Conventional and Islamic Bank Stability in Bangladesh using NPL Model

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Abstract: **Islamic Banking system is a rapidly growing financial system over the Conventional Banking system in Bangladesh. As the conventional banks are more profit-maximizing regarding based on loan and mortgage. This study focused on the Non-Performing Loan and Efficiency for both Conventional and Islamic Banking sector in Bangladesh from 2008 to 2018. The study evaluates by analyzing Total Asset, Loan to asset, Inflation, Income Diversity, GDP and Cost to income. The last part also analysis the Descriptive, Correlations and Regression for the Data. The study explained that the inflation rate has a significantly negative impact on non-performing loan of the conventional banking system in Bangladesh. On the other hand, Islamic financing system is more efficient and convenient for the Bangladesh environment regarding non-performing loan management.**

Keywords: **Non-performing loan, Islamic Banking, Conventional Banking, Loan Asset.**

I INTRODUCTION

For a country's development, banking system is always consider as a most important sector. Banking sector have a great impact on financing activity and capital market which develop a country's economy (Osama, Mohammad 2013). For financing in business and financial institute bank is the main sources. Currently the Banking sector follow two kind of system banking system and the regulatory conditions as: Conventional Banking and Islamic Banking System. The main feature of Islamic Banking which makes it different from traditional banking is the prohibition of interest payment in transection and in other banking activities. The bank only share the profit or loss with the client and never tolerate the unethical behavior as they takes undertaking of a client they will not related with any kind of unscrupulous activities (Majid, Saal and Battisti 2009). On the other hand Conventional banking is based on general banking which is mainly focused on interest related transaction. Islamic Financing in the banking sector derives its practice from immutable principles rooted in the rulings of the Shari'ah legal code. Therefore, it involves accounting and financial norms that differ from its conventional banking counterparts (Hussain, Shahmoradi & Turk 2016). In the beginning of the emergence, Islamic Banking system faced a lot difficulties and challenges but later its size and complexity grows as they become the essential part of the national and international financial services industry. Today Islamic Financing system is emerging very rapidly in the world. The Nasser Social Bank established in Egypt in 1971 the Dubai Islamic Bank in United Arab Emirates and the Islamic Development Bank (IDB) in 1975 show the way to established the various Islamic financial institutions all over the world also Central Bank of Malaysia 1999 gave the permission to do Islamic banking. Islamic Financial services operation is available about 68 countries (Husain 2005).Now there are more than 500 Islamic Bank that exist in sixty Muslim and non-Muslim countries with the total global financial asset in excess of $3 trillion at the end of 2017 (Basov & Bhatti 2016).In early 2000 all conventional bank in Iran and Sudan converted to Islamic Banking to meet the government legislation (Sundararajan and Errico 2002). For the majority of Muslim people most of the country trying to adopt Islamic Banking beside Traditional Banking like Malaysia, Bahrain Egypt (Hassan 2003). Though 80% share of the total asset of the Islamic Finance dominating by the Islamic Bank, as the sukuk, Islamic funds, derivative, real estate and investment trust is constantly growing but still this represent less than 1 % of global banking assets (Mansor & Bhatti 2016).

Overview of Islamic Finance in Bangladesh

Bangladesh a land of prosperity and growing Developing Country which is the third largest Muslims country with a population of 160 million Muslims forecasted at year- end 2016 (Moniruzzaman 2018). According to Bangladesh Bank (Central Bank of Bangladesh) around 69.8% of the total banking assets have acquired by Private and foreign Commercial Bank. In the Banking sector one third are foreign commercial banks, three forth three-fourth are domestic private bank and eight banks offers Islamic finance services. Bangladesh is considering the next practicing and applying of Islamic Financing system. The first Islamic Bank, IBBL was established in 1983 which influence other to establish Islamic banking and the industry is well-established with 21.1% of market share. Islamic Banking plays a vital role in the country's rapid economic growth. Conventional banks are now moving to Islamic principles from conventional principles.

