Impact of Non-Performing Loan and Macro- Economic Variables on Financial Performance of Commercial Banks in Nepal

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Abstract

This study aims to measure the impact of non-performing loan and macro-economic variables on financial performance of commercial banks in Nepal. The dependent variables are return on assets, return on equity and capital adequacy ratio which measure the financial performance and independent variables are NPL, GDP growth, inflation and interest rate measure the macro-economic variables. Primary and secondary data were collected through the structured questionnaire and annual reports of commercial banks and economic survey respectively. Convenience sampling was used to select the commercial banks located in Pokhara for collecting primary data of 80 respondents. Stratified simple random sampling was used to select 10 commercial banks (three JV and seven NJV banks) out of total population of 27 commercial banks for a time period of 2073/74 to 2077/78 for collecting secondary data. Multiple regression analysis, correlation analysis and descriptive statistics were used in analyzing the data. The primary data analysis concluded that most of the respondents have knowledge about the provision of non-performing loan according to NRB directives among bank staffs. The questionnaire survey shows majority of respondents agree with the statement macro-economic variables of non-performing loan affect the financial performance. The analysis of secondary data in correlation analysis reveals that the relationship between ROA, ROE and CAR with NPL is negative and insignificant. Similarly, the relationship between macro-economic variables with NPL is insignificant for JV and NJV banks. The relationship between ROA and ROE with GDP growth and interest rate is positive and significant for JV banks. The positive effect of GDP growth and interest rate on profitability indicates that increase in GDP growth and interest rate ultimately increases financial performance of JV banks. The regression analysis reveals that relationship between NPL with ROE is negative and significant for NJV bank which implies that increase in NPL decreases ROE. Likewise, this study also helps the future researchers to conduct future research on impact of NPL on firm performance to extend with new data and sample.

Keywords: *Non-performing loan, GDP growth, inflation, interest rate, ROA, ROE and capital adequacy ratio.*

Introduction

Loan becomes non-performing when it cannot be recovered within certain stipulated time that governed by some respective laws. So, non-performing loan is defined from the landing institution side. Loan becomes non-performing if it is used in different way than

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that for which it has been taken. Commercial bank is one of the major components of every economy because they collect dispersed saving and provide loanto the various sector according to the need of client (Baral, 2016).

Non-performing assets (NPAs) or non-performing loan (NPLs) is a burning problem of Nepalese financial sector. In the present banking scenario, NPL is being more headaches for the banking sector. If credit allowed by banks and financial institution turns bad, it crates NPL. NPL percentage in assets portfolio shows poor health of bank. The performance of any financial institution is greatly measure with the coverage of NPL in the particular institution. Since, the prime source of income forthe bank are generated through income from loan and advances, increase in non- performing loan lead bank in verge of collapse (Nepal Rastra Bank, 2010).

Banks not only raise assets through new deposits but they also reuse the assets which they get from the borrowers. With increase in the NPL, funds are not easily reused causing a decrease in the lending capacity of banks thereby decreasing the income of banks. The profits and NPL are inversely proportional. With increase in NPL, there will be decrease in profits because the banks do not receive the payments and along with this the banks also need to create bigger provisions according to the type of NPL (Wadhwa & Ramaswami, 2020).

Macroeconomics is a branch of economics that studies how an overall economy, the market or other systems that operate on a large scale behaves. Macro-economic studies economy, wide phenomena such as inflation, price levels, rate of economic growth, national income, gross domestic product (GDP), and changes in unemployment. Macroeconomics attempts to measure how well an economy is performing, to understand what forces drive it, and to project how performance can improve. Macroeconomics deals with the performance, structure, and behavior of the entire economy, in contrast to microeconomics, which is more focused on the choices made by individual actors in the economy like people, households, industries etc. (Bhusal, 2022).

After analyzing bank specific variables and macroeconomic variables investor may make a good portfolio of investment. Knowledge of such factors and their possible impacts on share prices is highly appreciable on the part of both banks and investors. Profitability conveys information to the outside world about the current and future performance of banks. Consideration of such factors by investors would give support in making good decision to invest in stock that yield good returns. Srinivasan (2012) noticed that understanding the impact of various fundamental variables on profitability is very much helpful to investors as it well help them in taking portfolio investment decision.

After liberalization policy in 1980s, the nations have made some progress and prudent regulatory measure have been introduced by central bank of country. However, actual performance of the financial institution couldn't improve. Financial institution in Nepal have been facing several problems like lack of smooth functioning of economy, different policies and guidelines on Nepal Rastra Bank, political instability, security problems, poor information system, over liquidity caused by lack of good lending opportunity, increasing NPL etc. In the present context when Nepalese commercial banks are facing the problem of increasing NPL, more amounts have to be allocated for loan loss provision (Dahal, 2002).

