



# CREDIT RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

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## Abstract

*This study has examined the effect of credit risk on financial performance of commercial banks in Nepal. The descriptive and causal comparative research designs have been adopted for the study. The pooled data of 14 commercial banks for the period 2017/18 to 2021/22 have been analyzed using regression model. The regression results revealed that bank size has significant negative effect on bank performance whereas capital adequacy ratio has insignificant but positive effect on bank performance. Credit to deposit ratio is considered as the influencing variables on bank performance. In addition to credit risk indicators, non-performing loan ratio has insignificant and negative effect on bank performance. This study concludes that Nepalese commercial banks need to implement proper credit risk management, boost their efficiency in credit analysis and loan management, and better safeguard their assets in order to reduce the high incidence of credit to deposit ratio along with other determining variables and their negative effects on financial performance.*

**Key words:** Capital Adequacy Ratio, Size, Non-performing loan ratio, Credit to Deposit Ratio, Return on Assets.

## 1. INTRODUCTION

Banks are exposed to various types of risks, which affect their performance and activity. Since the primary objective of banking management is to maximize shareholder wealth, bank managers must assess the cash flows and the risks assumed as a result of allocating their financial resources to various areas of utilization (Alshatti, 2015). Credit risk is one of the most significant risk commercial banks face, given that credit is one of their primary sources of revenue. Therefore, the profitability of banks is influenced by the management of the risk associated with that credit (Li and Zou, 2014). The significance of credit risk management in banks arises from its impact on the banks' financial performance, survival, and expansion.

Credit risk is vital to the bank's profitability because the majority of the bank's revenue is derived from interest-bearing loans and advances (Bhattacharai, 2016). Credit risk is identified by monitoring the financial performance of commercial banks in an effort to limit the effects of credit defaults. The financial well-being of commercial banks is contingent on their credit risk management dynamics. Commercial banks may be acutely aware of the need to identify, measure, monitor, and control credit risk, as well as to ensure that they retain sufficient capital against these risks and are rewarded fairly for risks incurred.

Nepalese commercial banks have struggled over the years for a wide range of reasons; however, the most significant cause of serious banking problems continues to be directly related to the relaxed credit standards for borrowers and counterparties, poor portfolio risk management in which they fail to determine the best asset combination to invest in, which should have a negative correlation, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration.

Some rules have been altered in recent years to enhance financial performance, and some measures have been adopted to mitigate the negative impacts of lending. They have prioritized mergers to increase capital needs and reduce competition. The majority of Nepalese commercial banks are found to grant loans that have not been thoroughly evaluated. This could result in a rise in loan defaults and non-performing loans. Thus, the existing credit risk management processes are unable to compete with Nepal's current financial and economic issues. The viability of this investment in credit risk management for banks must be investigated. This study aims to investigate the effect of credit risk indicators on the financial performance of Nepalese banks. Using a robust sample, this study examines how credit risk affects banks' financial performance, and the findings will serve as the basis for providing policy measures relevant to the various authorities in order to improve the quality of banks' risky assets.

### Rationale of the Study

The findings of this study will aid regulator and policymakers in providing the basis for the regulatory policy framework to mitigate the financial system from the financial crisis and to better appreciate and quantify those credit risks exposures. At the end of this study, it is expected that the study would be of immense benefit to a lot especially the people working in the banking industry such as bankers, financial analysts, the bank managers, internal auditors, the top management of commercial banks and investors. The study will improve not only researcher's scope of understanding credit risk management but also entire public hence gaining exposure to the banking industry. Researchers and academics will benefit from the findings of this study since they will provide a theoretical and empirical framework for understanding how credit risk factors affect financial performance of commercial banks in Nepal.

