The Impact of Credit Risk Management Indicators on Profitability Attributes: Evidence from the State-Owned Commercial Banks in Bangladesh

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ABSTRACT

The focal attempt of this research is to identify the consequence of credit risk management indicators on profitableness attributes of state-owned commercial banks functioning in Bangladesh. To attain the objectives of this research study researcher has analyzed four sample banks' audited annual reports covering the period 2012 to 2016. The study has employed ANOVA technique, multiple regression model and correlation matrix to reach the concluding remark as per study objectives. The findings revealed that there is significant and insignificant variation as well as relationship in the different indicators of credit risk management but there is insignificant variation in the different attributes of profitability in the midst of the sample banks within the study period. Furthermore, there is insignificant impact of the different indicators of credit risk management namely loan and advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio on profitability attributes such as return on assets, return on equity along with net profit percentage of the sample banks over the study period. Hence, the study has recommended that the management of the banking sector should emphasize on creating a smart credit management policy as well as lending guidelines to formulate the suitable credit risk management practice to meet the demand of loans applicants properly.

Keywords: Credit Risk Management Indicators, Profitability Attributes, State-Owned Commercial Banks in Bangladesh

INTRODUCTION

Risk is an important component of uncertainty and prospect of losing which may occur in any business transaction in anywhere, at any time. From the financial point of view, business risk is comprised of operational risk, credit risk, market risk as well as other risk. Credit risk means the probability of borrowers' failure to meet required financial accountability. Credit risk management enclose establishment of identity, assessment, matching mitigations, observation as well as supervision of the credit risk exposures (Lalon, 2015). In Bangladesh the sound banking system is very much essential and the banks are the key sources of credit as well as utilize extensive impact on the economy. It is immensely significant that the banking systems of a country should be sound in respect to investment. Credit management is a vigorous area where definite standard of wide-ranging outline is required to distribute the fund in various area for minimizing the risk and earning maximum return from the invested funds (Mosharrafa, 2013). Banks display strong market competition and it is competed to lay hold of different types of pecuniary as well as non-pecuniary risks. It is a necessity that the banks have to characterize preventable as well as unpreventable risks to conclude on what level of such risks will be hold of by them. Risk has a great influence on banks and other financial institutions' profitability (Jain, Sharma and Somani, 2017). Credit risk is a core risk which is felt in banking activities and it is essential to choose the tool of restraining and managing this risk correctly with the aim of minimizing credit risk. Credit risk management is indispensable for evaluating risk of a particular loan or risk of the whole portfolio, e. g. concentration of loans, and correlation of the debtor's risk (Cibulskiene and Rumbauskaite, 2012). Credit risk management plays an unavoidable role in the performance of banking system through analyzing the creditworthiness of borrowers. If there is any loophole in case of credit risk appraisal, the recovery of the supplied loans and advances is challenged greatly. One of the vital reasons for banks' unsatisfactory performance and to become bankrupt is poor credit risk management (Ghosh, Islam and Hasan, 2014). Risk management has become the cornerstone of foreseeing in case of banking practices. Presently, some considerable risks like credit risk, liquidity risk, interest rate risk, investment risk, operational risk and strategic risk is facing by the banking sector those may threaten a bank's continuity as well as performance in Bangladesh. Based on the previous different study findings conducted by the different authors it is evident that the banking department functioning here provides huge amount of loans in the different sectors to enrich the overall economic growth and sustainable development. Commercial banks also take an important part in establishing the economic development whereas credit risk management is one of the most significant issues that faces in performing the banking activities through which it earns profit. To meet the research purpose the given research study has been organized by introduction, Statement of the Problem, research questions, research objectives, review of related literatures, research hypotheses, research methodology, analysis of data and findings of the study as well as conclusion and recommendations.

