of NPL in Bangladeshi private bank sector. Low NPL ratio is associated with an economy which is expansionary (Carey,1998) The increasing number of GDP growth rate means there are economic growth in the country. The economic growth means indicates people of the country have more income which helps them to pay the loans they had taken from the bank. If the borrowers are able to pay the loan then the ratio of NPL will decrease. Which means if GDP growth rate increase and the rate of NPL will decrease. NPL is negatively affected by GDP growth rate.

Inflation Rate:

The rate at which the level of prices for goods and services is increasing and the purchasing power is decreasing, is called Inflation rate. The impact of inflation rate on NPL basically depend on the economic condition of a country. It can be negative or positive. The impact of inflation on the change of NPL can be either positive or negative depending on the economic condition and some

other firm-specific factors (Rajha,2016). When inflation rate increase, the real value of income decrease. Low level of income effects on repaying ability of loans. There borrowers unable to pay loan when inflation rate rises. So, there are positive relation between inflation rate an NPL.

Interest Rate:

Interest rate is also known as APR. APR means Annual Percentage Rate. Interest is the percentage of the principle which is charged from a borrower when they borrowed money from financial institutions. According to Curak,Poposi & Pepur(2012), The level of NPAs and the excessive debt charge are the result of increasing number of interest rate. The rise of interest rate negatively effects on the power of paying loan. The borrowers are quite unable to pay loan in the time period which is the cause of increasing bad loan or non-performing loan of a company. Banks charges high interest rate for more profit but sometimes its impact negatively and create more bad loans.

Unemployment Rate:

Unemployment rate is another important economic factor that influences the changing ratio of Bangladesh. Increasing number of unemployment rate influence the cash flow of households. Unemployment means no income or low level of income. The low level of income is one of the cause of not paying loan which is borrowed. So it can be stated that there are a positive relation between the changes of unemployment rate with the change of NPL ratio of bank.

Chapter-3
Research Methodology

The study is about macroeconomic factors of Bangladesh and Non-performing loan of private bank. The data is collected form four selected private banks as a sample data like AB Bank, Bank Asia, JAMUNA Bank and BRAC Bank. At first the study find out some factors like GDP growth rate, inflation rate, interest rate and unemployment rate of Bangladesh. The rate of GDP, inflation, interest and unemployment rate of 2011-2017 are pick up for the research.

Dependent variable:

The ratio of non-performing loan changes with the change of macroeconomic variable. So that gross ratio of NPL is choose as depend variable for this research.

Independent variable:

The variable which have the power to the change of rate of non-performing loan are consider as independent variable. GDP growth rate, unemployment, inflation and interest rate influence the change of gross NPL. So those factors is treated as independent variable.

So The Y variable (independent) is the NPL rate of the bank and macroeconomic factors used as X variable (dependent). As general statistic standard, the significance of the regression analysis level has been considered up to 0.05.

3.1   Purpose of selecting 5 banks:

There are 40 private commercial banks in Bangladesh. Because of the time limitation it's not easy to work on every private bank. . So that the study have selected 5 banks as a sample for this research from this 40 private commercial banks.

For this research BRAC Bank, AB Bank, Prime Bank, Bank Asia and JAMUNA Bank has been chosen. Among these 5 banks BRAC Bank is in good position now. Their performance is satisfactory and their EPS is high. JAMUNA Bank, Bank Asia and Prime Bank are in middle position. Their performance and EPS are in average level. But AB Bank in in lower position in private bank sector. Their ROA (return on assets) and ROE (return on equity) was falling over the past 5 years. Because of low EPS, there revenue, gross profit, deposits also low.

All categories (good, medium, poor) banks has been selected for the study to get a fair result in research. If only good or poor categories banks has selected, the analysis may shows partial results. So, it will help to understand how every categories banks are affected by macroeconomic factors.

The multiple regression has been applied for the analysis of this research. For conducting the research some variables are specified. One variable is consider as dependent variable and rest of the variable are independent variable.