The following research questions are formulated as per the statement of the problem. The study tends to find answer of these research questions:

- What is the knowledge about the provision of non-performing loan according to NRB directives among bank staffs?
- What is the current status of non-performing loan in Nepalese commercial banks?
- What is difference in impact of non-performing loan on financial performance among joint and non-joint venture banks?
- Is there any relationship exists between macroeconomic variables with non-performing loan and financial performance?

Literature Review

Louzis et al. (2012) analyzed the macroeconomic and bank specific determinants of non-performing loans in the banking sector of Greece using quarterly data of 2003- 2009. In this study the macroeconomic variables, specifically the real GDP growth rate, the unemployment rate, the lending rates and public debt were considered as the explanatory variable to effect on the level of NPLs. In case of banks specific variables performance (measured by ROE), efficiency and category of loan were the major explanatory variables to affect non-performing loan.

Bhattarai (2015) conducted a study on "Determinants of Non-performing Loan in Nepalese Commercial Banks". The non-performing loans of financial institutions are considered as a significant issue in context of Nepal for last few decades. The main aim to of this article is to identify the impact of macroeconomic variables and bank specific variables on the non-performing loan of the commercial banks in Nepal. The study found that macroeconomic variables such as the real effective exchange rate have significantly negative impact on non-performing loan. The impact of GDP growth rate was found to be insignificant in this study. One year lagged inflation rate has significant positive impact on non-performing loan. The banks which charge relatively higher real interest rate have higher non-performing loan.

Pokhrel (2016) studied "A study of Non-Performing Assets in development banks in Nepal (with reference to Kamana Bikash Bank Limited and City Development Bank Limited)". The main objective of the study is to find out portion of non-performing assets of selected development bank in their loan portfolio. The result of the study revealed that there is no alarming situation of NPA in the sampled banks till the dateof study. Non-performing loan of KBB and CDB are also increasing trend. The trend of increment is fair for KBB but is rapid in CDB especially in the last F/Y of analysis.

Bhattarai (2018) research aims to investigating the "Effect of Non-performing loan on profitability of Nepalese commercial banks". The major objective of this study is to assess the impact of non-performing loan on profit of commercial banks. The study concluded that there is no relationship of ROA with NLTTLR, PLLCR and TLTTAR.There is no statistically significant relationship of ROE with PLLCR and negative significant relationship of TLTTAR with PMR. It can be analyzing that though total loan portfolio increases.

Panta (2018) conducted a study on "Non-performing loans & bank profitability: study of joint venture banks in Nepal". The main objective of the study investigates the bank-specific & macroeconomic determinants of non-performing loans as well as its impact on profitability. The study found the net interest margin has a positive and significant effect while the bank size has a negative and significant relationship. However, the macroeconomic variables do not relate. The increase in the non- performing loan erodes the interest income reducing the profitability and the asset sizeincreases so do the bad management practices as there are huge operations to be handled by the bank, therefore hindering the profitability.

Sharma (2019) had conducted a thesis entitled on "Non-performing loan and its impact on performance of Nepal Bank Limited". The main objectives of his research were: to study the trend and composition of non-performing assets of the bank, to analysis the major profitability indicators of banks, to access the relationship between the profitability and the non-performing assets of the banks, to study the impact of non-performing assets in the profit of commercial banks and to provide appropriate suggestions. The major findings were: the ratio of NPL and Loan and Advance is in decreasing trend, it revels the bank is going to control NPL ration continuously, the fluctuating trend of Net profit is too much bad signal. It seems that the bank is facing high operational loss. If the bank does not try to reduce the operational loss the bank will be failure in near future and trend analysis of total loan and advances, total assets and total deposit are increasing trend. Increasing trend of total loan and advance is good for banking sector. It will increase and investing this fund in productive sector.

Bismark (2021) conducted a study on "Non-Performing loans and bank's profitability: Empirical evidence from Ghana". The main purpose set for this investigation is to examine factors that affect Non-performing loans and profitability of Banks in Ghana. The study concludes that interest rate has a significant positive relation with NPL. Annual inflation has a significant and inverse relation with NPL. The researcher found that there is no significant relationship with NPL and Bank profitability (ROA & ROE). The analysis of the data also revealed that the NPLs of the studied banks have been enhancing and showing an increase in trend from 2010 to 2015.