STATEMENT OF THE PROBLEM

Credit creation is the key operation of banking, but the breach of borrower's commitment with the banks opens out credit risk for the banks. However, banks need to define and manage the credit risk judiciously since it may work on profitability and may lead a bank as well as the economy to the systematized crisis (Noman et al, 2015). Poudel, (2012) has noted that credit risk management is a vital predictor of bank financial performance; thus, prevalence of bank performance is influenced much by credit risk management. Credit risk is one of the most top-tier and significant types of banking risk (Colquitt, 2007). Credit risk means the chance of failure in which the counterparty of contract does not meet up its commitment due to inability or willingness to breach the contract (Ammann, 2001; Bessis, 2002; Bynagari & Ahmed, 2021; Doewes et al., 2021; Donepudi et al., 2020; Hussain et al., 2021; Khan et al., 2020; Schroeck, 2002; Colquitt, 2007). Consequently, credit risk appears when a bank becomes unable to recover the lending money from a borrower. Hempel and Simonson (1999), stated that, credit risk is an intimidation that the bank may fail to recover the principal or interest income on advance and securities as promised. Normally, loans and advances are the maximal and the most manifest reason of credit risk in the majority of banks (Dhakan, 2006). Banks get rid of the credit risk through effective risk management procedure which adopt a comprehensive credit risk analysis based on the most convincing loan appraisal (Karim, 2006; Greuning and Bratanovic, 2009; Khan et al., 2021; Maleque et al., 2010; Rahman et al., 2020; Afriyie and Akotey, 2013).

Research Questions

In the light of the aforesaid evidence the present research study tries to answer the following designated questions

1. What are the credit risk management's indicators as well as attributes of profitability and their variation among the sample banks?
2. Is there any significant influence of the different indicators of credit risk management on the return on assets of the sample banks?
3. Is there any significant influence of the different indicators of credit risk management on the return on equity of the sample banks?
4. Is there any significant influence of the different indicators of credit risk management on the net profit percentage of the sample banks?

Research Objectives

To evaluate the impact of the different indicators of credit risk management on the profitability attributes of the sample banks is the principal objective of the study and the specific objectives are presented below:

1. To evaluate whether there is any important distinction among the indicators of credit risk management and attributes of profitability of the sample banks.
2. To examine the impression of the different indicators of credit risk management on profitability attributes of the sample banks.
3. To suggest some measures for improving the credit risk management practice followed by the commercial banks in Bangladesh.

Conceptual Framework

The following figure 1 presented the Conceptual Framework of the study.