### Research Gap

Most banks' primary source of income comes from lending to customers, and banks use customer deposits to finance loan repayments. Increases in the volume of credit transactions and the number of people taking out loans in the economy inevitably lead to a broader availability of credit. As the economy and associated credit risk expand, the sector's trend of a growing bank deposit-loan ratio has become more noticeable. When banks aren't able to effectively manage their balance sheets due to credit risk, it can have a negative effect on the institution's goodwill, liquidity, and net profit. Because of the current state of banks' financial performance, customer confidence will continue to fall in the years to come. They might be willing to withdraw their interest towards banking sector. The impact of credit risk on financial performance has been a topic of interest to many scholars since credit risk has been identified as one of the major factors known to impact the financial performance of banks. The overall objective of the study is to investigate the effect of credit risk on the financial performance of 14 commercial banks

Although various research has revealed the effect of credit risk on financial performance of commercial banks in Nepal, as of the time of the study, no studies have examined the effect of multiple credit risk variables on financial performance using fresh data. Therefore, this study aims to fill this gap.

### Research Questions

- i. Is there any relationship between credit risk and financial performance of commercial banks in Nepal?
- ii. Do size, capital adequacy ratio, non performing loan ratio, and credit to deposit ratio have any effect on financial performance (roa) of commercial banks in Nepal?

### Research Objectives

- I. To analyze the relationship between credit risk management and financial performance of commercial banks in Nepal.
- II. To assess the effect of size, capital adequacy ratio, non-performing loan ratio, and credit to deposit ratio on financial performance (roa) of commercial banks in Nepal.

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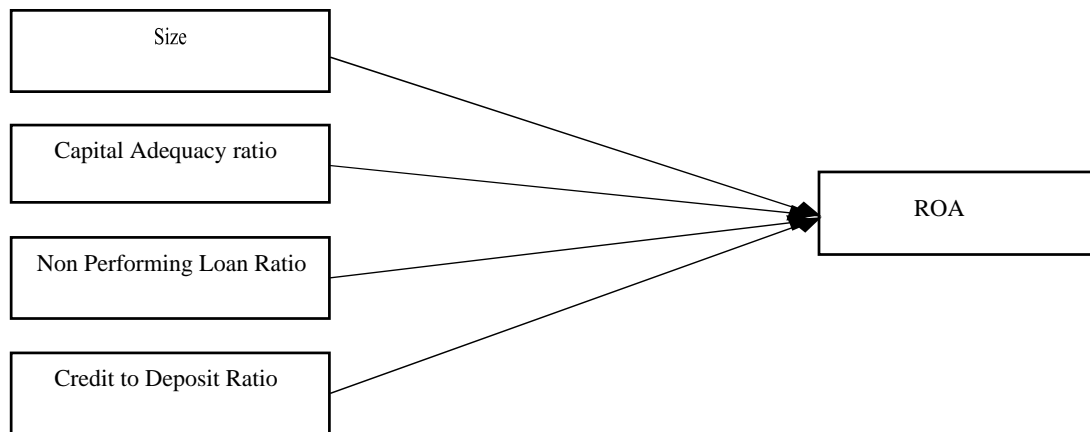
## II. REVIEW OF LITERATURE

### Research Framework

#### Figure 1

Independent Variables

Dependent Variable



Note: Research Framework

## Definition of the variables and justification

### Dependent Variable

The financial performance of the commercial banks is measured by ROA. These variables are used as dependent variables in this study.

### Return on Assets (ROA)

Return on Assets is the ratio of an institution's net income to total assets. It assesses the bank's management's ability to generate profits from scarce resources. The higher the ROA, the more efficient the bank's management (Gizaw, et al, 2015). ROA is a useful measure of a bank manager's performance since it reveals how well a bank's assets are managed to create profits. Furthermore, return on total assets assesses the profitability of the company's whole assets. It calculates earnings from all investments made by owners and creditors.

### Independent Variables

#### Bank size.

Bank size is one of the control variables measured by total assets used evaluating performance of the bank system (Smirlock, 1985). Typically, the size of the bank is used to determine any potential economies or diseconomies of scale in the banking sector. Depending on the size of the financial institution, this variable adjusts for cost variations in product and risk diversification. This is added to account for the assumption that large banks are more likely to have a greater product and loan diversification. The natural logarithm of a bank's total assets is often used as a proxy for bank size in financial literature. In general, it is estimated that the relationship between bank size and profitability is expected to be positive (Smirlock, 1985).

