Factors Affecting Non-performing Loans of Nepalese Commercial Banks: A Perception of Bankers

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Keywords:	ABSTRACT
Non-performing loan, macroeconomic factors, managerial efficiency, lending policy *DOI: https://doi.org/10.3126/jnmr.v5i1.61385*	*This study investigated the factors influencing non-performing loans (NPLs) in Nepalese Commercial Banks. Macro-economic factors, managerial efficiency, and lending policy were identified as independent variables, while non-performing loans constituted the dependent variable. A descriptive and causal-comparative research design was adopted to run the study. The population of the study was the entire bankers working at the various branches and province-level offices of the different commercial banks of Karnali province. A convenience sampling plan was used to collect the responses. The data was collected from 406 respondents using a structural questionnaire and analyzed and interpreted through t-tests, correlation and regression analysis using SPSS software. The study concluded that the macroeconomic factors and managerial efficiency, along with lending policy, have a significant impact on the non-performing loans of the Nepalese commercial banks.*

1. BACKGROUND

A healthy financial system is one with a low amount of NPL, while one with a high level of NPL may be at risk. In the long run, a high level of NPL destroys the whole country's financial system and economy (Feijo, 2011). An increase in non-performing loans (NPL) in the banking sector substantially reduces efficiency and raises the risk of a banking crisis (Louzis et al., 2011). According to Reinhart and Rogoff (2010), NPLs can be a sign that a financial crisis is just starting, as they negatively impact the nation's economic strength by slowing credit expansion.

Since a few decades ago, financial institutions' non-performing loans (NPL) have been seen as a serious problem in Nepal. Bank failure directly results from a high level of NPLs in the banking system. According

to numerous studies on the causes of bank failures, asset quality is a statistically significant predictor of insolvency, and failed financial organizations always have a high proportion of non-performing loans before failing (Barr & Siems, 1994).

The rising number of non-performing loans could have very negative consequences. For instance, it deters the financial institution from refinancing the defaulting client, trapping the defaulters in a cycle of low productivity once more. Therefore, policymakers and lending institutions must conduct a preliminary examination of the many components of loan defaults, source of credit, loan purpose, loan form, and loan provision. Even if the default is random and driven by unpredictable behaviours or specific circumstances that influence it in a certain situation, it still has to be empirically investigated so that any financial institution can utilize the results to improve its credit program. Most defaults were caused by inadequate management practices, loan diversion, and reluctance to repay loans, among other things. Due to this, lenders must provide various institutional techniques designed to lower the risk of loan default (Ahmmed et al., 2012). As a national financial regulator, Nepal Rastra Bank (Central Bank of Nepal) has divided loans primarily into pass loans, substandard loans, doubtful loans, and loss or bad loans. The term "pass loan" refers to a debt whose interest or principal payments are less than three months overdue. Substandard loans are given a break over three months behind their interest or principal payments. Doubtful is the liquidation of outstanding obligations, which appears doubtful, and the accounts will result in a loss, the precise amount of which cannot be calculated. Loans to companies that filed for bankruptcy protection and legal settlement are typically considered loss loans, which are not collectable. Pass loans fall into the performing loan category, whereas non-performing loans include sub-standard, dubious, and loss loans (NRB, 2012).

Timothy (1994) claims that loans are considered to be in default when they are put on nonaccrual status or when the terms are considerably changed during a restructuring. Nonaccrual is the term banks use to describe the practice of deducting all reported but unpaid interest from loans. In the past, when debt payments were more than 90 days overdue, banks would stop charging interest. However, there were many different ways to interpret when loans were considered past due.

2. STATEMENT OF THE PROBLEM

The increased number of non-performing assets (NPL) in the banks suggests a significant likelihood of credit defaults, which impact bank profitability and value and degrade asset efficacy. Various studies have been conducted about the non-performing loans. However, no study has been conducted in Karnali province, Nepal, taking the bankers' response. Thus, the present study has been carried out to fill the gap in identifying the key factors that affect non-performing loans in Nepalese commercial banks.

3. OBJECTIVES OF THE STUDY

The primary objective of this study is to analyse the factors affecting non-performing loans based on the perception of Nepalese bankers. More specially, the present study aims to --
1. analyze the perception of Nepalese bankers (public/private) on the factors affecting non-performing loans and identify the factors affecting non-performing loans.
2. examine the relationship among the factors that affect non-performing loans.