Gurung (2021) conducted a study on "Impact of Non-Performing Assets on Profitability of Commercial Banks in Nepal". The main objective of this study is to examine the level of non-performing loan/assets and its impact on the profitability of selected sample banks. The study found that NPA has low level of positive correlationand negative impact with profitability variables. Loan loss provision was also foundto have low positive correlation and negative impact on profitability variables.

Acharya (2022) investigated on "Impact of Non-Performing Assets on Profitability of Commercial Banks in Nepal". The main objective of the study is to assess the non- performing assets of the sample commercial banks in their profitability. Increasing NPA has now become the major issue for every commercial bank. Every bank now has put the NPA management under the top priority and is functioning to reduce the major part of it from the assets side of their balance sheet. The major conclusion of this study is that there is no significant impact of non-performing assets on the profitability of sample banks. This study also concludes that all the sample banks are maintaining the NPA ratio below five percent which may be due to stringent policy ofregulatory body and prudent credit risk management of sample banks. On the basis of the study, net profit of BOK is comparatively better than other sampled banks and NABIL is capable of maintaining low level of NPL and higher ROA, ROE than other sampled banks which ensures for better and prudent management of NABIL.

Bhusal (2022) conducted research paper on "Impact of Macroeconomic and firm specific variables on profitability of Nepalese commercial banks". The main purpose of this study is to analyze the effect of bank specific and macroeconomic variables bank performance. The study conclude that there is a significant impact of bank size on bank profitability in the ROE and ROA but insignificant in the NIM regression analysis and Non-performing loans has significant impact on bank's profitability in ROE, ROA and NIM regression. In this study there is a significant impact of leverage on bank's profitability and inflation in the regression analysis of ROE, ROA and insignificant impact in the regression analysis of NIM. In this research there is significant impact of GDP on banks profitability in ROE regression analysis but ROA and NIM has insignificant in regression analysis and significant impact of interest rate on profitability in ROE, ROA and NIM regression.

Methodology

Research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objective.

Research Design

This research would follow both descriptive and causal comparative research design.

Population and Sample and Sampling Design

Convenience sampling was used to select the commercial banks located in Pokhara valley for collecting the primary data of 80 respondents. For selecting the sample banks, stratified simple random sampling was used to select 10 commercial banks (three joint venture and seven non joint venture banks) out of total population of 27 commercial banks for a time period of 2073/74 to 2077/78 for collecting secondary data. In this study, the total commercial banks were divided into two groups namely joint venture bank and non-joint venture banks and name is drawn alphabetically.

Nature and Sources of Data, and the Instrument of Data Collection

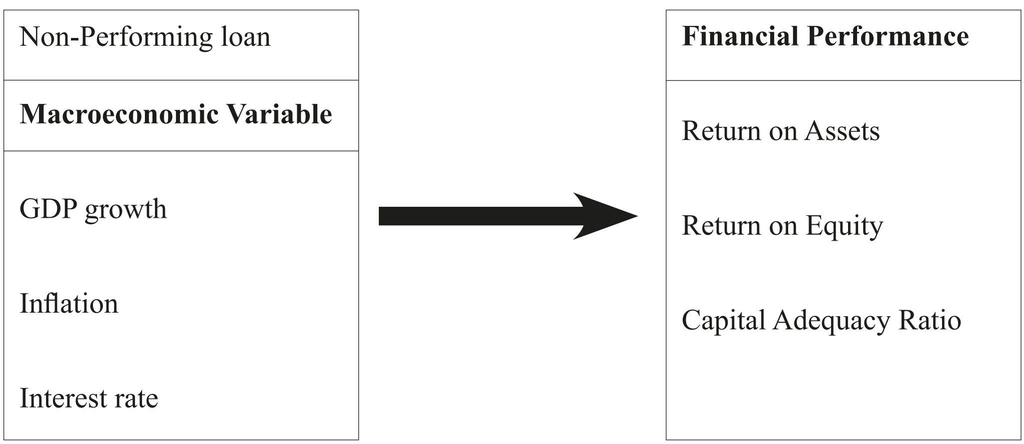
Quantitative nature of data was used in this study. Primary and secondary sources of data were used in this study. For collecting primary data, the questionnaire survey has been conducted to record the perceptions and opinion of respondents regarding knowledge about the provision of non-performing loan. The secondary data are taken from the annual reports of respective banks in order to analyze the financial performance (ROA, ROE and CAR) and NPL ratios. Data of independent variables GDP growth, inflation and interest rate was obtained from economic survey of study period. For collection of primary data, a structured questionnaire is utilized as instrument consisting of yes/no questions and multiple choice questions.

Methods of Analysis

The data collected were analyzed through different software's like SPSS, MS-Excel. Under descriptive statistic; mean, standard deviation, maximum and minimum values of the variables under study were calculated. For measuring the relationship between variables correlation analysis and multiple regression analysis has been used.