#### Capital adequacy ratio

It expresses the amount of a bank's capital as a percentage of its risk-weighted exposure. It is composed primarily of the most secure sources of financial capital, primarily shareholder equity. In general, banks with a high capital adequacy ratio is really profitable. A bank with adequate capital is also able to sustain potential loan losses, avoiding bankruptcy, insolvency, and failure. Bank capital boosts a bank's ability to raise non-insured debt and so reduces the impact of a decline in deposits on lending. A bank with adequate capital is also able to absorb potential credit losses, avoiding bank run, insolvency, and failure (Bhattarai, 2016). Kurawa and Garba (2014) identified a statistically significant positive association between capital adequacy ratio and financial performance of banks.

#### Non-performing loan ratio

The non-performing loans ratio (NPLR) shows the credit quality of a bank and is used as a measure of credit risk management. NPLR, in particular, demonstrates how banks manage credit risk by measuring the ratio of loan losses in relation to the total loan amount (Hosna et al, 2009). Jha and Hui (2012) observed a negative relationship between the NPL ratio and the ROA, although the coefficient is statistically insignificant.

### **Credit to deposit ratio**

Credit to deposit ratio (CDR) is an useful measure for assessing a bank's liquidity because it evaluates the proportion of funds used in credit compared to the total amount of deposits collected. The higher the CDR, the more effective the bank is at utilizing the funds it has collected (Jha & Hui, 2012). This ratio shows the relationship between loans and advances provided and total deposits collected by the bank. A high ratio shows that the collected deposit is being mobilized more effectively, and vice versa. It should be observed that a high ratio may not be favorable for liquidity. This ratio is calculated dividing loan and advances by total deposits. Bhattarai (2019) observed that credit-to-deposit ratio has no significant effect on the financial performance of the commercial banks in Nepal.

### **Hypotheses**

Based on the reviews and above research framework, following hypotheses are formulated for the study:

H1: There is significant effect of size on financial performance.

H2: There is significant effect of capital adequacy ratio on financial performance.

H3: There is significant effect of non-performing loan ratio on financial performance.

H4: There is significant effect of credit to deposit ratio on financial performance.

### **Empirical Review**

Credit risk plays an important role on banks' profitability since a large chunk of banks' revenue accrues from loans from which interest is derived. However, credit risk may be a serious threat to the performance of banks. Therefore various researchers have examined the impact of credit risk on banks in varying dimensions. The major studies related to the issue of credit risk and bank performance have reviewed as follows:

Bhattarai (2016) examined the effect of credit risk on performance of Nepalese commercial banks. The descriptive and causal comparative research designs have been adopted for the study. The pooled data of 14 commercial banks for the period 2010 to 2015 have been analyzed using regression model. The regression results revealed that non-performing loan ratio had negative effect on bank performance. In addition to credit risk indicators, bank size had positive effect on bank performance. Capital adequacy ratio and cash reserve are not considered as the influencing variables on bank performance. This study concluded that there is significant relationship between bank performance and credit risk indicators. Nepalese commercial banks have poor credit risk management and hence the banks need to follow prudent credit risk management and safeguarding the assets of the banks and protect the interests of the stakeholders

Abiola and Olausi (2014) have analyzed the impact of credit risk management on the commercial banks performance in Nigeria. The panel regression model was employed for the estimation of the model. In this model, Return on Equity (ROE) and Return on Asset (ROA) were used as the performance indicators whereas Non-Performing Loans (NPL) and Capital Adequacy Ratio (CAR) as credit risk management indicators of the commercial banks. The findings have revealed that credit risk management has a significant impact on the performance of the banks in Nigeria. Furthermore, the results have shown that the sampled have poor credit risk management practices; hence the high levels of the non-performing loans in their loans portfolios. Despite the high levels of the NPLs, their profit levels keep rising as an indication of the transfer of the loan losses to other customers in the form of large interest margins.

Mekasha (2001) has investigated credit risk management and its impact performance on Ethiopian Commercial Banks. The researcher used 10 years panel data from the selected commercial banks for the study to examine the relationship between ROA and loan provision, non-performing loans and total assets. The study revealed that there is a significant relationship between bank performance and credit risk management.