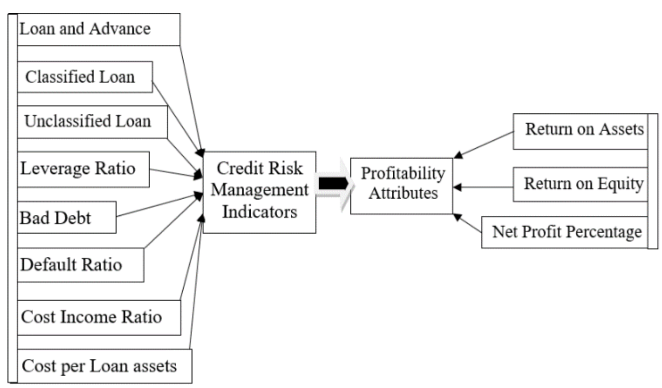

Figure 1: Conceptual Framework
Source: Author

REVIEW OF RELATED LITERATURES

Kariuki, (2017) has conducted a study on "Effect of Credit Risk Management Practices on Financial Performance of Deposit Taking Savings and Credit Cooperatives in Kenya" and this study revealed that financial performance is influenced by credit analysis, credit mitigation measures as well as credit risk identification. Mercylynne and Omagwa, (2017) have undertaken a study on "Credit Risk Management and Financial Performance of Selected Commercial Banks in Kenya". The findings of the study are: (i) the loan appraisal process as well as the lending requirements indicates the major indicators which signifies that the financial performance of commercial banks is influenced by those indicators and (ii) the financial performance of commercial banks is significantly influenced by the debt recovery process and the credit policy. Poudel, (2012) has pioneered a study on "The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Nepal". The findings of the study show that return on assets and default rate as well as cost per loan assets and capital adequacy ratio have positive significant relationship but return on assets and cost per loan assets has negative relationship. Even so, the relationship is statistically insignificant that means cost per loan assets and financial performance has no significant relationship (Sharma et al., 2021; Zhu et al., 2021). Murithi, Waweru and Muturi, (2016) have undertaken a study on "Effect of Credit Risk on Financial Performance of Commercial Banks in Kenya". The findings states that the credit risk has significantly negative impact on the financial performance of commercial banks in Kenya and the impact is both in short term and long term. The study has also revealed that the credit risk influences the health of a bank's loan portfolio which affects the financial performance of the commercial banks. This signifies that the poor asset quality or high non-performing loans to total asset related to poor bank performance.

Research Hypotheses

For formulating to the research objectives, the present study has designed and developed the following hypotheses in null form.

H_1: There is no significant deviation among the indicators of credit risk management as well as attributes of profitability of sample banks.

H_2: There is no significant impact of credit risk management indicators on the profitability attributes of the sample banks.

RESEARCH METHODOLOGY

Population and Sample: In Bangladesh, the banking sector consists of SOCBs, SDBs, CPCBs, ISPCBs, FCBs, N-SBs but this research is limited to only state-owned commercial banks and the remaining all private commercial banks as well as non-scheduled banks are excluded from this study. There are six state-owned commercial banks in Bangladesh. So, the population size is six state-owned commercial banks. From the population, four banks like Sonali Bank Limited (SBL), Agrani Bank Limited (ABL), Janata Bank Limited (JBL) and Rupali Bank Limited (RBL) have been selected by employing judgmental sampling technique for achieving the study objectives. The sample size represents 66.67% of the population. The selection of the banks is based on the convenience in data collection.

Sources of Data: To achieve the objectives of this research, the necessary data have been extracted from the secondary sources especially from five years (from 2012 to 2016) annual reports of sample banks as well as other related publications.

Statistical Techniques for Data Analysis: This research has employed ANOVA as well as one sample T-test to know the variation and relationship in the different indicators of credit risk management and attributes of profitableness of the sample banks over the study period. This research also has employed multiple regression analysis with ordinary least square (OLS) model to identify the impact of the different indicators of the credit risk management on the profitability attributes of the sample banks.

Dependent and Independent Variables: Credit risk management practice in financial institutions has become more important not only in case of performing the financial transactions but also protecting from the crisis of that industry. Furthermore, the credit risk management is also a means of or a crucial concept that is essential to bring to a conclusion about the commercial performance at the view point of the success, sustainable growth and consistent profitability. Risk management includes trade transactions as well as returns which are indispensable for ensuring the sustainable profitability of the financial sectors. Such as in banking operation credit risk which is relating to the substantial amount of income producing assets has been found to be an important determinant of the bank performance (Getahun, Anwen and Bari, 2015). In order to investigate whether there is any significant impact of the different indicators of credit risk management on profitability attributes of the sample banks over the research period this research study has taken loan and advance, classified loan, unclassified loan, bad debt, default ratio, leverage ratio, cost to income ratio as well as cost per loan asset ratio as independent variables. On the other hand, ROA, ROE and NPP has been selected as dependent variables for the research study.

ANALYSIS OF DATA

Explanation of the Variation in Different Indicators of Credit Risk Management as well as Attributes of Profitability within the Sample Banks over the research Period

The first null hypothesis of the study is H01: There is no significant deviation among the indicators of credit risk management as well as attributes of profitability of sample banks over the research period. To identify whether there is any significant deviation in the credit risk management indicators as well as profitability attributes the study has conducted ANOVA technique.