Table 1: Islamic Bank of Bangladesh (2019)

Name of the Bank	Year of Incorporation	Listing Status	Year of Listing
Islami Bank Bangladesh Limited (IBBL)	1983	Listed	1985
ICB Islamic Bank Limited (ICBIBL)	1987	Listed	1990
Al-ArafahIslami Bank Limited (AAIBL)	1995	Listed	1998
Social Islami Bank Limited (SIBL)	1995	Listed	2000
Export Import Bank of Bangladesh Limited	1999	Listed	2004
First Security Islami Bank Ltd. (FSIB)	1999	Listed	2008
ShahjalalIslami Bank Limited (SJIBL)	2001	Listed	2007

Problem statement

Islamic Banking regulation is expending day by day by following comprehensive competition in the world. In Bangladesh though the Islamic banking system is successful but still they faced a numerous challenges. According to Ahmed and Hassan (2007) for the alternative satisfactory interest have a long way go as Islamic Banks in Bangladesh got the success only moderately established by abolishing partial sinterest. In Bangladesh Islamic Bank providing various Islamic product along with efficient management of resource allocation. So to understand the efficiency level of Islamic Banking and conventional banking and Identify the better banking activity performance evaluation is needed. According to Al Khathlan, Gaddamand Malik (2009), Efficient and Effective banking activities are needed to understand the long-term growth and economy development in banking sector. To analyse the Banking Performance, a study should evaluate Loan Asset Ratio, Cost Income Ratio, Income Diversity, Long Term Asset, GDP and Inflation. According to the articles which are used for this research, some efficiency factors that have been testing the level of efficiency for both of Islamic and conventional banking. Those factors are not enough to measure the efficiency level. This project is exploring further factors and extend the testing of efficiency level in banking.

Objectives of the Research

The objective of the study is to analytical aspects of the problem and challenges facing in Islamic Banking of Bangladesh. For the study Islamic Shari'ah rules in Bangladesh, Legal regulatory framework and Finance system of the Islamic Banking will be consider to understand the Problem and challenges. Here in the study the investigation will focus on to the Financing for Shari'ah in Islamic Banking will be clasp the governance structure of the Bank and Financing system accounted in Islamic Banking. The specific objectives of the research are as follow:

1. Evaluate the practices of Shari'ah compliance in Financial Industry and Islamic Banking is implemented and followed efficiently in Bangladesh.

2. Measure the risk of both Conventional and Islamic Banking sector in Bangladesh by analysing Non-Performing Loan.
3. Evaluate the Efficiency for both Conventional and Islamic Banking sector in Bangladesh.

III. LITERATURE REVIEW

Loan to Total asset

Loan ratio is regarded as the solvency ratio which helps in measuring the total liabilities of the company as the percentage of total assets (Macve 2015). The debt ratio shows the ability of a company to pay its liabilities through assets. This ratio is useful in measuring the amount of assets an organization should sell to pay all its liabilities. It is an important tool of measuring financial leverage of the company. Loan to Total Asset $= \frac{\text{Total Loan}}{\text{Total Asset}}$

As stated by Nobes (2014) the debt to total asset ratio (DTA) is useful measuring the proxy risk, since there are certain deposits with bank including the investment, saving and demand deposits. The investment deposits are considered liabilities for bank because its nominal value is not guaranteed. The DTA ratio must be lower than it actually appears. Using the TD/TA provides an in depth understanding of risk taken by bank in an attempt to provider higher returns.

Non-Performing Loan

The risk faced by bank is also measured by non-performing loan of banks. Banks generally consider this asset as the non-performing if it is not put into use for long time (Hoyle, Schaefer and Doupnik 2015). When the payments are late by a short-time period then it is categorized as the past due. Once the payment passes more than 90 days the loan is then considered as non-performing. When a bank has higher amount of non-performing loan the value of those loan is regarded as the sign of problem for bank and the operating profit of bank may decline due to the high risk of defaults. NPL $= \frac{\text{Total Non Performing Loan}}{\text{Total Loan}}$

NPL is considered non-performing since they stop producing revenue for bank. As per the Banking and Financial Institutions (Management of Risk Assets) Regulations (2008) NPLs amounts to credit accommodation based on which the contractual repayment is due by 90 days or more or categorized as inferior, loss or doubtful and placed on the non-accrual basis (Phillips, Libby and Libby 2015). As per the International Monetary Fund IMF (IMF) in 2001, a working paper named "The Treatment of Nonperforming Loans in Macroeconomic Statistics", argued that the main reason for NPLs is the unavoidable number of wrong financial decisions are made by individuals and unfavorable luck or poor weather conditions with unexpected changes in the fuel costs, export prices, foreign exchange or interest rates etc. results in erroneous decisions. The credit committee of bank should adequately review the aptness of advancing the credit

facilities of a company or individuals and should abide by the appropriate lending principles as well as practice by directing a clear insider lending.