Paudel (2012) has examined the impact of credit risk management on the financial performance of commercial banks in Nepal using the financial report of 31 banks for eleven years (2001-2011). The methods of data analysis in the study were descriptive, correlation and multiple regressions. The financial performance indicator used in the study was return on assets (ROA). The predictors of the banks' financial performance used in the study were: default rate, cost per loan assets and capital adequacy ratio. The author asserts that all these parameters have an inverse impact on banks' financial performance. However, among the risk management indicators, default rate (NPLR) is the single most influencing predictor of bank financial performance in Nepal whereas cost per loan assets is not significant

predictors of bank performance. The author concludes that credit risk management is crucial on the bank performance since it have a significant relationship with bank performance.

Kurawa and Garba (2014) have assessed the effect of credit risk management (CRM) on the profitability of Nigerian banks with a view to discovering the extent to which default rate (DR), cost per loan assets (CLA), and capital adequacy ratio (CAR) influence banks' profitability (ROA). The secondary data from the annual reports and accounts of quoted banks during the period of 2002 to 2011 were used for analysis. The results of the random-effect generalized least square (GLS) regression techniques reveal that default rate (DR) ratio and cost per loan assets (CLA) ratio have indicated significant positive relationship with the dependent variable, ROA. In respect of the control variable such as LOAN has positive relationship with ROA whereas AGE has negative association with ROA. The authors conclude that credit risk management components have significant positive effect on the profitability of Nigerian banks.

Alshatti (2015) has examined the effect of credit risk management on financial performance of the Jordanian commercial banks during the period 2005-2013 using capital adequacy ratio, credit interest/credit facilities ratio, provision for facilities loss/ net facilities ratio, leverage ratio and non-performing loans/gross loans ratio as independent variables. The dependent variables represent the profitability measured by ROA and ROE. The author concludes that all the credit risk management indicators used in the study have significant effect on the financial performance of the Jordanian commercial banks.

Bhattarai (2019) investigated the effect of credit risk on the financial performance of commercial banks in Nepal. The balance panel data of ten commercial banks with 160 observations for the period of 2001 to 2016 have been used for the analysis. The regression results revealed that capital adequacy ratio (CAR), non-performing loan ratio (NPLR), and management quality ratio (MQR) have significant relationship with the financial performance (ROA) of the commercial banks in Nepal. Similarly, credit to deposit ratio (CDR) and risk sensitivity (RS) have no significant impact on the financial performance of the commercial banks in Nepal.

Chhetri (2021) investigated the effect of credit risk on the financial performance of commercial banks in Nepal. The panel data of seventeen commercial banks with 85 observations for the period of 2015 to 2020 have been analyzed. The regression model revealed that non – performing loan (NPLR) has negative and statistically significant impact on financial performance (ROA). Capital adequacy ratio (CAR) and bank size (BS) have negative and statistically no significant impact on financial performance (ROA). Credit to deposit (CDR) has positive but no significant relationship with the financial performance (ROA) and the study concluded that the management quality ratio (MQR) has positive and significant relationship with the financial performance (ROA) of the commercial banks in Nepal. The study recommends that, it is fundamental for Nepalese commercial banks to practice scientific credit risk management, improve their efficacy in credit analysis and loan management to secure as much as possible their assets, and minimize the high incidence of non-performing loans and their negative effects on financial performance.

### III. RESEARCH METHODOLOGY

#### Research Design

This study examines the effect of credit risk on the financial performance of commercial banks in Nepal over the period of 5 years (2017/18-2021/22). The reason behind choosing the latest five year period is to include the afresh data in the analysis and as the data are from pooling of cross-sectional and time series, thus it seems sufficient to generate data for the analysis. This study has adopted descriptive and causal comparative research design. Size, Capital Adequacy Ratio (CAR), Non Performing Loan Ratio (NPLR) and Credit to Deposit Ratio (CDR) are the independent variables in this study, while Return on Asset (ROA) is the dependent variable.