Figure 1

Research Framework



Results

Respondents' Profile

The respondents profile along with their personal characteristics is presented in following section.

Table 1

Respondents Profile

Respondents' Profile	Number	Percentage
Position of Employees		
Entry level	5	6.25
Assistant	29	36.25
Officer	46	57.5

Total	80	100
Gender		
Male	43	53.75
Female	37	46.25
Total	80	100
Age		
Below 20	5	6.25
20-30	38	47.5
30-40	28	35
40 and above	9	11.25
Total	80	100
Bank Type		
Joint venture Bank	36	45
Non joint venture Bank	44	55
Total	80	100

Source: Field Survey, 2022

Table 2

Determinants of Non-Performing Loan of Commercial Banks

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N (%)
Is the provision of present NRB directives sufficient to loan classification?	38 47.5%	27 33.75%	9 11.25%	4 5%	2 2.5%	80 100%
Do you think that macro-economic variables of non-performing loan affect the financial performance?	54 67.5%	23 28.75%	3 3.75%	0 0%	0 0%	80 100%

Source: Field Survey, 2022

Table 3

Respondent's Perception on Non-Performing Loan

Statements	Yes	No	No Idea	N (%)
Do you have any knowledge about the provision of non-performing loan according to NRB directives?	73 91.25%	5 6.25%	2 2.5%	80 100%
Do you have any idea about the percentage of NPLs in relation to total overdue of the bank at the corporate level?	68 85%	6 7.5%	6 7.5%	80 100%
Do you think that the effective NPL mechanism is linked towards the better performance of banks in Nepal?	75 93.75%	3 3.75%	2 2.5%	80 100%
Do you think that the provision regarding restructuring and rescheduling of loan is effective for loan recovery?	65 81.25%	11 13.75%	4 5%	80 100%

Source: Field Survey, 2022

Table 4

Areas for making loan accounts less Non-Performing

Options	No. of Responses	Percent (%)
Selection of activity	19	23.75
Documentation	17	21.25
Monitoring	23	28.75
Study of inspection data	16	20
Any other method of reducing NPLs	5	6.25
Total	80	100

Source: Field Survey, 2022

Table 5

The main reasons of NPLs

Options	No. of Responses	Percent (%)
Diversification of Funds	26	32.5
Lack of supervision	28	35

Mismanagement	14	17.5
Lack of follower	5	6.25
Problem in marketing	2	2.5
Any other reason	5	6.25
Total	80	100

Source: Field Survey, 2022

Table 6

Methods for reduction of NPLs

Options	No. of Responses	Percent (%)
By compromise/settlement	24	30
By initiation of legal action	24	30
By claiming for Collateral	7	8.75
By collective Bankers effort	25	31.25
Total	80	100

Source: Field Survey, 2022

Table 7

Methods of preventing loan from becoming NPLs

Options	No. of Responses	Percent (%)
Watching pre-sanction appraisal	2	2.5
Credit policy	3	3.75
Risk Perception	5	6.25
Post sanction monitory	4	5
Periodical Review	3	3.75
Examination of financial statement	2	2.5
All of the above	61	76.25
Total	80	100

Source: Field Survey, 2022

Table 8

More affected loan by Covid-19

Options	No. of Responses	Percent (%)

Business Loan	35	43.75
Hire purchase Loan	4	5
Home Loan	2	2.5
Agriculture Loan	2	2.5
All of the above	36	45
Any other	1	1.25
Total	80	100

Source: Field Survey, 2022

Table 9

Descriptive Statistics of variables of NJV and JV Banks

Variables	NJV Banks				JV Banks			
	Min.	Max.	Mean	S.D.	Min.	Max.	Mean	S.D.
ROA	0.01	2.78	1.30	0.57	0.89	2.69	1.77	0.48
ROE	4.94	22.73	1.28	4.99	8.56	22.41	1.50	3.82
CAR	11.16	20.32	1.395	2.378	12.48	15.75	13.836	1.10
NPL	0.06	4.55	1.74	1.235	0.12	2.68	0.879	0.77
Variables	Min	Max	Mean	S.D.				
GDP growth	-2.1	8.6	4.86	4.24				
Inflation	4.2	6.2	4.78	0.80				
Interest rate	8.43	12.20	10.97	1.55				

Source: Output of SPSS, 2022

Table 10

Individual Bank Mean NPL

S.N.	Banks	Average NPL
1	Citizens Bank International Limited	1.58
2	Civil Bank Limited	2.37
3	Global IME Bank Limited	1.22
4	Machhapuchchhre Bank Limited	0.47