Cost Income ratio

The cost to income ratio (CIR) is regarded as the important financial measure which is mainly vital in valuing banks (Schroeder, Clark and Cathey 2019). It is useful in showing the cost of company in respect of the income. The CIR despite its drawbacks is still a developing tool to measure the profitability metric of bank. Despite being the standard benchmark of bank's profitability, the CIR is useful in measuring the operating cost of bank in proportion to the total income. To obtain this ratio, the operating costs such as the administrative costs, excluding the bad debts written off is divided by operating income. $\text{CIR} = \frac{\text{Operating Expenses}}{\text{Total Operating Income}}$

The ratio is useful in providing the investors with a better understanding of company's functions. The lower will be this ratio the more profitable will be the bank. The CIR is useful in measuring the profitability of the bank. As noted by Harrison et al. (2014) an inverse relationship is existent among the profitability of banks and cost income ratio. The cost income ratio is considered as the negative and it is considered very significant in estimation of equations. This indicate that a bank which is highly efficient produces higher profits. The CIR effects the banks overall profitability.

Income diversity

As per the theory of traditional banking it is argued that diversification of credit diversifies the probability of default. Banks that are diversified are viewed as highly vulnerable to financial downturns by simply exposing themselves to less sectors (Pratt 2016). The study suggests that the credit is

portfolio would result in benefits if it is diversified. Apart from this it is also argued that the concentration strategy is very much associated to risks due to the belief that diversification by firms helps in lowering risks.

$$\text{Income diversity} = \frac{\text{Net Interest Income} - \text{Other Operating Income}}{\text{Total Operating Income}}$$

Since banks diversify their income to fee-based activities, the theory of finance suggest that this results in increased amount of profitability and stability in income. Whether or not the diversification into a fee-based activity results in actually rise or fall in risk is a subject of continuous research with results varying from study to study and at times among the rising and developed economies. Diversifying of income sources is believed to provide a comparative advantage because it helpful in reducing the shocks to net interest margins originating from the adverse change in lending rates. As stated by Callen (2015) the expansion of banks towards fee-based service results in lower rate of lending. It is also observed that diversification effects the loan pricing and margin of interest rate effectively lessens the volatility in bank incomes.

Inflation

Inflation is regarded as the rate based on which the general prices for goods and services rises and also leads to fall in the currency's purchasing power. Central banks make an attempt to restrict inflation and avert deflation for smooth running of the economy. CPI is the most frequently used statistics for recognizing the inflation or deflation. Huge rise in CPI within a short time period results in inflation while a sharp drop in CPI inside a short-time period leads to deflation.

Based On NPL Descriptive

Table 2: Descriptive Analysis of Net Performing Loan Conventional and Islamic Bank

	Bank Type	Non-Performing Loan	Log Total asset	Loan to Asset	Inflation	Income Diversity	GDP	Cost to Income
Mean	Conventional	0.036873	11.20317	0.670238	6.800000	0.342488	6.527000	0.450002
	Islamic	0.126236	11.34401	0.690464	6.800000	0.591999	6.527000	0.396611
Median	Conventional	0.035744	11.22880	0.672626	6.200000	0.337410	6.490000	0.435763
	Islamic	0.039327	11.36354	0.744343	6.200000	0.631351	6.490000	0.395420
Maximum	Conventional	0.078246	11.49028	0.755758	10.70000	0.587973	7.900000	0.620116
	Islamic	1.576620	11.99911	0.825287	10.70000	0.736207	7.900000	0.553421
Minimum	Conventional	0.011785	10.72243	0.574867	5.400000	0.029597	5.570000	0.305264
	Islamic	0.009466	10.60185	0.024989	5.400000	-0.026260	5.570000	0.238648
Std.Dev	Conventional	0.016722	0.213468	0.044037	1.575453	0.121315	0.700491	0.084378
	Islamic	0.342293	0.342320	0.194768	1.575453	0.139178	0.700491	0.068604
Probability	Conventional	0.314074	0.209312	0.712706	0.000345	0.734765	0.295763	0.342331
	Islamic	0.000000	0.824690	0.000000	0.000345	0.000000	0.295763	0.980985
Observations	Conventional	40	40	40	40	40	40	40
	Islamic	40	40	40	40	40	40	40

**All standard deviation of Conventional and Islamic bank is positive that means alternative hypothesis is accepted and null hypothesis is rejected.

Based On NPL Correlations

Table 3: Correlation Analysis of Net Performing Loan Conventional and Islamic Bank

Conventional Bank							
Variables	Non-Performing Loan	Log Total Asset	Loan to Asset	Inflation	Income Diversity	GDP	Cost to Income
Non-Performing Loan	1.000000	0.553677	-0.454005	-0.326837	-0.249738	0.370796	0.343646
Islamic Bank							
Variables	Non-Performing Loan	Log Total Asset	Loan to Asset	Inflation	Income Diversity	GDP	Cost to Income
Non-Performing Loan	1.000000	0.103974	-0.918750	-0.201728	0.199153	0.361589	0.211212

*Conventional Bank***:** We can see that Correlation of Log total Asset, GDP, and cost to income with Non-Performing Loan is respectively 0.553677, 0.370796, and 0.343646, all the value is positive that means the null hypothesis is rejected and alternate hypothesis is accepted. On the other hand, Correlation of Loan to Asset, Inflation and income diversity with Non-performing Loan is respectively -0.454005, -0.326837, and -0.249738. All are negative value, So that null hypothesis is accepted and alternate hypothesis is rejected.