There are altogether 26 commercial banks as per the annual report of Nepal Rastra Bank 2022. Therefore, population of this study is all 26 commercial banks of Nepal. Out of them, 70 observations from 14 commercial banks whose five fiscal year i.e. FY 2017/18 to FY2021/22 has been taken as sample for the same purpose. The banks selected for the study are: Citizens Bank International Ltd., Everest Bank Ltd., Global IME Bank, Himalayan Bank, Kumari Bank, Nepal Bank, Nepal Investment Bank, Nepal SBI Bank, NIC Asia Bank, NMB Bank, Prime Bank, Rastriya Banijya Bank, Siddhartha Bank and Standard Chartered Bank. Judgemental sampling method is used in choosing the banks for the study. The required data are retrieved from the annual report of respective banks.

#### Methods of Data Analysis

Normality of the data is necessary in analysis, so Jarque- Bera test is done for the normality of data. All variables are free of multicollinearity at all levels according to the results of the VIF test. Breusch-Pagan Langrange Multiplier test is used to select a suitable model for the data analysis.

The model for this study:

$$ROA = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ CAR} + \beta_3 \text{ CDR} + \beta_4 \text{ NPLR} + \varepsilon \dots\dots\dots 1$$

Where,

$\beta_0$ = Constant Term

$\beta_1, \beta_2, \beta_3$  and  $\beta_4$  =Regression coefficients

ROA= Return on Assets (Dependent Variable)

SIZE= Firm size measured by Natural Logarithm of Total Asset

CAR= Capital Adequacy Ratio

CDR=Credit to Deposit Ratio

NPLR=Non Performing Loan Ratio

E= Error term



IV. **RESULT AND ANALYSIS**

**Descriptive Statistics**

This section provides an overview on descriptive statistics for selected variables. This section focuses on the movement of the data with respect to the central tendency. The following table summarizes the descriptive statistics for both the dependent and independent variables. The statistical mean, median, maximum and minimum values, standard deviation, and number of observations reveal the features of the variable.

*Table 1: Descriptive data summary of variables*

Particulars	ROA	Size	CAR	CDR	NPLR
Mean	1.4914	25.8646	13.9782	84.9788	1.32742
Median	1.4000	25.8889	13.4250	87.4450	1.08000
Maximum	2.6100	26.6108	22.9900	96.0800	4.75000
Minimum	0.7000	25.0762	11.2700	57.4500	0.06000
Std. Dev.	0.4185	0.38418	1.98883	7.56894	1.05745
Observations	70	70	70	70	70

*Source: Author's computation from E-views 12 SV, 2022*

From table 1, it can be seen that the sample commercial banks had a positive mean of return on assets (ROA) of 1.4914 with a standard deviation of 0.4185 for the fiscal year 2017/18-2021/22. Moreover, there is a less variation in the values (minimum = 0.7000 and maximum

= 2.6100) of ROA. Among the explanatory variables, Size has a minimum standard deviation which indicates the variation of this variable within a close range around its mean value between minimum and maximum. Furthermore, there is a noticeable variation in the values of NPLR. The other explanatory variables, such as CAR and CDR have a standard deviation indicating a broader range of variation from their respective means. It is worth mentioning that a wide range of variation in CDR is observed from the data set with the minimum and maximum values of 57.4500 and 96.0800 and PE with the minimum and maximum values of 11.2700 and 22.9900 respectively. This suggests that the credit risk factors towards firms' financial performance vary broadly.

### Normality Test

Table 2: Normality Test of variables

Normality Test	obs. R <sup>2</sup>	P-Value	Decision
Jarque-Bera Test	0.96855	0.06161	Residuals are normally distributed.

Source: Author's computation from E-views 12 SV, 2022

Here, Jarque- Bera Test is used to check the normal distribution of data. The probability of the Jarque-Bera 0.06161 > 0.050 proved that data are normally distributed.

### Correlation Analysis

A strength correlation study is performed to better understand the relationship between two separate variables. The correlation coefficient employs a value between -1 and +1. The closer it is to +1 or -1, the greater its implication about the relationship. A value closer to 0 suggests a weaker relationship in either direction. When the value is 0, no relationship between the specified variables is assumed. If there is a minus sign, the relationship is inverse, and if there is a plus sign, the relationship is direct. It is not required, although it does imply a cause-and-effect relationship.