Table 1: Showing the Results of ANOVA

Different Indicators of Credit Risk Management						
	Particulars	Sum of Squares	df	Mean Square	F	Sig.
Loan and Advance	Between Groups	165236.489	3	55078.830	33.625	0.000
	Within Groups	26208.597	16	1638.037		
	Total	191445.086	19			
Classified Loan	Between Groups	15640.32	3	5213.44	5.055	0.011
	Within Groups	16500.236	16	1031.265		
	Total	32140.555	19			
Unclassified Loan	Between Groups	99202.824	3	33067.608	45.710	0.000
	Within Groups	11574.857	16	723.429		
	Total	110777.68	19			
Leverage Ratio	Between Groups	874.319	3	291.440	0.791	0.517
	Within Groups	5897.287	16	368.581		
	Total	6771.607	19			
Bad Debt	Between Groups	12294.154	3	4098.051	44.118	0.000
	Within Groups	1486.210	16	92.888		
	Total	13780.364	19			
Default Ratio	Between Groups	588.358	3	196.119	12.405	0.0002
	Within Groups	252.950	16	15.809		
	Total	841.308	19			
Cost per Loan Assets	Between Groups	64.811	3	21.604	4.015	0.026
	Within Groups	86.097	16	5.381		
	Total	150.909	19			
Cost Income Ratio	Between Groups	2371.488	3	790.496	2.811	0.073
	Within Groups	4499.536	16	281.221		
	Total	6871.02	19			
Different Attributes of Profitability						
Return on Assets	Between Groups	2.270	3	0.757	0.246	0.863
	Within Groups	49.289	16	3.081		
	Total	51.559	19			
Return on Equity	Between Groups	3.747	3	1.249	0.237	0.869
	Within Groups	84.368	16	5.273		
	Total	88.114	19			
Net Profit Percentage	Between Groups	4972.660	3	1657.553	2.309	0.115
	Within Groups	11485.328	16	717.833		
	Total	16457.988	19			

Source: Researchers Own Calculation from the Annual Reports of Sample Banks

From the aforesaid evidence it is apparent that the significant levels of loan and advance, classified loan, unclassified loan, bad debt, default ratio as well as cost per loan assets is lower than 0.05 level of significance. So, the null hypothesis is rejected. But the significant levels of leverage ratio as well as cost to income ratio are higher than 5% level of significance and the null hypothesis is accepted. Referring to the above discussion it is found that in case of loan and advance, classified loan, unclassified loan, bad debt, default ratio as well as cost per loan assets there is significant deviation. Again, in case of leverage ratio as well as cost to income ratio there is insignificant deviation among the sample banks over the study period. Furthermore, the significance levels of the different attributes of profitability like ROA, ROE and NPP are higher than 0.05 level of significance that leads to the conclusion that the null hypothesis is accepted. So, there is insignificant relationship among the sample banks in case of profitability attributes.

Evaluation of the Impact of Credit Risk Management Indicators on the Profitableness Attributes of the Sample Banks over the Research Period

In order to see whether there is any significant impact of different indicators of credit risk management namely loan and advance, classified loan, unclassified loan, bad debt, default ratio, leverage ratio, cost income ratio and cost per asset ratio on profitability attributes such as return on assets, return on equity and net profit percentage the study has been formulated and tested null hypothesis which is H_{02}: There is no significant impact of credit risk management indicators on profitability attributes of the sample banks over the study period.

Model Specification

To assess the impact of credit risk management indicators on profitability attributes, this research has been designed three multiple regression ordinary least square (OLS) models and each of them has one dependent variable as well as eight independent variables. The following models reveal the impact of credit risk management indicators on profitability attributes of the sample banks over the study period.