3.2   Data:

Year	Y variable	X variable			
	NPL rate of AB Bank	GDP Growth Rate	Inflation Rate	Interest Rate	Unemployement rate
2017	7.15%	7.30%	5.68%	6.75%	4.20%
2016	5.19%	7.20%	5.68%	6.75%	4.20%
2015	3.19%	6.55%	6.16%	7.25%	4.10%
2014	3.86%	6.06%	7.01%	7.25%	4.20%
2013	3.37%	6.01%	7.54%	7.25%	4.30%
2012	3.80%	3.50%	6.20%	7.75%	4.50%
2011	3.05%	4.50%	11.50%	7.25%	4.50%

f.g: NPL rate of AB Bank from 2011-2017 as Y variable and 7 years data of GDP Growth rate, Inflation rate, Interest rate and unemployment rate as X variable

Year	Y variable	X variable			
	NPL rate of Bank Asia	GDP Growth Rate	Inflation Rate	Interest Rate	Unemployement rate
2017	4.38%	7.30%	5.68%	6.75%	4.20%
2016	5.41%	7.20%	5.68%	6.75%	4.20%
2015	4.26%	6.55%	6.16%	7.25%	4.10%
2014	5.31%	6.06%	7.01%	7.25%	4.20%
2013	5.60%	6.01%	7.54%	7.75%	4.30%
2012	5.69%	3.50%	6.20%	7.75%	4.50%
2011	2.72%	4.50%	11.50%	7.25%	4.50%

f.g: NPL rate of Bank Asia from 2011-2017 as Y variable and 7 years data of GDP Growth rate, Inflation rate, Interest rate and unemployment rate as X variable

Year	Y variable	X variable			
	NPL rate of Jamuna Bank	GDP Growth Rate	Inflation Rate	Interest Rate	Unemployement rate
2017	4.07%	7.30%	5.68%	6.75%	4.20%
2016	4.05%	7.20%	5.68%	6.75%	4.20%
2015	6.69%	6.55%	6.16%	7.25%	4.10%
2014	5.68%	6.06%	7.01%	7.25%	4.20%
2013	7.59%	6.01%	7.54%	7.75%	4.30%
2012	9.73%	3.50%	6.20%	7.75%	4.50%
2011	2.86%	4.50%	11.50%	7.25%	4.50%

f.g: NPL rate of JAMUNA Bank from 2011-2017 as Y variable and 7 years data of GDP Growth rate, Inflation rate, Interest rate and unemployment rate as X variable

Year	Y variable	X variable			
	NPL rate of BRAC Bank	GDP Growth Rate	Inflation Rate	Interest Rate	Unemployement rate
2017	3.56%	7.30%	5.68%	6.75%	4.20%
2016	3.40%	7.20%	5.68%	6.75%	4.20%
2015	5.99%	6.55%	6.16%	7.25%	4.10%
2014	5.72%	6.06%	7.01%	7.25%	4.20%
2013	5.72%	6.01%	7.54%	7.75%	4.30%
2012	7.37%	3.50%	6.20%	7.75%	4.50%
2011	5.77%	4.50%	11.50%	7.25%	4.50%

f.g: NPL rate of BRAC Bank from 2011-2017 as Y variable and 7 years data of GDP Growth rate, Inflation rate, Interest rate and unemployment rate as X variable

Year	Y variable	X variable			
	NPL rate of Prime Bank	GDP Growth Rate	Inflation Rate	Interest Rate	Unemployement rate
2017	5.45%	7.30%	5.68%	6.75%	4.20%
2016	5.96%	7.20%	5.68%	6.75%	4.20%
2015	7.82%	6.55%	6.16%	7.25%	4.10%
2014	7.61%	6.06%	7.01%	7.25%	4.20%
2013	5.09%	6.01%	7.54%	7.25%	4.30%
2012	7.30%	3.50%	6.20%	7.75%	4.50%
2011	7.10%	4.50%	11.50%	7.25%	4.50%

f.g: **NPL rate of Prime Bank from 2011-2017 as Y variable and 7 years data of GDP Growth rate, Inflation rate, Interest rate and unemployment rate as X variable**

After collecting these data, the hypothesis method will be used from regression analysis and find out the effects of the factors on Non-performing loan of each bank.

Chapter-4
ANALYSIS

4.1　R Squared:

R square shows that how much X (dependent variable) can be narrated by the Y (independent variable). It is also known as coefficient of determination for regression.