*Islamic Bank***:** We can see that Correlation of Log total Asset, Income Diversity, GDP, and cost to income with Non-Performing Loan is respectively 0.103974, 0.199153, 0.361589 and 0.211212. All the value is positive that means the null hypothesis is rejected and alternate hypothesis is accepted. On the other hand, Correlation of Loan to Asset and Inflation with Non-Performing Loan is respectively -0.918750 and -0.201728. All are negative value, So that null hypothesis is accepted and alternate hypothesis is rejected.
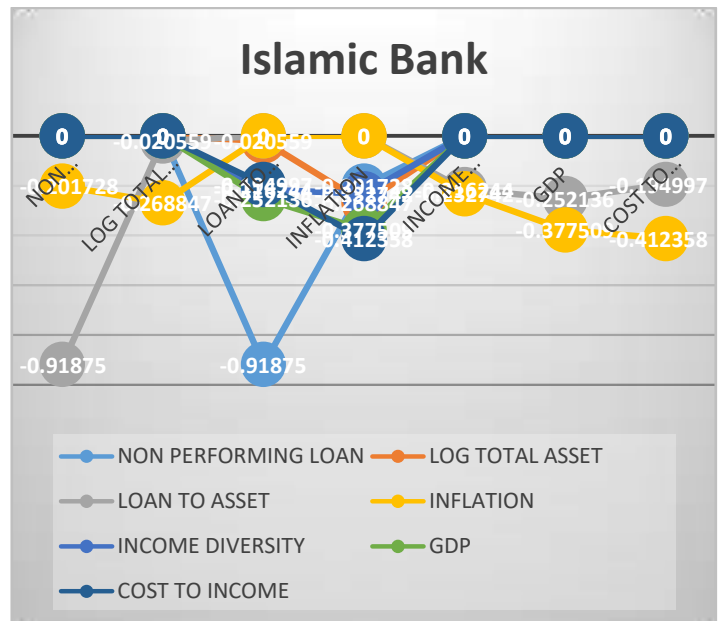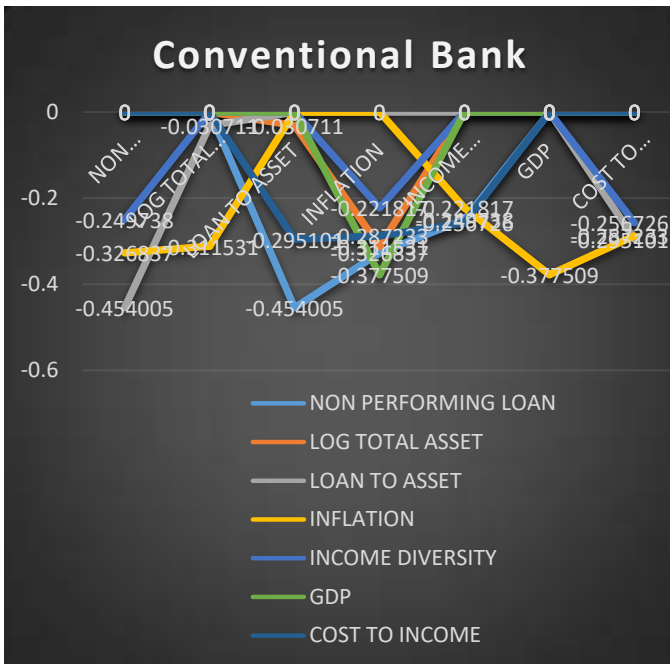

Figure 1: Difference between Conventional and Islamic Banking system in Bangladesh

Based On NPL Regression

Non-Performing Loan Model Specification for conventional bank

$$Y = C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6$$

Non-performing Loan= -0.280716+ Log Total Asset 0.036390 + Loan to Asset -0.117318 + Inflation -0.002061 +Income Diversity -0.031517 + GDP 0.002011+ Cost to Income 0.000483

Non-performing Loan Model Specification for Islamic bank

$$Y = C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6$$

Non-performing Loan =0.003440 +Log Total Asset 0.096046 + Loan to Asset -1.596013 + Inflation -0.008402 +Income Diversity -0.200120 + GDP 0.081215   + Cost to Income -0.552821