5	Prabhu Bank Limited	3.42
6	Nepal Bank Limited	2.77
7	NIC Asia Bank Limited	0.43
8	Nabil Bank Limited	0.78
9	NMB Bank Limited	1.67
10	Everest Bank Limited	0.19

Source: Output of SPSS, 2022

Table 11

Pearson Correlation Analysis (N=35) for NJV Banks

Variable	ROA	ROE	CAR	NPL	GDP growth	Inflation	Interest rate
ROA	1	0.317	-0.260	-0.071	0.357*	-0.236	0.306
ROE	0.317	1	-0.168	-0.250	0.358*	-0.230	0.181
CAR	-0.260	-.168	1	0.105	0.074	-0.007	0.105
NPL	-0.071	-0.250	0.105	1	0.112	-0.028	0.157
GDP growth	0.357*	0.358*	0.074	0.112	1	-0.935**	0.395*
Inflation	-0.236	-0.230	-0.007	-0.028	-0.935**	1	-0.148
Interest Rate	0.306	0.181	0.105	0.157	0.395*	-0.148	1

**Correlation is Significant at 1% level of significance; *Correlation is Significant at 5% level of significance.

Source: Output of SPSS, 2022

Table 12

Pearson Correlation Analysis (N=15) for JV Banks

Variable	ROA	ROE	CAR	NPL	GDP growth	Inflation	Interest rate
ROA	1	0.963**	-0.213	-0.307	0.637*	-0.480	0.634*
ROE	0.963**	1	-0.353	-0.346	0.613*	-0.449	0.524*
CAR	-0.213	-0.353	1	0.409	0.051	-0.029	0.217
NPL	-0.307	-0.346	0.409	1	-0.301	0.286	-0.268

GDP growth	0.637*	0.613*	0.051	-0.301	1	-0.935**	0.395
Inflation	-0.480	-0.449	-0.029	0.286	-0.935**	1	-0.148
Interest rate	0.634*	0.524*	0.217	-0.268	0.395	-0.148	1

**Correlation is Significant at 1% level of significance; *Correlation is Significant at 5% level of significance.

Source: Output of SPSS, 2022

Table 13

Estimated Relationship between NPL, Macroeconomic Variables and ROA

	NJV Banks			JV Banks		
	Coefficient	t value	Sig.	Coefficient	t value	Sig.
Constant	-2.850	-1.302	0.203	-0.858	-0.370	0.719
NPL	-0.084	-1.110	0.276	-0.043	-0.308	0.764
GDP growth	0.188***	1.886	0.069	0.091	0.856	0.412
Inflation	0.735	1.510	0.141	0.179	0.344	0.738
Interest rate	-0.011	-0.116	0.908	0.125	1.183	0.264
R^2	0.236			0.421		
Adjusted R^2	0.134			0.586		
F	2.32		0.80	3.543		0.48

Significant at 5% level of significance; * Significant at 10% level of significance.

Source: Output of SPSS, 2022

Table 14

Estimated Relationship between NPL, Macroeconomic Variables and ROE

	NJV Banks			JV Banks		
	Coefficient	t value	Sig.	Coefficient	t value	Sig.
Constant	-38.706**	-2.282	0.030	-13.982	-0.726	0.485
NPL	-1.555**	-2.640	0.013	-0.839	-0.724	0.486
GDP growth	2.715**	3.508	0.001	1.308	1.488	0.168
Inflation	11.354**	3.011	0.005	4.438	1.024	0.330
Interest rate	-1.198	-1.614	0.117	0.204	0.232	0.821
R^2	0.401			0.533		

Adjusted R^2	0.321			0.347		
F	5.024		0.003	2.857		0.81

Significant at 5% level of significance; * Significant at 10% level of significance.

Source: Output of SPSS, 2022

Table 15

Estimated Relationship between NPL, Macroeconomic Variables and CAR

	NJV Banks			JV Banks		
	Coefficient	t value	Sig.	Coefficient	t value	Sig.
Constant	4.027	0.394	0.696	15.543**	2.333	0.042
NPL	0.118	0.331	0.743	0.807***	2.014	0.072
GDP growth	0.400	0.857	0.398	-0.224	-0.736	0.479
Inflation	1.912	0.841	0.407	-1.259	-0.840	0.421
Interest rate	-0.123	-0.276	0.784	0.427	1.404	0.191
R^2	0.043			0.334		
Adjusted R^2	-0.085			0.068		
F	0.334		0.853	1.255		0.349

Significant at 5% level of significance; * Significant at 10% level of significance.