Regression Statistics	
Multiple R	0.910020331
R Square	0.828137002
Adjusted R Square	0.484411007
Standard Error	0.01056259
Observations	7

f.g: R Square of regression for AB Bank

Regression Statistics	
Multiple R	0.88645953
R Square	0.7858105
Adjusted R Square	0.3574315
Standard Error	0.00856575
Observations	7

f.g: R Square of regression for Bank Asia

Regression Statistics	
Multiple R	0.9983988
R Square	0.9968002
Adjusted R Square	0.9904007
Standard Error	0.0023376
Observations	7

f.g: R Square of regression for JAMUNA Bank

Regression Statistics	
Multiple R	0.99758997
R Square	0.99518575
Adjusted R Square	0.98555726
Standard Error	0.00169574
Observations	7

f.g: R Square of regression for BRAC Bank

Regression Statistics	
Multiple R	0.999220544
R Square	0.998441696
Adjusted R Square	0.995325088
Standard Error	0.000752018
Observations	7

R square is the percentage of the response variable variation that is interpreted by linear model. There are different table for each bank. From those table we find that the R square for AB bank is 82%. Bank Asia is 78% and for JAMUNA and BRAC Bank and Prime Bank are 99%. R square means that regression model for each bank explain all the variability of the response data around its mean.

We know that, the higher level of R square means the accuracy of the model is also high. . Here, 99% of the value for JAMUNA, BRAC Bank shows higher R squared which fits out data. And For AB and Bank Asia the data has less accuracy that JAMUNA, BRAC Bank and Prime bank. But all value of R square indicated that there are strong relationship between the factors (GDP, Inflation rate, Interest rate, and Unemployment rate) and the rate of NPL for each bank.

4.2   Model Overview:

The Anova model is basically determine that the regression model is effective or not or how much effective for the research. Here the significance level is .05. If Significance F value is less than .05 than we chose the model is effective for the research.

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.001075203	0.000269	2.409294069	0.314189105
Residual	2	0.000223137	0.000112		
Total	6	0.00129834			

f.g: **The value of Significance F of AB Bank**

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.00053837	0.0001346	1.834381	0.382501857
Residual	2	0.000146744	0.0000734		
Total	6	0.000685114			

f.g: **The value of Significance F of Bank Asia**

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.0034045	0.0008511	155.761	0.006389312
Residual	2	0.00001093	0.00000546		
Total	6	0.0034154			

f.g: **The value of Significance F of Jamuna Bank**

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.001188838	0.000297209	103.35842	0.009605316
Residual	2	0.00000575	0.00000287552		
Total	6	0.001194589			

f.g: The value of Significance F of BRAC Bank

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.000724698	0.000181174	320.36163	0.00311418
Residual	2	0.00	0.0000005655		
Total	6	0.000725829			

f.g: The value of Significance F Prime Bank

Here, the Significance F for AB Bank and Bank Asia are more than .05. So the model is not that much effective. And for JAMUNA Bank and BRAC Bank the value of Significance F are less than .05 which means the regression model is fit for the research.

4.3 Hypothesis :

The following hypothesis is formulated for the study-

1	*Ho*	GDP growth rate has negative impact on Non-performing loan
	*H*1	GDP growth rate has positive impact on Non-performing loan.
2	*Ho*	Inflation rate has positive impact on Non-performing loan.
	*H*1	Inflation rate has positive impact on Non-performing loan.
3	*Ho*	Interest rate has positive impact on Non-performing loan.
	*H*1	Interest rate has positive impact on Non-performing loan.
4	*Ho*	Unemployment rate has positive impact on Non-performing loan.
	*H*1	Unemployment rate has negative impact on Non-performing loan.