Table 4: Regression Analysis of Net Performing Loan for Conventional and Islamic Bank

Dependent Variable: NON_PERFORMING_LOAN								
	Conventional Bank				Islamic Bank			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
Log Total Asset	0.036390	0.013752	2.646251	0.0124	0.096046	0.094487	1.016509	0.3168
Loan to Asset	-0.117318	0.056372	-2.081131	0.0453	-1.596013	0.117579	-13.57398	0.0000
Inflation	-0.002061	0.001403	-1.468425	0.1515	-0.008402	0.015114	-0.555893	0.5820
Income Diversity	-0.031517	0.025048	-1.258225	0.2171	-0.200120	0.185423	-1.079261	0.2883
GDP	0.002011	0.005296	0.379611	0.7067	0.081215	0.041667	1.949150	0.0598
Cost to Income	0.000483	0.031904	0.015146	0.9880	-0.552821	0.470297	-1.175472	0.2482
C	-0.280716	0.146175	-1.920411	0.0635	0.003440	0.900842	0.003818	0.9970

Regression analysis represents the summary statistics of all the independent. Total observations of this study were 80, and time period was 10 years for each bank. The study used 4 listed conventional banks and 4 listed Islamic bank to compare them. We have assumed our significance level are 10% & we have used two tail tests. So that my significance level is 5% or 0.05 on regression analysis. We have six hypotheses which are tested through the regression analysis. Every hypothesis has two types, null hypothesis and other is alternative hypothesis. The Main objectives of the regression analysis to test the relationship of dependent and independent variables which is rejected or accepted.

Coefficient

Conventional bank

- If **Log Total Asset** change by 1 unit Non-performing Loan change by **0.036390Units.**
- If **Loan to Asset** change by 1 unit Non-performing Loan change by **-0.117318 Units.**
- If **Inflation** change by 1 unit Non-performing Loan change by (**-0.002061Unit).**
- If **Income Diversity** change by 1 unit Non-performing Loan change by **-0.031517Units.**
- If **GDP** change by 1 unit Non-performing Loan change by **0.002011 Units.**
- If **Cost to Income** change by 1 unit Non-performing Loan change by **0.000483 Units.**

Islamic Bank

- If **Log Total Asset** change by 1 unit Non-performing Loan change by **0.096046 Units**.
- If **Loan to Asset** change by 1 unit Non-performing Loan change by (**-1.596013 Units)**.
- If **Inflation** change by 1 unit Non-performing Loan change by (**-0.008402 Unit)**.
- If **Income Diversity** change by 1 unit Non-performing Loan change by (**-0.200120 Units).**

- If **GDP** change by 1 unit Non-performing Loan change by **0.081215 Units**
- If **Cost to Income** change by 1 unit Non-performing Loan change by (**-0.552821 Units).**

Standard error

Conventional Bank

- Standard error of Loan Asset Ratio is 0.056372. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of Cost income Ratio is 0.031904. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan
- Standard error of Income Diversity is 0.025048. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan
- Standard error of Log Total Asset is 0.013752. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of GDP is 0.005296. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of Inflation is 0.001403. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan

Islamic Bank

- Standard error of Loan Asset Ratio is -1.596013. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of Cost income Ratio is -0.552821. This is the standard deviation of actual Value of

Non-performing Loan about the estimated value of Non-performing Loan.

- Standard error of Income Diversity is 0.200120. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan
- Standard error of Log Total Asset is 0.096046. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of GDP is 0.081215. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.
- Standard error of Inflation is -0.008402. This is the standard deviation of actual Value of Non-performing Loan about the estimated value of Non-performing Loan.

Probability

Conventional Bank

- Loans Asset Ratio: Using two tailed test with significance level α = .05, the P value is 0.0453. The computed value is less than P value, since the null hypothesis is rejected
- Cost Income Ratio: Using two tailed test with significance level α = .05, the P value is 0.9880. The computed value is greater than P value, since the null hypothesis is accepted.
- Income Diversity (ID): Using two tailed test with significance level α = .05, the P value is 0.2171. The computed value is greater than P value, since the null hypothesis is accepted.
- Log total Asset (LTA): Using two tailed test with significance level α = .05, the P value is 0.0124. The computed value is less than P value, since the null hypothesis is rejected
- GDP: Using two tailed test with significance level α = .05, the P value is 0.7067. The computed value is greater than P value, since the null hypothesis is accepted
- Inflation: Using two tailed test with significance level α = .05, the P value is 0.1515. The computed value is greater than P value, since the null hypothesis is accepted.