Source: Output of SPSS, 2022

Discussion

The study provides findings on the impact of non-performing loan on financial performance of commercial banks in Nepal. The study also examined NPL, GDP growth, inflation and interest rate as independent variables whereas dependent variables are ROA, ROE and CAR were measures financial variables. The analysis of the primary and the secondary data shows the findings with regard to the effect of nonperforming loan structure on performance of banks. The first objective is to analyze the knowledge about the provision of non-performing loan according to NRB directives among bank staffs. The study reveals that the 91.25% of respondent's have knowledge about the provision of non-performing loan according to NRB directives. The result also reveals majority of respondent are agreed that the NPL has direct impact on financial performance of banks. Most of the respondent agreed lack of supervision and diversification of fund are the main reason of non-performing loan. The results are contradicted with Baral (2013) found that management inefficiency is one of major cause behind high level of NPL of commercial banks and no banks have been follow NRB directives regarding loan loss provision.

The second objective is to assess the current status of non-performing loan in Nepalese commercial banks. In the analysis of NJV and JV banks, JV banks have better mean ROA, ROE, CAR and NPL position that of NJV banks which shows better financial performance of JV banks.NPL of JV banks is lower than that of NJV banks. The JV and NJV banks in Nepal maintained below 5% the ratio of NPLs during the study period. The results are support by Acharya (2022) & Dhungana (2019) also concludes that all the sample banks are maintaining the NPA ratio below five percent and NABIL bank is capable of maintaining low level of NPL and higher ROA, ROE than other sampled banks which ensures for better and prudent management of NABIL.

The third objective is to compare the impact of non-performing loan on financial performance among joint and non-joint venture banks.GDP growth has positive and significant relationship with ROA. ROA has no significant relationship with NPL, inflation and interest rate for NJV banks.ROE has negative relationship with NPL and positive with GDP growth, inflation and interest. ROA & ROE of JV banks has no significant relationship with NPL, GDP growth, inflation and interest rate. The results are supported by Panta (2018) who found that the macroeconomic variables have no relation with ROA and ROE but result are contradicted with Bhusal (2022).

NPL has inverse but significant relationship with ROE and GDP growth, inflation has positive and significant relationship with ROE. The results are contradicted with Acharya (2022) & Bismark (2021) who found that NPL has no significant impact on profitability. ROE of NJV banks has no significant relationship with interest rate. For NJV banks NPL, GDP growth, inflation and interest rate has no relation with CAR. For JV banks, NPL has positive and significant relationship with CAR.CAR has insignificant and inverse relation with GDP growth, inflation but positive with interest rate.

The fourth objective of the study is to examine the relationship between macroeconomic variables with non-performing loan and financial performance. For NJV banks, the result shows that relationship of GDP growth and interest rate with NPL is positive but insignificant and the relationship of inflation with NPL is negative and insignificant. The results are contradicted with Louzis et al. (2012) who found that GDP growth and interest affect NPL and the results are supported by Bhattarai (2015). ROA and ROE has positive and significant relationship with GDP growth and has positive but insignificant relationship with interest rate. Similarly, there is negative and insignificant relationship of ROE with inflation. Similarly, CAR is negatively and insignificantly correlative with inflation and it is positively but insignificantly related with GDP growth and interest rate. For JV banks, the result shows that the relationship of GDP growth and interest rate with NPL is negatively and inflation is positively related with NPL and relation is insignificant. There is negative and insignificant relationship of ROA with inflation but positive and significant relationship with GDP growth and interest rate. ROE is negatively and insignificantly correlated with inflation and it is positively and significantly correlated with GDP growth and interest rate. Likewise, CAR is positively related with GDP growth, interest rate and it is negatively related with inflation. However, the relationship is not significant.

Summary

This study has been conducted with the objective to examine the impact of non-performing loan and macro-economic variables on financial performance of commercial banks in Nepal. The study was based on the various literature review and theoretical review. The primary and secondary data have been used in this study. For collecting primary data, the questionnaire survey has been used and the secondary data taken from the annual reports of respective banks in order to analyze the financial performance (ROA, ROE and CAR). At present, 27 commercial banks have been operating in Nepal. They have been rendering high quality banking services to the people. 10 commercial banks (seven NJV banks and three JV banks) are selected under study and five year financial data of respective banks have been used for the study. Data of independent variables GDP growth, inflation and interest rate will be obtained from economic survey of study period. Descriptive statistic and inferential statistics will be used for measuring mean, S.D, correlation analysis, multiple regression analysis.