4.4 Decision:

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.343050863	1.106352661	0.310074	0.785832189	-4.417200433	5.103302159	-4.41720043	5.103302159
GDP Growth Rate	-0.562376789	2.552212112	-0.22035	0.846047424	-11.5436592	10.41890562	-11.5436592	10.41890562
Inflation Rate	-0.526611768	0.274832765	-1.91612	0.195413207	-1.709121713	0.655898176	-1.70912171	0.655898176
Interest Rate	-5.230966737	5.953625723	-0.87862	0.472276899	-30.84735071	20.38541723	-30.8473507	20.38541723
Unemployement rate	3.388829183	13.13756402	0.25795	0.82056253	-53.13754652	59.91520489	-53.1375465	59.91520489

f.g: P-value for AB Bank

The P value of GDP growth rate, Inflation rate, Interest rate and Unemployment rate are higher than 0.05. Which means we will not reject the null hypothesis. The hypothesis indicates that GDP growth rate negatively affects the NPL of AB Bank and also positively affected by inflation interest rate and unemployment rate.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.2487532	0.334534284	-0.74358	0.534617	-1.688138004	1.190631692	-1.688138004	1.190631692
GDP Growth Rate	0.50252896	0.741922693	0.6773333	0.568041	-2.689706735	3.694764661	-2.689706735	3.694764661
Inflation Rate	-0.4764609	0.217566973	-2.189951	0.159938	-1.412576077	0.459654184	-1.412576077	0.459654184
Interest Rate	1.76396034	1.358866407	1.2981117	0.32378	-4.082769915	7.610690593	-4.082769915	7.610690593
Unemployement ra	4.03418975	5.804652283	0.6949925	0.558947	-20.94121324	29.00959274	-20.94121324	29.00959274

f.g: P-value for Bank Asia

Here, the P value are more than .05 for all macroeconomic factors. So we will not reject the null hypothesis. The hypothesis result shows that if GDP growth rate decrease, the ratio of NPL will increase and if the other factors like inflation, interest and unemployment rate increase, the NPL will also increase.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.09179519	0.091293382	-1.00549667	0.4205399	-0.484598911	0.301008528	-0.4845989	0.301008528
GDP Growth Rate	-0.58670749	0.202468432	-2.89777268	0.1013129	-1.457858841	0.284443861	-1.4578588	0.284443861
Inflation Rate	-0.77140885	0.059373361	-12.9925077	0.0058719	-1.026871802	-0.515945895	-1.0268718	-0.51594589
Interest Rate	4.440061831	0.370830483	11.9732925	0.0069033	2.844507041	6.035616621	2.84450704	6.035616621
Unemployement ra	-1.92960245	1.584071841	-1.21812812	0.3473744	-8.745313478	4.88610858	-8.7453135	4.88610858

f.g: P-value for Jamuna Bank

The P value of the regression are less than 0.05 for inflation and interest rate. That means we will reject the null hypothesis. So both inflation and interest rate have negative impact on NPL of JAMUNA Bank. And the P value for GDP growth rate and unemployment are greater than 0.05. We will not reject the null which means if GDP growth rate increase, the rate of NPL will decrease and if unemployment increase, NPL of JAMUNA Bank will also increase.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.38890635	0.066226738	5.872346528	0.0277952	0.103955699	0.673857005	0.103955699	0.673857005
GDP Growth Rate	-1.34536676	0.146876185	-9.159869976	0.0117096	-1.97732398	-0.71340954	-1.97732398	-0.713409541
Inflation Rate	0.0709051	0.043071074	1.646234761	0.2414622	-0.114414774	0.256224972	-0.11441477	0.256224972
Interest Rate	1.27457775	0.269010661	4.738019477	0.0417743	0.117118297	2.432037209	0.117118297	2.432037209
Unemployement ra	-8.25322444	1.149129408	-7.182154055	0.01884	-13.19752922	-3.30891965	-13.1975292	-3.308919653

f.g: P-value for BRAC Bank

P value For GDP growth rate, interest rate and unemployment rate are less than 0.05 which means we will reject the null. So, GDP growth rate influence positively and interest rate and inflation rate influence negatively on NPL rate of BRAC Bank. But the P value of inflation rate is more than 0.05. So we will not reject the null for inflation rate which indicated the NPL rate of BRAC Bank will increase if the rate of inflation will increase.