Islamic Bank

- Loans Asset Ratio: Using two tailed test with significance level α = .05, the P value is 0.0000. The computed value is less than P value, since the null hypothesis is rejected
- Cost Income Ratio: Using two tailed test with significance level α = .05, the P value is 0.2482. The computed value is greater than P value, since the null hypothesis is Accepted

- Income Diversity (ID): Using two tailed test with significance level α = .05, the P value is 0.2883. The computed value is greater than P value, since the null hypothesis is accepted.
- Log total Asset (LTA): Using two tailed test with significance level α = .05, the P value is 0.3168. The computed value is greater than P value, since the null hypothesis is Accepted
- GDP: Using two tailed test with significance level α = .05, the P value is 0.0598,The computed value is equal to P value, since the null hypothesis is rejected
- Inflation: Using two tailed test with significance level α = .05, the P value is 0.5820. The computed value is greater than P value, since the null hypothesis is accepted.

R-squared: R-squared shows the ratio of the variance for a dependent variable which is explained by independent variables in the regression model. In the regression analysis, R-squared is 0.550088 or 55% for **conventional bank** that means 55% of the variation in Non-performing Loan that was explained by the independent variables. On the other hand, R-squared is 0.872639 or 87% for **Islamic bank** that means 87% of the variation in Non-performing Loan that was explained by the independent variables.

Table 5: Regression Model Summary analysis of Net Performing Loan regarding Conventional and Islamic Banking System

Conventional Bank		Islamic Bank	
R-squared	0.550088	R-squared	0.872639
Adjusted R-squared	0.468286	Adjusted R-squared	0.849482
F-statistic	6.724609	F-statistic	37.68432
Prob(F-statistic)	0.000102	Prob(F-statistic)	0.000000

Adjusted R-squared

- Conventional Bank: According to our study, Adjusted R squared is 0.468286 or 46 %.
- Islamic Bank: Adjusted R squared is 0.849482 or 84%.

F-statistic & Prob (F-statistic)

The F value and "Prob (F-Static)" test the overall significant of the regression model specifically; we have taken sample of 10 years from 2008 to 2018 for four Conventional banks. Therefore, the total observation is 40. We have tested the null hypotheses

Conventional Bank: As we assumed the significance level is 5% or .05. After data analyzing, we found out the Value of Prob(F- statistic) is 0.000102 which is less than significant value so this model is good fit and null hypothesis will be rejected, alternative hypothesis will be Accepted.

Islamic Bank: As the significance level is 5% or .05. we found out the Value of Prob(F- statistic) is 0.000000which is less

than significant value so this model is good fit and null hypothesis will be Rejected , alternative hypothesis will be Accepted .

IV. CONCLUSION

Non-Performing Loan (NPL) affect not only to the economic growth but also to the performance of Bangladesh banking system. Both Public, Private, Commercial and Islamic Bank follows Non Performing loan management system to understand the future possibilities of the profitability. According to the analysis of the study, the banking system of Bangladesh shows more convenient for the Islamic financing system. The analysis indicates that the Conventional Banking system have more net performing loan then Islamic banking system in Bangladesh. The lesser the performing loan the better profitability occur. The impact of GDP growth rate is found to be significant for the Islamic Banking but insignificant for the conventional banking system in Bangladesh (Table: 4).Past ten years lagged inflation rate has significantly negative impact on non-performing loan of conventional banking system in Bangladesh. Loan to Asset and Cost to income have a very high influence to the Non-Performing Loan which indicates the profitability of the Islamic Banking system is increasing day by day. On the other hand change in loan rate, cost to income and income diversity had creating significant negative impact over the past ten years on non-performing loan. This may interrupted the performance of the conventional banking system in Bangladesh.

REFERENCES

[1]. Abu Umar Faruq Ahmad and M. Kabir Hassan (2007), Regulation and Performance of Islamic Banking in Bangladesh. International Business Review, Vol. 49(2) 251–277 March–April 2007.

[2]. Basov, S & Bhatti, MI 2016, Islamic Finance in the Light of Modern Economic Theory, Springer.

[3]. Callen, J.L., 2015. A selective critical review of financial accounting research. Critical Perspectives on Accounting, 26, pp.157-167.

[4]. Gaddam, L, Al Khathlan,K., &Malik,S. (2009). Commercial banks in Saudi Arabia: a study of financial performance. Journal of International Finance and Economics, 9(1), 15-24.

[5]. Harrison Jr, W.T., Horngren, C.T. and Thomas, C.W., 2014. Financial accounting. Pearson Education.