The major findings of this study have been summarized in below:

From the analysis of primary data, 47.5% of respondents strongly agree that the provision of present NRB directives sufficient to loan classification, 33.75% of respondents agree, 11.25% of respondents neutral, 5% of respondents disagree and 2.5% of respondents is strongly disagree with the statement. Likewise, 67.5% respondents strongly agree that the macro economic variables of non-performing loan affect the financial performance, 28.75% respondents agree and 3.75% respondents with the statement.

Out of total respondents, 91.25% of respondents have knowledge about the provision of non-performing loan according to NRB directives, 6.25% and 2.5% respondents have no idea about the provision of non-performing loan.

Similarly, 85% of respondents have idea about the percentage of NPLs in relation to total overdue of the bank at the corporate level.

Likewise, 93.75%of respondents show that the effective NPL mechanism is linked towards the better performance of banks in Nepal.

Out of total respondents, 81.25% of respondents reveal that the provision regarding restructuring and rescheduling of loan is effective for loan recovery and five percent respondents have no idea about restructuring and rescheduling of loan.

Similarly, 23.75% of respondent's prefer selection of activity, 21.25% respondents prefer documentation, and 28.75% respondents prefer Monitoring, 20% respondents prefer study of inspection data and 6.25% select the any other method of reducing NPLs.

The main reason of NPLs, 32.5% of respondent's prefer diversification of funds, 35% respondents prefer lack of supervision.

The methods for reduction of NPLs, 30% of respondents prefer compromise/settlement and initiation of legal action respectively and 31.25% of respondents prefer collective banker effort methods for reduction of NPLs.

Likewise, 76.25% majority respondents prefer select watching pre-sanction appraisal, credit policy, risk perception, post sanction monitory, periodical review and examination of financial statement option for preventing loan becoming NPLs.

Likewise, majority of respondents i.e. 45% agreed that the Covid-19 is more affect business loan, hire purchase loan, home loan and agriculture loan.

In descriptive statistics, the ROA has an average mean of 1.30 percent and 1.77 percent for NJV and JV banks respectively. It shows that mean ROA of JV banks is greater than that of NJV banks. The result of SD shows that NJV banks have greater deviation in their ROA from mean. The mean ROE of 1.28 percent for NJV banks and for JV banks is 1.50 percent. On average, ROE of JV banks is higher than that of NJV banks. This implies that JV banks in Nepal have relatively good performance in terms of ROE. The CAR has an average mean of 1.395 percent for NJV banks and has 13.836 percent for JV banks.

The NPL has an average mean of 1.74 percent and 0.879 percent for NJV and JV banks respectively. NPL of JV banks is lower than that of NJV banks. However, this result shows that all the sample banks are maintaining the NPL ratio below 5% which may be due to stringent policy of regulatory body and prudent credit risk management of sample banks. Likewise, macroeconomic variable GDP growth has an average mean 4.86 percent which ranges from minimum of -2.1 percent to maximum 8.6 percent and SD are 4.24. The GDP is negative in FY 2076/77. Inflation raises maximum to 6.2 percent and fall to 4.2 percent with mean 4.78 percent and SD is 0.80 percent. The average interest rate is 10.97 percent ranging from minimum value of 8.43 percent to maximum 12.2 percent and S.D is 1.55.

Prabhu bank limited has the highest value of NPL which is 3.42 percent followed by Nepal bank limited (2.77 percent) and the lowest value is 0.19 percent which is of Everest bank limited. It shows that Everest Bank Limited is able to recover most of disbursed loan among other banks.

The correlation analysis shows, for NJV banks, ROA& ROE is negatively and insignificantly correlated with NPL and inflation. ROA& ROE has positive and significant relationship with GDP growth and has positive but insignificant relationship with interest rate. Further, CAR is negatively related with inflation and it is positively related with NPL, GDP growth and interest rate and relation is insignificant. NPL is positively related with GDP growth and interest rate and it is negatively related with inflation but relation is insignificantly.

For JV banks, there is negative and insignificant relationship of ROA with NPL and inflation but positive and significant relationship with GDP growth and interest rate. ROE is negatively and insignificantly correlated with NPL and inflation and it is positively and significantly correlated with GDP growth and interest rate. Similarly, CAR is positively related with NPL, GDP growth, interest rate and it is negatively related with inflation. However, the relationship is not significant. NPL is positively related with inflation and it is negatively related with GDP growth, and interest rate but relation is insignificantly.

In regression analysis shows, for NJV banks, the figure of t test reported that, GDP growth has positive and significant relationship with ROA at 10% level of significance. However, t test is insignificant for other remaining variables NPL, inflation and interest rate.

ROA has no significant relationship with NPL, inflation and interest rate for NJV banks. R^2 of 0.236 indicates that variation in the value of ROA is affected by only 23.6% and remaining percent of variation in ROA is cause by other factors other than independent variables.