4. RESEARCH HYPOTHESIS

Considering a set of working hypotheses to empirically test and confirm the statistical significance of relationships among different constructs of the study, the following hypotheses have been considered in this study:

H_{A1}: There is a significant difference in the perception of factors affecting the level of non-performing loans of the Nepalese commercial banks between the job sector of bankers

H_{A2}: There is a significant relationship between macroeconomic factors and the level of non-performing loans of the Nepalese commercial banks.

H_{A3}: There is a significant relationship between managerial efficiency and the level of non-performing loans of the Nepalese commercial banks.

H_{A4}: There is a significant relationship between lending policy and the level of non-performing loans of the Nepalese commercial banks.

5. REVIEW OF LITERATURE

5.1 Theoretical Review

Assuming that banks function as the agents of shareholders and depositors, moral hazard is a notion that addresses several principal-agent issues. Managers of financial institutions are thus encouraged to engage in hazardous operations since they are better positioned to acquire a greater amount of upside risk, such as profits, bonuses, and market share (Jensen et al., 1976). Adverse selection is caused by knowledge asymmetry, often known as the "lemon Principle." There is a chance that all borrowers will be charged a standard interest rate that reflects their combined experience if lenders cannot distinguish between good and iniquitous (immoral) borrowers (Hilbers et al., 1999; Castro, 2013). However, the interest rate must be lowered for borrowers to afford it. In that case, some will be forced to leave the borrowing market, forcing the banks to charge the current unqualified borrowers a higher interest rate (Barron et al., 2008).

5.2 Empirical Review

More recently, the world of research in the management of banks and financial institutions sector has received emphasis on assessing the impact of the non-performing assets (NPAs) on the financial performance of the respective institutions.

Singh (2013), while performing a systematic inquiry on credit risk management in the context of commercial banking in India, the scholar has explored the credit risk indicators such as the level of non-performing loans and provision of loan losses. This study was based on the secondary data. The study showed that the NPA will always be a drag on the banking sector. Therefore, a bank's success is dependent on its NPA management strategies. Compared to private sector banks, the public sector banks have outperformed them in financial activities. The Public Sector Banks have also had positive results. However, these days, the Public Sector Banks' sole issue is the rising proportion of non-performing assets.

Failure to effectively respond to the macroeconomic environment and inefficient dealing with bank-specific factors may result in the accumulation of non-performing assets in the banking business. In this study, the effects of monitoring and evaluation, exchange rate, unemployment, inflation, budget expenditure, energy crisis, growth in GDP, political instability, level of monsoon and borrower's honesty were considered as the key constructs of observation to test the chance of turning a borrowing into a non-performing asset in the context of the Nepalese banking industry. Using the structured questionnaires with bankers through

multistage sampling, data was collected from the 140 bankers Using structured questionnaires administered to bankers through multistage sampling, data were collected from 140 bankers.. The study showed that Bankers in Nepal believe that the commercial banks' non-performing loans are influenced by the energy crisis, political unrest, timely budgetary spending, the borrower's honesty in reporting critical information, a favourable monsoon, and better monitoring and loan appraisal (Bhattarai, 2014).

Further, in Sikdar and Makkad (2013), the risk framework of selected Indian commercial banks has been assessed to study the role of non-performing assets. In this study, the scholars have highlighted the concept of non-performing assets as standard criteria for assessing credit risk. Furthermore, the study has covered steps taken and procedures implemented by major Indian commercial banks within the public and private sectors to recover loans and advances falling into the NPA bracket.

Contemporary empirical studies on the banking industry have suggested that non-performing loans (NPLs) adversely affect bank profitability, often leading to bank failure. For example, Ugoani (2016) has accomplished a study on non-performing loan portfolios and their impact on banks' profitability with confirmation that the prevalence of larger nonperforming loan portfolios erodes the ability of a bank to achieve financial performance. Secondary data was used to assess the impact of non-performing loans on the bank's profitability. Descriptive and regression statistical methods were used to analyze the data. This study assessed the Nigerian banking context and found that due to the extreme volume of non-performing loan portfolios accumulated by bank promoters and management, the situation resulted in the demise of banks.

Murthy et al. (2017) have observed the customers' living standards, customers' income, bank interest rate and the country's economy to examine how these economic factors contribute to the formation of non-performing loans (NPL) of commercial banks in Malaysia. This study has revealed that the customers' living standard, customers' income and the economy of the country did not significantly affect the level of NPL. In contrast, interest rates significantly affected NPL's level.