[6]. Hussain, M, Shahmoradi, A & Turk, R 2016, 'An overview of Islamic finance', Journal of International Commerce, Economics and Policy, vol. 7, no. 01, pp. 88-115.

[7]. Hoyle, J.B., Schaefer, T. and Doupnik, T., 2015. Advanced accounting. McGraw Hill.

[8]. M. Moniruzzaman (2018) Growth and Prospect of Islamic Finance in Bangladesh. IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 20, Issue 3. Ver. VIII (March. 2018), PP 10-20

[9]. Macve, R., 2015. A Conceptual Framework for Financial Accounting and Reporting: Vision, Tool, or Threat? Routledge.

[10]. Mansor, F & Bhatti, MI 2016, 'Evidence of Risk and Return Performance of Islamic Mutual Funds: The Case of Malaysia', in Advances in Islamic Finance, Marketing, and Management: An Asian Perspective, Emerald Group Publishing Limited, pp. 81-101.

[11]. Mariani Abdul-Majid, David S. Saal and Giuliana Battisti (2009). Efficiency in Islamic and conventional banking: an international comparison. J Prod Anal (2010) 34:25–43.

[12]. Nobes, C., 2014. International classification of financial reporting. Routledge.

[13]. Phillips, F., Libby, R. and Libby, P., 2015. Fundamentals of Financial Accounting. McGraw-Hill Education.

[14]. Pratt, J., 2016. Financial accounting in an economic context. John Wiley & Sons.

[15]. Saunders, MN 2011, Research methods for business students, 5/e, Pearson Education India.

[16]. Schroeder, R.G., Clark, M.W. and Cathey, J.M., 2019. Financial accounting theory and analysis: text and cases. John Wiley & Sons.

[17]. SudinHaron (2008), Determinants of Islamic and conventional deposits in the Malaysian banking system. Managerial Finance 34(9):618-643.

[18]. V. Sundararajan and Luca Errico(2002) Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahea

. Appendices

Traditional Bank

	NON_PERF ORMING_L OAN	LOG_TOT AL_ASSET	LOAN_TO_A SSET	INFLATION	INCOME_DIVE RSITY	GDP	COST_TO_INC OME
Mean	0.036873	11.20317	0.670238	6.800000	0.342488	6.527000	0.450002
Median	0.035744	11.22880	0.672626	6.200000	0.337410	6.490000	0.435763
Maximum	0.078246	11.49028	0.755758	10.70000	0.587973	7.900000	0.620116
Minimum	0.011785	10.72243	0.574867	5.400000	0.029597	5.570000	0.305264
Std. Dev.	0.016722	0.213468	0.044037	1.575453	0.121315	0.700491	0.084378
Skewness	0.578609	-0.601764	-0.190908	1.431851	-0.296081	0.504208	0.290232
Kurtosis	2.775056	2.345604	2.489471	4.169012	2.861470	2.332968	2.025611
Jarque-Bera	2.316252	3.127858	0.677372	15.94564	0.616410	2.436393	2.143952
Probability	0.314074	0.209312	0.712706	0.000345	0.734765	0.295763	0.342331
Sum	1.474909	448.1267	26.80952	272.0000	13.69952	261.0800	18.00007
Sum Sq. Dev.	0.010906	1.777172	0.075632	96.80000	0.573973	19.13684	0.277668
Observations	40	40	40	40	40	40	40

	NON_PERFORMI NG_LOAN	LOG_TOTA L_ASSET	LOAN_TO_ ASSET	INFLATION	INCOME_DIV ERSITY	GDP	COST_TO_I NCOME
NON_PERFORMI NG_LOAN	1.000000	0.553677	-0.454005	-0.326837	-0.249738	0.370796	0.343646
LOG_TOTAL_AS SET	0.553677	1.000000	-0.030711	-0.311531	0.179681	0.709214	0.214815
LOAN_TO_ASSE T	-0.454005	-0.030711	1.000000	0.020072	0.583694	0.086487	-0.295101
INFLATION	-0.326837	-0.311531	0.020072	1.000000	-0.221817	-0.377509	-0.287233
INCOME_DIVERS ITY	-0.249738	0.179681	0.583694	-0.221817	1.000000	0.395754	-0.256726
GDP	0.370796	0.709214	0.086487	-0.377509	0.395754	1.000000	0.424897
COST_TO_INCO ME	0.343646	0.214815	-0.295101	-0.287233	-0.256726	0.424897	1.000000