Regression Models:

1. ROA= $\alpha + \beta_1$LA+ β_2CL+ β_3UL + β_4LR+ β_5BD+ β_6DR+ β_7CPLA+ β_8CIR+ ε
2. ROE= $\alpha + \beta_1$LA+ β_2CL+ β_3UL + β_4LR+ β_5BD+ β_6DR+ β_7CPLA+ β_8CIR+ ε
3. NPP= $\alpha + \beta_1$LA+ β_2CL+ β_3UL + β_4LR+ β_5BD+ β_6DR+ β_7CPLA+ β_8CIR+ ε

Where,

LA = Loan and Advance
CL = Classified Loan
UL = Unclassified Loan
LR = Leverage Ratio
BD = Bad Debt
DR = Default Ratio
CPLA = Cost Per Loan Asset
CIR = Cost to Income Ratio
ROA = Return on Assets
ROE = Return on Equity
NPP = Net Profit Percentage

α = the constant
ε = the error term

Explanation of the Results of Regression Model_1

$H_{0.2.1}$: There is no significant influence of different credit risk management indicators on profitability attribute as measured by ROA of the sample banks over the research period

Table No. 4: Showing the Results of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.087	3.856		0.282	0.783
BD	0.107	0.061	1.757	1.763	0.106
CIR	0.013	0.022	0.146	0.574	0.578
CPLA	-0.631	0.528	-1.079	-1.196	0.257
DR	-0.026	0.192	-0.103	-0.133	0.896
LR	0.086	0.066	0.981	1.299	0.221
CL	-0.045	0.018	-1.119	-2.433	0.033
LA	-0.063	0.046	-3.844	-1.371	0.198
UCL	0.072	0.054	3.332	1.330	0.210
Dependent Variable: ROA Result of Model Summary: R=0.738, R^2=0.545, Adjusted R^2= 0.215, F ratio=0.217					

Source: Researchers Own Calculation from the Annual Reports of Sample Banks

From the result of multiple regression analysis, it is clear that the coefficients of different credit risk management indicators like cost per loan asset, default ratio, classified loan as well as loan and advance are negatively associated with the profitability attribute like return on assets but only classified loan has shown significant relationship. On the other hand, the coefficients of bad debt, cost income ratio, leverage ratio as well as unclassified loan are positively associated with the return on assets but confirm insignificant relationship. Moreover, the result of model summary report that the R square value is 0.545 which indicates that 54.50% of the variability in the dependent variable is explained by the independent variables.

In order to know the correlation among the different credit risk management indicators as well as the profitability attribute like ROA this research study has conducted correlation matrix and the results in this regard are given below.

Table 5: Showing the Results of Correlation Matrix

	BD	CIR	CPLA	DR	LR	ROA	CL	LA	UCL
BD	1.000								
CIR	0.293 0.210	1.000							
CPLA	0.011 0.964	-0.129 0.587	1.000						
DR	0.807** 0.000	0.304 0.193	-0.017 0.942	1.000					
LR	-0.136	-0.224	0.723**	-0.183	1.000				

	0.567	0.341	0.000	0.441					
ROA	-0.213	0.146	0.132	-0.383	0.173				
	0.368	0.539	0.578	0.096	0.467	1.000			
CL	0.679**	-0.089	-0.010	0.510*	-0.106	-0.507*			
	0.001	0.708	0.967	0.021	0.655	0.022	1.000		
LA	0.685**	0.028	-0.170	0.240	-0.062	-0.053	0.555*		
	0.001	0.908	0.473	0.308	0.794	0.826	0.011	1.000	
UCL	0.483*	-0.119	-0.049	-0.026	-0.040	0.019	0.514*	0.933**	
	0.031	0.617	0.836	0.912	0.866	0.938	0.020	0.000	1.000

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Source: Researchers Own Calculation from the Annual Reports of Sample Banks

Referring to the aforesaid evidence it is found that there is positive correlation between default ratio and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset as well as unclassified loan and loan & advance at 1% level of significance. Moreover, there is positive correlation between unclassified loan and bad debt, classified loan and default ratio, loan & advance and classified loan as well as unclassified loan and classified loan but there is negative correlation between classified loan and return on assets at 5% level of significance of the sample banks over the study period.