Koju et al. (2018) have assessed the macroeconomic and bank-specific determinants of non-performing loans (NPL) in the context of the Nepalese banking industry. This study has revealed that the lack of timely monitoring of borrowers, poor credit policy, low-skilled credit experts, high interest spreads, low credit standards, and poor management efficiency are the main bank-specific factors that cause high NPLs. Similarly, low economic activities, higher unemployment and inflation rates, weak monetary policy, and unstable financial system are the major macroeconomic situations that cause high NPLs.

Towhid et al. (2019) used panel data modelling to uncover the key factors contributing to non-performing loans in Bangladesh's commercial banking sector between 2011 and 2016. In order to investigate both bank-specific (return on average assets, net loans to deposit ratio, bank size, cost-to-income ratio, and capital adequacy ratio) and macroeconomic (real GDP growth rate and inflation rate) factors, this study used the balanced panel data approach. The researcher considers 16 private commercial banks in Bangladesh and uses pooled analysis to investigate panel data modelling. Models with fixed effects, random effects, robust standard errors, and OLS models are all examples. The researcher discovered a substantial negative association between the rate of inflation, net loans to deposits, and return on average assets of NPLs

The amount of non-performing assets (NPA) in Nepal's banking sector is extremely concerning. The study adopted the data from banking and financial statistics, the Nepal Rastra Bank's Bank Supervision Report, and yearly reports of the banks. The descriptive research methodology was used. The main finding of this study

was that, in the context of Nepalese government banks, non-performing loans hurt return on assets. (Gnawali, 2018).
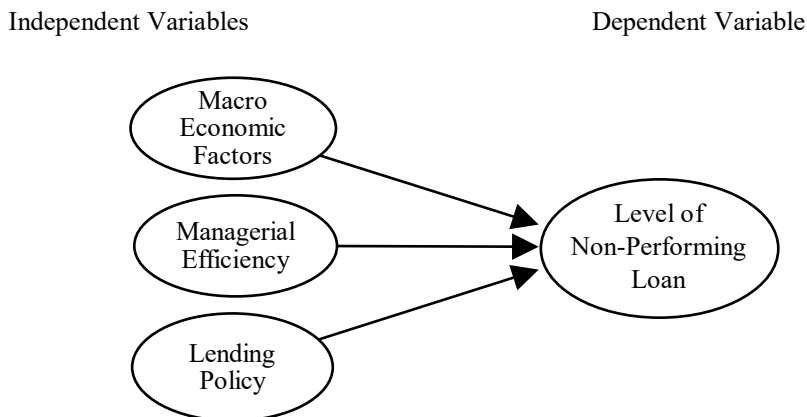
Khan et al. (2020) have assessed the determining factors of non-performing loans in the banking sector in developing states, which is considered one of the most immediate and vital issues that cause financial crises for the banking sector globally, especially in developing countries. These scholars have examined the return on assets, bank efficiency, bank capital, and income diversification as the independent variables and the non-performing assets as the dependent variable to develop the construct of the study.

6. CONCEPTUAL FRAMEWORK OF THE STUDY

Based on the overall pinning of proposed research constructs developed by the previous scholars, the present researcher has developed a conceptual framework to govern this study in a conceptually controlled, systematic and scientific manner. The preliminary conceptual framework has been presented in Figure:

Figure 2.1
Conceptual framework of the study

Independent Variables   Dependent Variable

Macro Economic Factors

Managerial Efficiency   Level of Non-Performing Loan

Lending Policy

7. RESEARCH METHODOLOGY

This study was based on the positivism philosophy. A descriptive research design was used to describe the variable in frequency and percentage. Similarly, univariate, bivariate and multivariate regression have been used to measure the relationship between independent and dependent variables. All the personnel of the commercial banks of Karnali province have been taken as the population of the study. In this study, 406 respondents were considered the sample size of the population because the population is undefined. A convenience sampling technique was used to collect the data from the study area. A structured questionnaire has been used for the attainment of the objectives.

8. RESULT AND DISCUSSIONS

8.1. Demographic Profile of the Respondents
Demographic characteristics of respondents, such as age status, gender status, marital status, job sector, and job position, were observed. Out of the total respondents, 62.1 per cent were associated with males and the rest, 37.0 per cent, were associated with females gender. Similarly, 17.2 per cent of respondents were the age

of below 25 years, 47.3 percent were aged 25-30 years, 28.3 percent were 30-35 years old, and the remaining 7.2 percent belonged 35 years and above out of the total respondents. Correspondingly, 73.6 percent of respondents had private sector jobs, whereas 26.4 percent were related to public sector jobs. In the same way, 16.7 percent of respondents were of junior assistant level, 46.3 percent were of assistant level, 16 percent were of senior assistant level, and 18 percent were officer level. The rest 3 percent of the respondents belonged to the senior assistant level. Likewise, concerning educational status, 2 percent of respondents were up to the secondary level, 35 percent were at the bachelor level, 61.6 percent were at the master level, and the rest, 1.4 percent of respondents, were above the master level.