Dependent Variable: NON_PERFORMING_LOAN				
Method: Least Squares				
Date: 10/17/19 Time: 02:37				
Sample: 2009 2048				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_TOTAL_ASSET	0.036390	0.013752	2.646251	0.0124
LOAN_TO_ASSET	-0.117318	0.056372	-2.081131	0.0453
INFLATION	-0.002061	0.001403	-1.468425	0.1515
INCOME_DIVERSITY	-0.031517	0.025048	-1.258225	0.2171
GDP	0.002011	0.005296	0.379611	0.7067
COST_TO_INCOME	0.000483	0.031904	0.015146	0.9880
C	-0.280716	0.146175	-1.920411	0.0635
R-squared	0.550088	Mean dependent var		0.036873
Adjusted R-squared	0.468286	S.D. dependent var		0.016722
S.E. of regression	0.012194	Akaike info criterion		-5.818164
Sum squared resid	0.004907	Schwarz criterion		-5.522610
Log likelihood	123.3633	Hannan-Quinn criter.		-5.711301
F-statistic	6.724609	Durbin-Watson stat		0.809677
Prob(F-statistic)	0.000102			

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	NON_PERFOR MING_LOAN	LOG_TOTAL_ ASSET	LOAN_TO_A SSET	INFLAT ION	INCOME_DIV ERSITY	GDP	COST_TO_IN COME
Mean	0.126236	11.34401	0.690464	6.800000	0.591999	6.527000	0.396611
Median	0.039327	11.36354	0.744343	6.200000	0.631351	6.490000	0.395420
Maximum	1.576620	11.99911	0.825287	10.70000	0.736207	7.900000	0.553421
Minimum	0.009466	10.60185	0.024989	5.400000	-0.026260	5.570000	0.238648
Std. Dev.	0.342293	0.342320	0.194768	1.575453	0.139178	0.700491	0.068604
Skewness	3.678554	-0.131948	-2.912042	1.431851	-2.453927	0.504208	-0.050974
Kurtosis	15.10330	2.597936	10.16490	4.169012	10.91834	2.332968	2.887554
Jarque-Bera	334.3617	0.385495	142.0929	15.94564	144.6452	2.436393	0.038396
Probability	0.000000	0.824690	0.000000	0.000345	0.000000	0.295763	0.980985
Sum	5.049428	453.7606	27.61856	272.0000	23.67997	261.0800	15.86444
Sum Sq. Dev.	4.569428	4.570123	1.479452	96.80000	0.755449	19.13684	0.183554
Observations	40	40	40	40	40	40	40

	NON_PERFORMING_ LOAN	LOG_TOTAL_ASSET	LOAN_TO_ ASSET	INFLATION	INCOME_DIVERSITY	GDP	COST_TO_INCOME
NON_PERFORMING_LOAN	1.000000	0.103974	-0.918750	-0.201728	0.199153	0.361589	0.211212
LOG_TOTAL_ASSET	0.103974	1.000000	-0.020559	-0.268847	0.505461	0.571913	0.677556
LOAN_TO_ASSET	-0.918750	-0.020559	1.000000	0.153187	-0.216244	-0.252136	-0.194997
INFLATION	-0.201728	-0.268847	0.153187	1.000000	-0.232742	-0.377509	-0.412358
INCOME_DIVERSITY	0.199153	0.505461	-0.216244	-0.232742	1.000000	0.451935	0.437943
GDP	0.361589	0.571913	-0.252136	-0.377509	0.451935	1.000000	0.598851
COST_TO_INCOME	0.211212	0.677556	-0.194997	-0.412358	0.437943	0.598851	1.000000

Dependent Variable: NON_PERFORMING_LOAN				
Method: Least Squares				
Date: 10/17/19 Time: 02:42				
Sample: 2009 2048				
Included observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_TOTAL_ASSET	0.096046	0.094487	1.016509	0.3168
LOAN_TO_ASSET	-1.596013	0.117579	-13.57398	0.0000
INFLATION	-0.008402	0.015114	-0.555893	0.5820
INCOME_DIVERSITY	-0.200120	0.185423	-1.079261	0.2883
GDP	0.081215	0.041667	1.949150	0.0598
COST_TO_INCOME	-0.552821	0.470297	-1.175472	0.2482
C	0.003440	0.900842	0.003818	0.9970
R-squared	0.872639	Mean dependent var		0.126236
Adjusted R-squared	0.849482	S.D. dependent var		0.342293
S.E. of regression	0.132798	Akaike info criterion		-1.042344
Sum squared resid	0.581967	Schwarz criterion		-0.746790
Log likelihood	27.84688	Hannan-Quinn criter.		-0.935481
F-statistic	37.68432	Durbin-Watson stat		1.586101
Prob(F-statistic)	0.000000			