|	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.062607605	0.078768271	26.18576712	0.0014552	1.723695088	2.401520122	1.723695088	2.401520122
GDP Growth Rate	-4.671399479	0.181708187	-25.70824996	0.0015096	-5.453226704	-3.88957225	-5.453226704	-3.88957225
Inflation Rate	0.111718074	0.01956709	5.709488532	0.0293334	0.027527682	0.195908466	0.027527682	0.195908466
Interest Rate	-7.775021879	0.42387642	-18.34266194	0.002959	-9.598814916	-5.95122884	-9.598814916	-5.95122884
Unemployement rat	-27.34242453	0.935346605	-29.23239832	0.0011682	-31.36689615	-23.3179529	-31.36689615	-23.3179529

f.g: P-value for Prime Bank

Here, the all value of P are less than 0.05. So we will reject all null hypothesis for every single factors. Which means the changing of interest rate, inflation rate and unemployment rate have negative impact on the changing of non-performing loan of prime bank. And also the NPL will influence by GDP growth rate.

All regression result shows that the performance of every private bank are affected by macroeconomic factors. Here, AB Bank and Bank Asia are very much affects by the factors. Each and every factors influence on the ratio of increasing and decreasing rate of NPL. The JAMUNA Bank and BRAC Bank are in medium position. The rate of NPL is more affected by GDP growth rate and unemployment rate. The research shows that the increasing or decreasing rate of inflation rate is positively affects the rate of NPL of BRAC Bank. But all of those bank, Prime Bank is in better position. The increasing rate of NPL are not that much affected by the macroeconomic factors.
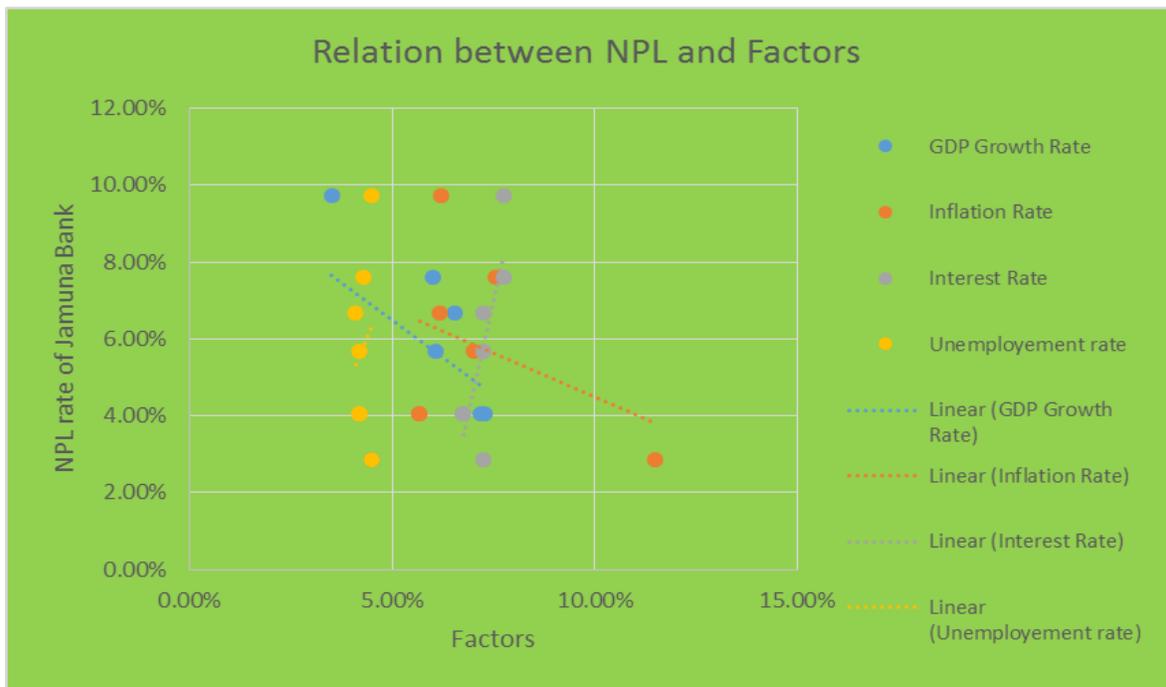
4.5   Correlation between NPL and Factors:

Here the chart shows the positive of negative correlation of each factors with the NPL rate of each year for single Bank.
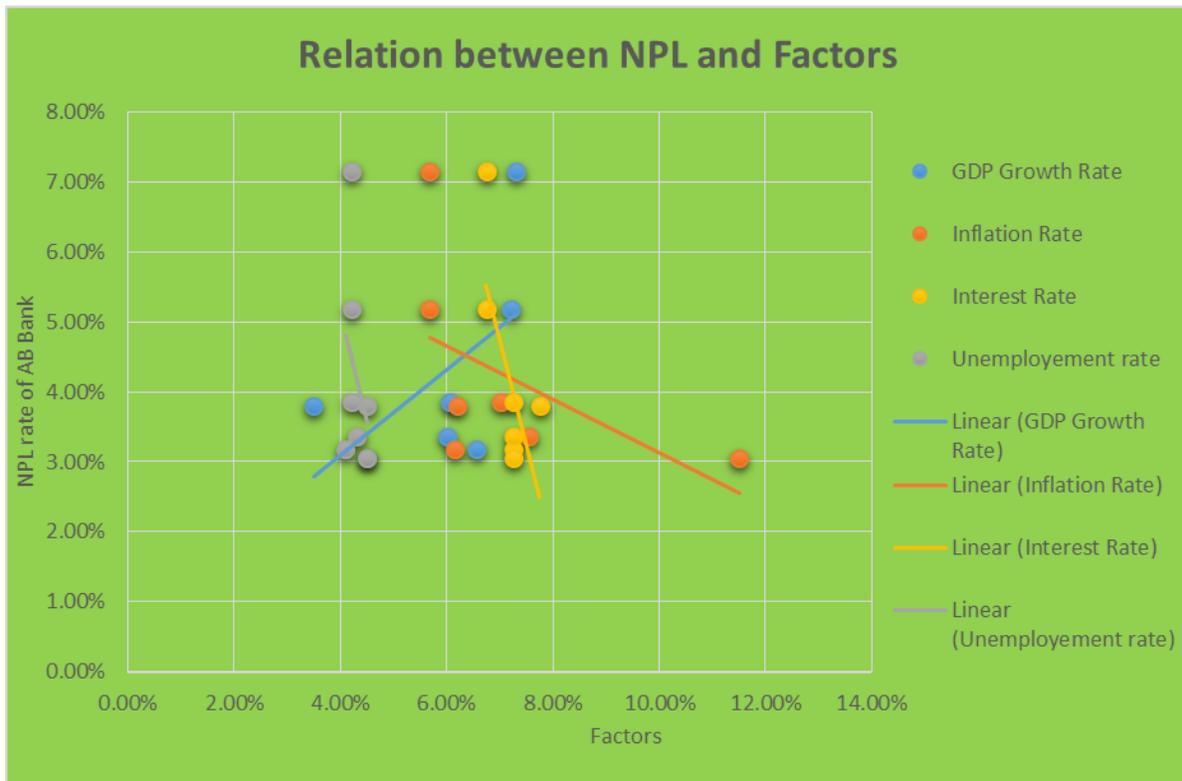
f.g: **Correlation between NPL rate of AB Bank and all macroeconomic factors**
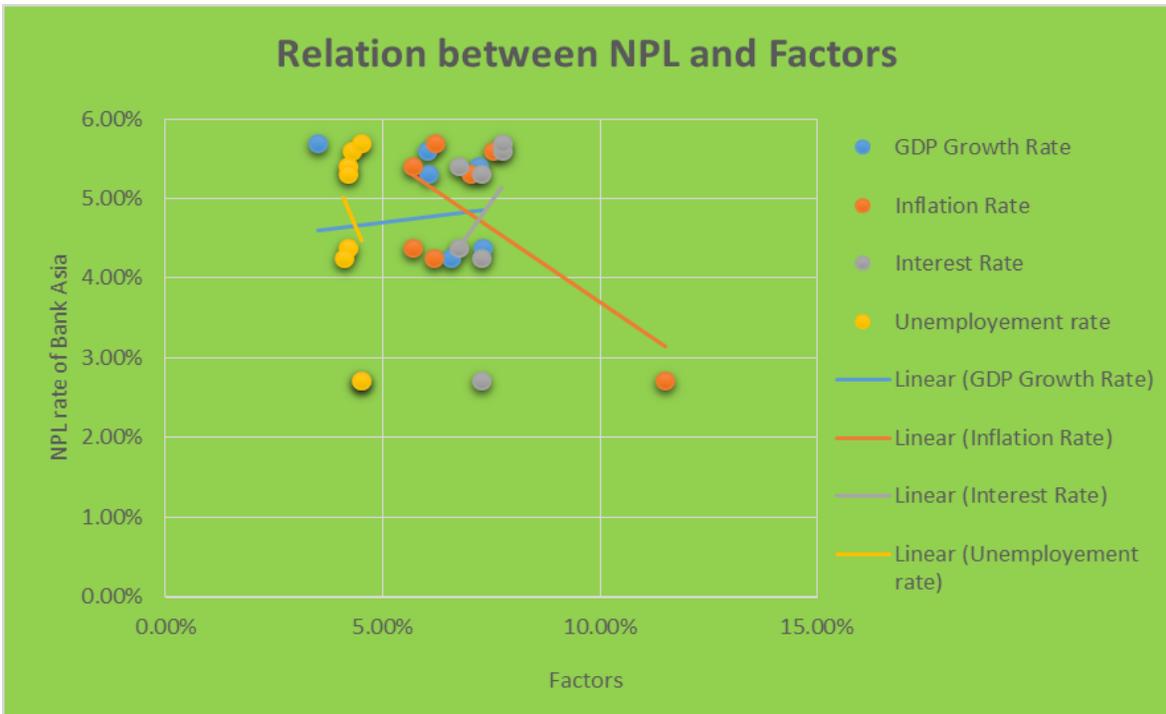
f.g: **Correlation between NPL rate of Bank Asia and all macroeconomic factors**