8.2. Validity and Reliability

The compulsory steps have been taken to ensure the validity and reliability of the research. For the consistent validity of data, questionnaires have been developed after referring to the literature review as well as the market scenario of Nepal. Consultation with the bankers of the different commercial banks has been a significant assistance in developing higher standard questionnaires (Borg & Gall, 1989, in Akala, 2012).

Table 1

Variable-wise Reliability Test

SN	Construct	Cronbach's Alpha
1.	Macro-economic factor	0.702
2.	Managerial efficiency	0.753
3.	Lending Policy	0.863

Table 2

Reliability test of total items

Cronbach's Alpha	N of Items
.834	27

Table 1 depicts the reliability result to test the data's internal consistency (Mugenda & Mugenda, 2003) after the frequent trial. A Cronbach's Alpha test has been carried out amongst all Likert scale questions to test the data reliability that gives the value of 0.702 macro-economic factors, 0.753 managerial efficiency, and 0.863 lending policy. Table 2 shows that Cronbach's alpha value is .834 overall, greater than 0.6 (Shrestha & Rawat, 2023). This proves that the data is consistent and reliable. The study has adopted the t-test, correlation and regressions as the measuring tools for data analysis.

Table 3

Perceived level of non-performing loan disaggregated by job sector

Sectorwise Analysis of Variance		MEF	ME	LP	NPL
Private	Mean	4.262	4.258	4.673	4.335
	Std. Dev.	0.3111	0.3518	0.408	0.318
Public	Mean	4.198	4.275	4.687	4.379
	Std. Dev.	0.275	0.354	0.372	4.379
Total	Mean	4.24	4.263	4.677	4.347
	Std. Dev.	0.303	0.352	0.398	0.322
	Sig. [t-test]	0.059	0.663	0.55	0.235

Table 3 reveals the results of the perceived level of non-performing loans disaggregated by job sector concerning macroeconomic factors, managerial efficiency, and lending policy using the t-test. The p-values in the table above are 0.059, 0.663, and 0.55, respectively; these values exceed the 0.05 significance level, indicating that job sectors do not play a statistically significant role in determining non-performing loans. Consequently, the alternative hypothesis is rejected.

Table 4

Correlation between independent and dependent variable

	NPL	MEF	ME	LP
NPL	1	.312**	.360**	.317**
MEF		1	.449**	.126*
ME			1	.122*
LP				1

**. *Correlation is significant at the 0.01 level (2-tailed).*
*. *Correlation is significant at the 0.05 level (2-tailed).*

Table 4 shows that the Pearson Correlation Coefficient among macro-economic factors and non-performing is .312, managerial efficiency and non-performing loan is .360, and landing policy and non-performing loan is .317. The P value is less than Alpha, i.e. (0.00 < 0.05) in all cases, proving that the correlation between the variables is significant (Sridhar, 1990).

Table 5

Univariate Analysis

Model	Intercept	MEF	ME	LP	Adj R^2	F -test	N
1	2.937 (13.706)**	0.332 (6.596)**			0.095	43.502	406
2	2.941 (16.168)**		0.330 (7.754)**		0.124	60.124	406
3	3.146 (17.493)**			0.257 (6.705)**	0.098	44.959	406

Note: The figure in the parentheses is t-value, *N represents the no of observations, ** represents the 5 percent level significance, R^2 represents the non-performing loan intercept term representing the beta coefficient, MEF represents macro-economic factors, ME represents managerial efficiency, and LP represents lending policy.*

Table 5 illustrates a noteworthy positive correlation between the Managerial Efficiency Factor (MEF) and Non-Performing Loans (NPL) with an adjusted R2 of 0.095 and an f value of 43.502. Similarly, the correlation between Managerial Efficiency (ME) and NPL is significant, with an adjusted R2 of 0.124 and an f value of 60.124. The correlation between Lending Policy (LP) and NPL is substantial, with an adjusted R2 of 0.098 and an f value of 44.959. These statistics are significant at the 5 percent significance level, indicating that the models are the best fit. Consequently, the decision to accept the alternative hypothesis has been made based on the analysis above.