Table 3: Correlation Matrix of Variables

Correlation Probability	ROA	SIZE	CAR	CDR	NPLR
ROA	1.0000 -----				
SIZE	-0.4579*** (0.0001)	1.0000 -----			
CAR	0.2925** (0.0140)	-0.3038** (0.0106)	1.0000 -----		
CDR	-0.3613*** (0.0021)	0.0338 0.7808	-0.4085*** (0.0004)	1.0000 -----	
NPLR	-0.0151 0.9009	0.3155*** (0.0078)	-0.1617 0.1809	-0.4171*** (0.0003)	1.0000 -----

Source: Author's computation from E-views 12 SV, 2022

\*\*\* means the correlation is significant at 1% level, \*\* means the correlation is significant at 5% level, the number in parenthesis indicates the p value.

The correlation coefficients presented in the table 4 are based on the data from 14 commercial banks for the period of 2017/18 to 2021/22. ROA refers to return on assets, SIZE refers to firm size, CAR refers to capital adequacy ratio, CDR refers to credit to deposit ratio and NPLR refers to non-performing loan ratio.

The table 4 shows positive relationship of ROA with capital adequacy ratio whereas negative relationship with size, credit to deposit ratio and non-performing loan ratio. Firm size is seen to have positive relationship with credit to deposit ratio and non-performing loan ratio. Also, firm size is seen to have negative relationship with capital adequacy ratio. Similarly, capital adequacy ratio has negative relationship with credit to deposit ratio and non-performing loan ratio. Also, credit to deposit ratio has negative relationship with non-performing loan ratio.

### VIF Test

Variance Inflation Factors (VIF) test is employed to diagnose multi collinearity between the explanatory variables. For the same purpose, a VIF test has been conducted in this study.

Table 4: Variance inflation factor analysis of variables

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
SIZE	0.014704	5528.554	1.202112
CAR	0.000680	76.18816	1.490546
CDR	5.33E-05	218.0122	1.691601
NPLR	0.002513	4.044671	1.556469
C	10.76703	6050.103	NA

Source: Author's computation from E-views 12 SV, 2022

A mean VIF score greater than 10 is generally considered to be an indication of multi collinearity among the explanatory factors. The results of the VIF test indicate that the centered VIF values are lower than 10. According to this, multi collinearity among the variables is not present. As a consequence of this, it is acceptable for all of the variables to be kept in the regression model of this research study.

### Breusch Pagan test

Here, the regression is run to use the Breusch-Pagan test for making the decision on which method is applicable to use according to the value of the data. The purpose of regression analysis is to predict and estimate the effect of the independent variables on the dependent variable.

Table 5: Breusch-Pagan Langrange Multiplier Test

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.140945	21.68731	21.82826
	(0.7073)	(0.0000)	(0.0000)

Source: Author's computation from E-views 12 SV, 2022

Breusch-Pagan Langrange Multiplier test is used to select a suitable model for Panel data analysis.

The test has the following hypothesis:-

H0: Pooled OLS method is better than Fixed Effect and Random Effect Model.

H1: Pooled OLS method is not better than Fixed Effect and Random Effect Model.

Here, the p-value is 0.7073 which is higher than 0.05. So, Null hypothesis is accepted. It means that Pooled OLS method is better than Fixed Effect and Random Effect Model.



**Panel OLS Regression Analysis**

In the regression model, return on assets (ROA) is considered as dependent or explained variable. The SIZE, CAR, CDR and NPLR are the independent or explanatory variables.

*Table 6: Output of Pooled OLS Regression*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	-0.4739	0.1212	-3.9081	0.0002
CAR	0.0029	0.0260	0.1127	0.9105
CDR	-0.0193	0.0073	-2.6497	0.0101
NPLR	-0.0085	0.0501	-0.1705	0.8651
C	15.363	3.2813	4.6819	0.0000
R-squared	0.3300	Adjusted R-squared	0.2888	
F-statistic	8.0053	Durbin-Watson stat	1.5776	
Prob(F-statistic)	0.0000			

Source: Author's computations from E-views 12 SV, 2022

For 70 observations, 14 commercial banks from 2017-2021, as illustrated in the Table 6 for financial performance, among the explanatory factors: Size and Credit to deposit ratio is found to have statistically significant and negative effect on ROA, whereas Capital adequacy ratio and non performing loan ratio is found to be statistically insignificant effect on ROA.