Explanation of the Results of Regression Model_2

$H_{0.2.2}$: There is no significant influence of different credit risk management indicators on profitability attribute measured by ROE of the sample banks over the research period

Table 8: Showing the Results of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.500	5.112		0.293	0.775
BD	0.135	0.081	1.691	1.673	0.122
CIR	0.015	0.029	0.131	0.508	0.622
CPLA	-0.796	0.699	-1.041	-1.138	0.279
DR	-0.038	0.254	-0.118	-0.150	0.884
LR	0.108	0.087	0.948	1.238	0.242
CL	-0.057	0.024	-1.084	-2.325	0.040
LA	-0.080	0.061	-3.751	-1.320	0.214
UCL	0.092	0.072	3.259	1.283	0.226

Dependent Variable: ROE

Result of Model Summary: R=0.730, R^2=0.532, Adjusted R^2= 0.192, F ratio=0.240

Source: Researchers Own Calculation from the Annual Reports of Sample Banks

From the above discussion it is found that the coefficients of different indicators of credit risk management such as bad debt, cost income ratio, leverage ratio as well as unclassified loan are positively associated with the profitability attribute like return on equity but not statistically significant moreover cost per loan asset, default ratio, classified loan as well as loan & advance are negatively associated with the return on equity but only classified loan of them have been reported to have significant association with ROE. Furthermore, based on the results of model summary it is visible that the value of R square is 0.532and it indicates that 53.20% of the variability in dependent variable is explained by the independent variables.

With a view to know the correlation between the different credit risk management indicators and the profitability attribute like ROE this research study has been employed correlation matrix and the results in this regard are given in table 9.

Table 9: Showing the Results of Correlation Matrix

	BD	CIR	CPLA	DR	LR	CL	LA	UCL	ROE
BD	1.000								
CIR	0.293 0.210	1.000							
CPLA	0.011 0.964	-0.129 0.587	1.000						
DR	0.807** 0.000	0.304 0.193	-0.017 0.942	1.000					
LR	-0.136 0.567	-0.224 0.341	0.723** 0.000	-0.183 0.441	1.000				
CL	0.679** 0.001	-0.089 0.708	-0.010 0.967	0.510* 0.021	-0.106 0.655	1.000			
LA	0.685** 0.001	0.028 0.908	-0.170 0.473	0.240 0.308	-0.062 0.794	0.555* 0.011	1.000		
UCL	0.483* 0.031	-0.119 0.617	-0.049 0.836	-0.026 0.912	-0.040 0.866	0.514* 0.020	0.933** 0.000	1.000	
ROE	-0.237 0.313	0.118 0.620	0.135 0.569	-0.408 0.074	0.176 0.459	-0.506* 0.023	-0.061 0.797	0.020 0.932	1.000

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)
Source: Researchers Own Calculation from the Annual Reports of Sample Banks

By using the aforesaid discussion, it is evident that the correlation between default ratio and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset as well as unclassified loan and loan & advance is positive at 1% level of significance. In addition, there is positive correlation between unclassified loan and bad debt, classified loan and default ratio, loan & advance and classified loan as well as unclassified loan and classified loan but the correlation between ROE and classified loan is negative at 5% level of significance of the sample banks over the study period.

Explanation of the Results of Regression Model_3

$H_{0.2.3}$: There is no significant impact of different credit risk management indicators on profitability attribute like net profit percentage of the sample banks over the research period.

Table 12: Showing the Results of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-26.897	81.117		-0.332	0.746
BD	-2.537	1.282	-2.322	-1.979	0.073
CIR	-0.129	0.465	-0.083	-0.277	0.787
CPLA	12.227	11.099	1.171	1.102	0.294
DR	1.189	4.031	0.269	0.295	0.774
LR	-1.548	1.387	-0.993	-1.116	0.288
CL	0.413	0.388	0.577	1.066	0.309
LA	1.033	0.968	3.522	1.067	0.309
UCL	-0.968	1.137	-2.511	-0.851	0.413

Dependent Variable: NPP
Result of Model Summary: R=0.608, R^2=0.370, Adjusted R^2= -0.089, F ratio=0.611
Source: Researchers Own Calculation from the Annual Reports of Sample Banks

Taking into consideration the results of coefficients it is visible that the coefficients of different indicators of credit risk management namely cost per loan asset, default ratio, classified as well as loan & advance are positively associated with the profitability attribute like net profit percentage but this relationship is statistically insignificant furthermore the coefficients of bad debt, cost income ratio, leverage ratio as well as unclassified loan are negatively associated with the net profit percentage and the these indicators are reported to have insignificant relationship with the profitability attribute like net profit percentage. Referring to the result of model summary it is evident that the value of R square is 0.370 that signifies that 37.00% of the variability in the dependent variable is explained by the independent variables.