Table 6

Results of Bivariate Regression Analysis

Model	Intercept	MEF	ME	LP	Adj R^2	F -test	N
1	2.406 (10.554)**	0.206 (5.346)**	0.250 (5.346)**		0.156	38.203	406
2	2.030 (8.036)**	0.294 (6.046)**		0.220 (6.175)**	0.175	42.739	406
5	1.975 (8.629)**		0.300 (7.341)**	0.233 (6.443)**	0.208	53.923	406

*Note: The table in the parentheses is t-values, N represents the no of observations, ** represents the 5 percent level significance, R2 represents non-performing loan intercept term represents the beta coefficient, MEF represents macro-economic factors, I represent managerial efficiency, PL represents lending policy.*
Source: Field Survey 2022

The result depicted in Table 6 shows the bivariate analysis among MEF, ME, LP (independent variables) and NPL (dependent variable). The adjusted R^2 is 0.156, and the F value is 38.203 (combination between MEF and ME); the adjusted R^2 is 0.175, and the F value is 42.739 (combination between MEF and LP), and the adjusted R^2 is 0.208, and the F value is 53.923 (combination of ME and LP) respectively. Since all the statistics are significant at a 5% significance level, the study concluded that the independent variable significantly impacts the dependent variable.

Similarly, multivariate regression analysis was done to identify the joint effect of all independent variables on NPL. This section regresses NPL with all the study's independent variables (macroeconomic factors, managerial efficiency, and lending policy).

Table 7

Model summary of regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.484[a]	0.234	0.229	0.28343

a. Predictors: (Constant), MEF, ME, LP

Table 7 shows the results of multivariate analyses. Here, the adjusted R^2 is 0.229. That means macro-economic factors, managerial efficiency, and lending policy explain 22.9 percent of the change in non-performing loans. However, the remaining 77.1 percent variation is explained by other factors that need to be recognised in the study.

Table 8

ANOVA of the independent variable and NPL

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.835	3	3.278	40.807	.000[b]
	Residual	32.134	400	0.080		
	Total	41.969	403			

a. Dependent Variable: NPL
b. Predictors: (Constant), MEF, ME, LP

Table 8 presents the results of the analysis of variance (ANOVA) for the independent variables (MEF, ME, LP) and their relationship with Non-Performing Loans (NPL). The regression model, which includes the predictors (Constant, MEF, ME, LP), demonstrates a significant overall effect, as indicated by an F-statistic of 40.807 with a corresponding p-value of .000. The ANOVA table shows that the regression model accounts for a substantial portion of the variability in the dependent variable (NPL), as reflected by the sum of squares for regression (9.835) relative to the residual sum of squares (32.134). The F-test and associated p-value affirm that the observed relationship between the independent variables and NPL is statistically significant at a 5% significance level. Therefore, the null hypothesis of no relationship is rejected, suggesting that at least one of the independent variables has a significant linear association with the level of non-performing loans. The model's predictors include a constant term, along with the Macro Economic Factor (MEF), Managerial Efficiency (ME), and Lending Policy (LP). The ANOVA results provide evidence for the adequacy of the regression model in explaining the variance in NPL based on the specified predictors.

Table 9

Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.553	0.258		6.028	0.000
	MEF	0.179	0.052	0.168	3.420	0.001
	ME	0.232	0.045	0.253	5.163	0.000
	LP	0.223	0.036	0.275	6.232	0.000

a. Dependent Variable: NPL

Table 9 presents the regression model predicting non-performing loans (NPL). The model includes three independent variables: Macro Economic Factor (MEF), Managerial Efficiency (ME), and Lending Policy (LP). The unstandardized coefficients (B) indicate the magnitude of the effect of each independent variable on the dependent variable. The standardized coefficients (Beta) provide a measure of the relative importance of each variable. The t-values and associated significance levels (Sig.) assess the statistical significance of each coefficient. The constant term has a coefficient of 1.553 with a standard error of 0.258, and all three independent variables (MEF, ME, and LP) exhibit significant coefficients ($p < 0.001$). The positive coefficients for MEF, ME, and LP suggest a positive relationship with NPL, and their significance values indicate that these variables significantly contribute to predicting non-performing loans. The significant F-test (6.028, $p < 0.001$) supports the overall model fit, suggesting that the combination of independent variables explains a significant proportion of the variance in NPL.

9. CONCLUSION

The study's findings revealed a significant relationship between macroeconomic factors, managerial efficiency, and lending policy of Nepalese commercial banks with the level of non-performing loans. It shows that independent variables significantly impact the dependent variable of the study. The major conclusion of this study is that there is a highly positive relationship between macroeconomic factors, managerial efficiency, and lending policy, which significantly impact the level of non-performing loans of Nepalese commercial banks.

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