There is a strong negative association between size and financial performance of commercial banks but, it has significant relationship with ROA. The result is in contrast with findings of (Bhattarai, 2016), (Smirlock, 1985) where they found positive association between bank size and bank performance. The result indicates that, capital adequacy ratio is positive but statistically insignificant. Capital adequacy ratio was expected to have a positive relationship with bank's performance. However, the finding of this study does not support the hypothesis that capital adequacy ratio has a significant effect on bank performance. The result is in support to the findings of (Bhattarai, 2016) but contrast to literature of (Kurawa & Garba, 2014). The result indicates that credit to deposit ratio is negative and significant. The sign of the coefficient is as unusual because theoretically credit to deposit ratio was expected to have a positive relationship with a performance of the commercial banks. The result is in support to the findings of (Bhattarai, 2019). Non performing loan ratio exerts negative effect on the financial performance of the commercial banks. The result is in support to the findings of (Bhattarai, 2016), (Bhattarai, 2019), (Jha & Hui ,2012) who found the negative effect of non-performing loan ratio on the financial performance of banks.

The null form of the test is  $DW > R^2$ , which states that the Durbin-Watson result should not be greater than the R-squared figure. As seen in the analysis results,  $DW = 1.5776$  and  $R^2 = 0.3300$ , rejecting the null hypothesis, indicating that the regression estimate result is valid. R-squared for the regression is 0.3300 which implies that the variables in the current study can explain 33.00 percent of the variations in the ROA can be explained by explanatory variables and remaining 67 percent of variations of the ROA under investigation can be explained by other factors not included in the model. Furthermore, regarding the statistical significance of the model it's P value=0.0000 is less than 5% level, indicating that the estimated model has a high statistical significance, which increases the model's reliability and validity.

**Summary of Hypotheses**

The effect of independent variables on the dependent variable has been analyzed, and the results of hypothesis testing have been determined. They are summarized and illustrated in the table below:

*Table 7: Summary of hypotheses*

Hypothesis	P-Value	Remarks
H1: There is significant effect of size on financial performance.	0.0002	Accept

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H2: There is significant effect of capital adequacy ratio on financial performance.	0.9105	Reject
H3: There is significant effect of credit to deposit ratio on financial performance.	0.0101	Accept
H4: There is significant effect of non performing loan ratio on financial performance.	0.8651	Reject

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Source: Authors' Own Calculation

## V. Conclusion

In this study, different credit risk variables are employed to determine the effect on financial performance of commercial banks in Nepal. This study uses the pooled OLS technique to determine whether there is significant effect exist between Size, CAR, CDR, NPLR and financial performance (ROA). Based upon findings, Correlation analysis is used to investigate the existence of relationship between Size, CAR, CDR, NPLR and financial performance (ROA). It uses the VIF test to check the multi-collinearity in the model. Similarly, it has used Breusch-Pagan LM test for making the decision on which method is applicable to use according to the value of the data employed and Jarque-Bera test to check the normality of the data.

The findings of this study indicate that the sampled commercial have poor credit risk management practices. This is evidenced by the insignificant result of 'capital adequacy ratio' and the negative coefficient of 'non-performing loan ratio'. The insignificant result of 'capital adequacy ratio' indicates that capital adequacy ratio could not be regarded as the influencing variable for bank performance.

Moreover, the negative coefficient of non performing loan ratio confirms the negative effect on bank performance. NPLR, in particular, indicates how banks manage their credit risk because it defines the proportion of loan losses amount in relation to total loan amount. All these evidences support that Nepalese commercial banks have poor credit risk management.

In addition to credit risk indicators, bank performance is also affected by its size. Commercial banks in Nepal have a generally weak approach to credit risk management. Thus, these financial institutions must practice sound credit risk management in order to preserve their own assets and the interests of their stakeholders. According to the findings, Nepalese commercial banks need to implement proper credit risk management, boost their efficiency in credit analysis and loan management, and better safeguard their assets in order to reduce the high incidence of credit to deposit ratio along with other determining variables and their effects on financial performance.

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