This research has utilized correlation matrix to identify the correlation between the different indicators of credit risk management and profitability attribute like net profit percentage and the results in this regard are given below.

Table 13: Showing the Results of Correlation Matrix

	BD	CIR	CPLA	DR	LR	CL	LA	UCL	NPR
BD	1.000								
CIR	0.293 0.210	1.000							
CPLA	0.011 0.964	-0.129 0.587	1.000						
DR	0.807** 0.000	0.304 0.193	-0.017 0.942	1.000					
LR	-0.136 0.567	-0.224 0.341	0.723** 0.000	-0.183 0.441	1.000				
CL	0.679** 0.001	-0.089 0.708	-0.010 0.967	0.510* 0.021	-0.106 0.655	1.000			
LA	0.685** 0.001	0.028 0.908	-0.170 0.473	0.240 0.308	-0.062 0.794	0.555* 0.011	1.000		
UCL	0.483* 0.031	-0.119 0.617	-0.049 0.836	-0.026 0.912	-0.040 0.866	0.514* 0.020	0.933** 0.000	1.000	
NPR	-0.390 0.090	-0.266 0.258	-0.047 0.844	-0.263 0.262	-0.041 0.863	-0.096 0.688	-0.165 0.488	-0.065 0.786	1.000

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Source: Researchers Own Calculation from the Annual Reports of Sample Banks

It has been obtained from the above evidence that there is positive correlation between default ratio and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset as well as unclassified loan and loan & advance at 1% level of significance. On the other hand, there is positive correlation between unclassified loan and bad debt, classified loan and default ratio, loan & advance and classified loan as well as unclassified loan and classified loan at 5% level of significance of the sample banks over the study period.

Conclusion and Recommendations

For ensuring the developing economy as well as increasing productivity the banking sector is essential through establishing the sound credit risk management practice. Initially this research has tried to know whether there is any significant variation and relationship among the sample banks subject to the different mechanisms of credit risk management as well as profitability attributes and the evidence confirms that there is significant and insignificant variation and relationship in case of different indicators of credit risk management but there is insignificant variation and relationship in case of different attributes of profitability among the sample banks. Moreover, in order to investigate the influence of the different indicators of credit risk management on profitableness attributes, this research study has taken into consideration eight indicators of credit risk management and three attributes of profitability and the findings reveal that there is insignificant impact of the different indicators of credit risk management such as loan & advance, classified loan, unclassified loan, leverage ratio, bad debt, default ratio, cost per loan asset and cost to income ratio on profitability attributes like ROA, ROE and NPP of the sample banks within the study period. With a view to identifying the correlation between the different indicators of credit risk management as well as profitability attributes of the sample banks this research study has constructed correlation matrix and the outcomes report that there is positive correlation between default ratio and bad debt, classified loan and bad debt, loan & advance and bad debt, leverage ratio and cost per loan asset as well as unclassified loan and loan & advance at 1% level of significance. In addition, there is positive correlation between unclassified loan and bad debt, classified loan and default ratio, loan & advance and classified loan as well as unclassified loan and classified loan but there is negative correlation between return on assets and classified loan as well as classified loan and return on equity at 5% level of significant of the sample banks. Considering the study findings, it is recommended that the management of banking sector should increase their credit analysis ability as well as take adequate steps strictly to review the submitted documents of loan applicants about the implementation of prescribed terms and conditions before granting or approval of loans to the desiring customers by the designated authority. Also, banks should take into consideration for introducing the sound overall credit management practice by imposing the effective system.

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