f.g: **Correlation between NPL rate of Jamuna Bank and all macroeconomic factors**
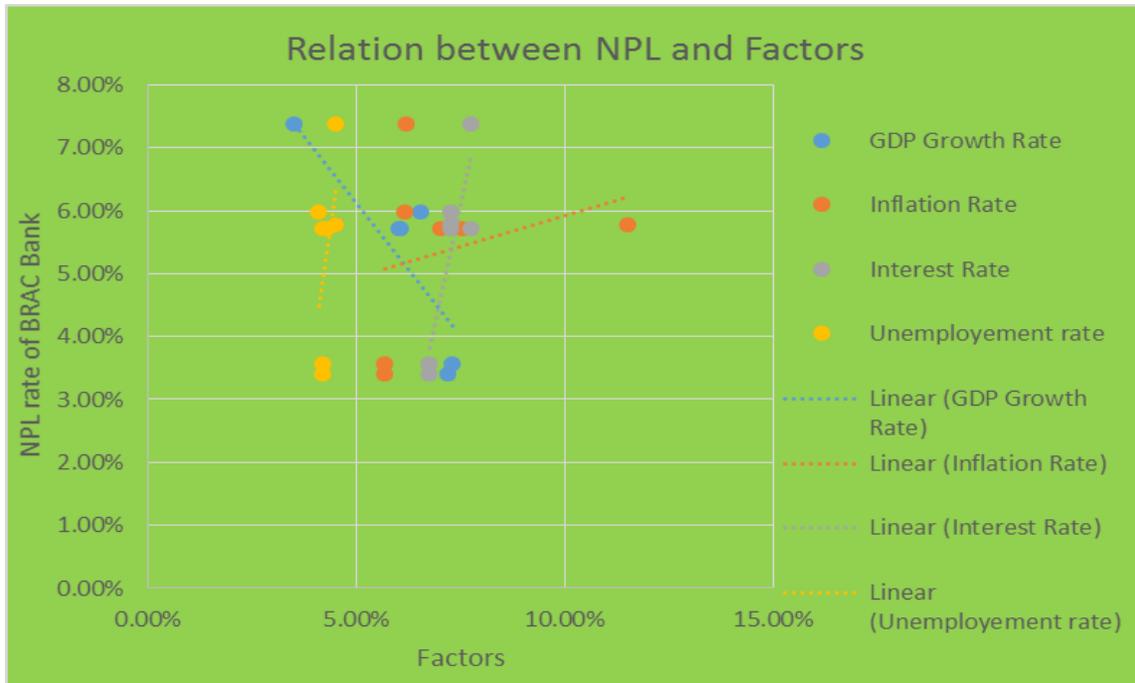
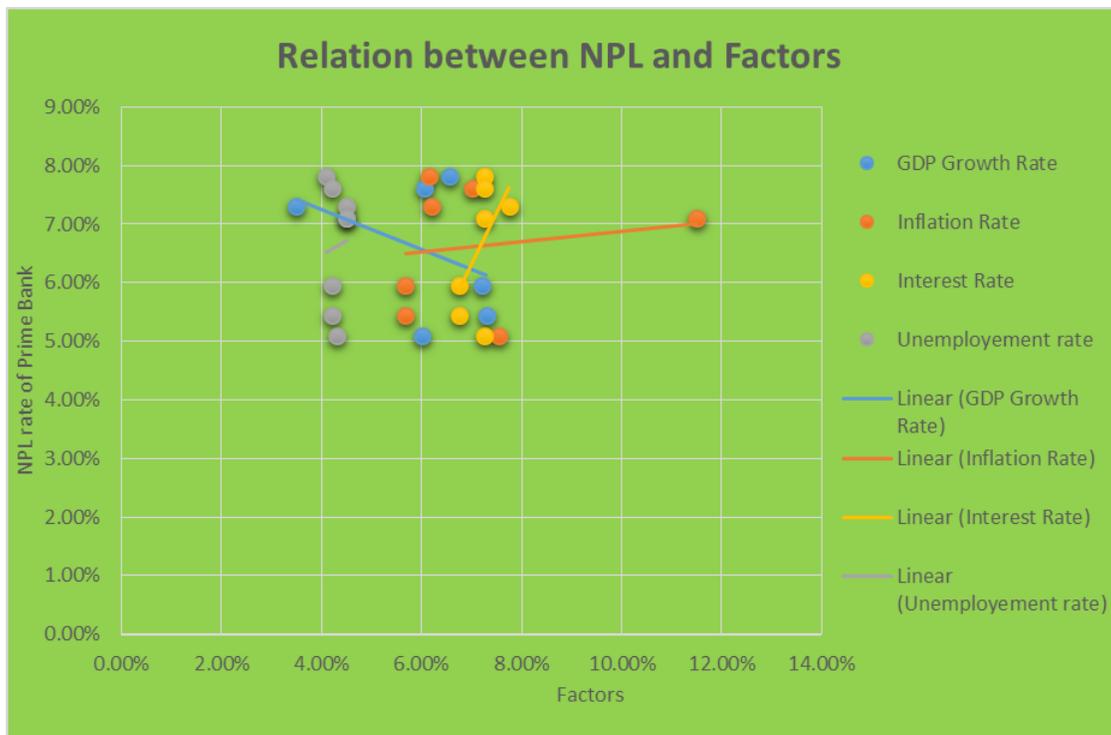**f.g: Correlation between NPL rate of BRAC Bank and all macroeconomic factors**

f.g: Correlation between NPL rate of Prime Bank and all macroeconomic factors

Chapter-5
Conclusion

NPLs are compactly related with the performance of bank. Low level of NPAs ensure the smooth operation in bank industry. The research mostly concern about the increasing or decreasing number of NPL of last few years in private bank. This quantitative research is related to the pervious study of bank based on their non-performing loan.

The research ended with a statement that the ratio of non-performing loan are highly oppressed by macroeconomic factors. Banks are not affected by all factor but most of the factors influence to increase NPL ratio of private bank.

The research shows that most of the bank are very much affected by GDP growth rate and unemployment problem rather than other macroeconomic factors. Identification of geographic area is more important for GDP growth rate and unemployment problem. All bank have several branches in different areas. So before establishing branches, bank should choose area wisely where the GDP growth rate is high that means the unemployment rate is low. Which means there will be less chance to unable to pay the loan. However, interest rate and inflation also effects on performance efficiency of bank. All private bank facing bad loans for a few years due to increasing non-performing loans.

Chapter-6
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