The figure of t test reported that, ROA has negative relationship with NPL and positive with GDP growth, inflation and interest. ROA of JV banks has no significant relationship with NPL, GDP growth, inflation and interest rate. R^2 of 0.421 indicates that variation in the value of ROA is affected by only 42.1% and 57.9% of variation in ROA is cause by other factors other than independent variables. The f statistic shows that the relationship between NPL, macroeconomic variables and ROA for JV and NJV bank is insignificant it means the data is not fit.

The figure of t test reported that, NPL has inverse but significant relationship with ROE. GDP growth and inflation have positive and significant relationship with ROE at five percent level of significance. Thus, alternative hypothesis is accepted. ROE of NJV banks has no significant relationship with interest rate. R^2 of 0.401 indicates that variation in the value of ROE is affected by only 40.1% and remaining percent of variation in ROE is cause by other factors other than independent variables.

Similarly, for JV banks, the regression analysis reported that, ROE has negative and insignificant relationship with NPL and positive but insignificant with GDP growth, inflation and interest rate. R^2 of 0.533 indicates that variation in the value of ROE is affected by only 53.3% and remaining percent of variation in ROE is cause by other factors other than independent variables. The f statistic shows that the relationship between NPL, macroeconomic variables and ROE for NJV is significant it means the data is fit. For JV bank, f statistic shows the relationship of dependent and independent variable is insignificant.

In multiple regression model The figure of t test reported that, NPL, GDP growth, inflation has positive relation with CAR and interest has negative relation with CAR. T-test for all the experimental variables under study is insignificant. R^2 of 0.043 indicates that variation in the value of CAR is affected by only 4.3% and remaining percent of variation in CAR is cause by other factors other than independent variables.

Similarly, the regression coefficient of the figure of t test reported that, NPL has positive and significant relationship with CAR at 10% level of significance. Thus, alternative hypothesis is accepted. However, t test shows that insignificant and inverse relation with GDP growth, inflation but positive with interest rate. Thus, null hypothesis is accepted. R^2 of 0.334 indicates that variation in the value of CAR is affected by only 33.4% and remaining percent of variation in CAR is cause by other factors other than independent variables. The f statistic shows that the relationship between NPL, macroeconomic variables and CAR for JV and NJV bank is insignificant it means the data is not fit.

Conclusion

The study attempts to examine the impact of non-performing loan on financial performance of Nepalese commercial banks. The primary data analysis concluded that the knowledge about the provision of non-performing loan according to NRB directives among bank staffs. Majority of bank staffs have knowledge about the provision of non-performing loan. The questionnaire survey among bank shows employee's majority of respondents strongly agrees and agrees with the statement macro-economic variables of non-performing loan affect the financial performance.

Everest Bank Limited has the lowest value of average NPL which shows that the bank is able to recover most of disbursed loan among other banks. In correlation analysis, the finding from secondary data shows relationship between ROA, ROE and CAR with NPL is negative and insignificant. The relationship between macro-economic variables with NPL is insignificant for JV and NJV banks. There is no relationship between financial performance variables and inflation for both type banks. The relationship between ROA and ROE with GDP growth and interest rate is positive and significant for JV banks. The positive effect of GDP growth and interest rate on profitability indicates that increase in GDP growth and interest rate ultimately increases financial performance of JV banks.

The result form regression analysis reveals that relationship between NPL with ROE is negative and significant for NJV bank which implies that increase in NPL decreases ROE. Similarly, NPL has significant relationship with CAR for JV banks.

Implications

The study has done to find out the impact of non-performing loan on financial performance of Nepalese commercial banks. The results derived from this study are significant to shareholders, board of directors, government, general public and many others. Thus, based on the findings and results obtained from this study, following implications are presented:

- The negative coefficient of NPL ratio with bank performance indicates that there is higher level of loan loss provision charged against profit and eventually leads to reduce bank performance (ROA and ROE). Thus, Nepalese commercial banks should strictly follow the prevailing NRB directives as well as Basel II accord while managing credit risk.
- This study also helpful to policymakers who need to think about monitoring role of NPL and macroeconomic variables on financial performance in Nepalese banking context.
- The policy makers also need to be careful while taking credit decision.
- This study helps the future researchers as the existing literature on impact of non-performing loan on financial performance to extend with new data, huge sample and other variables of NPL.
- This study also helps to the commercial banks of Nepal while making decision and policy about non-performing loan and helps to know the most affecting variables of NPL on financial performance.
- In addition, another area of research could be the inclusion of developing banks,

finance companies, microfinance and cooperative banks which are successfully operating in Nepalese market.

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